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ENTERPRISE EXPERIENCE

Experience Design as Business Strategy – A Case Study

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ABSTRACT

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The objective of this study was to gather information about the need to focus on designing for Enterprise Experience (EX) in the era of digital transformation of businesses such as telecom operators or TELCO. The aim of the study was to define the concept work around the notion of Enterprise Experience (EX) and further highlight internal requirements of designing for EX.

This study was carried out as an internal project. The data were collected in two-fold. First, semi-structured interviews were conducted with six internal experts representing respectively expertise from Business, Technology and Design. Second, Company X organisational diagnostic was described based on maturity assessment of its use of design and collaborative processes. Data was analysed through content analysis, and presented to identify the frame of potential improvement.

The theoretical section explored the foundations of enterprise experience, in relation to Experience Design, Human Centered Design and by further explaining its triadic foundation in human behavioural psychology, Enterprise Architecture and Business Design. We further highlighted the rising value in integrating Design as a strategic element in the tech industry, and established a summary of the best practices observed from the field based on a set of selected companies. Finally, we exposed the meaning of the design ladder assessment and other maturity assessment and presented how they could be utilised to draw an organisational diagnostic.

The empirical part consists of understanding Company X current capabilities in relation to the application of the EX framework. Key findings were that despite the effort to create a UX team, due to our current level of maturity and the lack of clear strategic consideration of Design the EX framework application was compromised. The results suggest that to fully support our company vision and further implement the EX framework, Company X would beneficiate in investing more into Design.

More specifically, Company X would benefit investing in design capabilities that would further sustain strong collaboration required in the application of EX framework. Starting by creating a design unit, with design operation in charge of developing design system and creating a design thinking culture across the organisation. Further research is required to fully support the measurable impact of integrating Design as a strategic element of the company business's strategy.

Key words: enterprise experience, design strategy, design management, user experience, customer experience.

CONTENTS

ABBREVIATIONS AND TERMS

CSP	Communication Service Provider
CSR	Customer Service Representative
CX	Customer Experience
DMI	Design Management Institute
DesOps	Design Operations
DSP	Digital Service Provider
EX	Enterprise Experience
EUX	Enterprise User Experience
EPD	Engineering Product & Design
HBR	Harvard Business Review
HCD	Human Centred Design
ROI	Return on Investment
TAMK	Tampere University of Applied Sciences
UCD	User Centred Design
UX	User Experience
XD	Experience Design
WEF	World Economic Forum

1 INTRODUCTION

The topic of this thesis will be on defining the need to focus on Enterprise Experience (EX) in the era of digital transformation of businesses such as telecom operators or TELCO. In a nutshell, Enterprise Experience is a combination of User Experience (UX) & Enterprise Architecture with a holistic approach to design, technology and business. The concept is significant to digital business strategy as well as sales argument to sell our product design and company approach.

This thesis will aim at explaining how the triad Business, Technology and Design and especially design thinking is key to successful business transformation toward digitalisation. Designing for enterprise experience goes beyond Enterprise UX and Customer Experience (CX), it shall help telecommunication operators to develop innovative solution applying design thinking methodologies to create new services and product to their customer. By streamlining their processes and encouraging collaboration between the design of new business through the help of technology and UX design. But what does it require a company such as Company X, to fully fulfil its vision to become the industry's most desirable BSS provider? What does it mean and what does it requires internally to design for Enterprise Experience?

In This thesis I will present a concept work around the notion of Enterprise Experience. The objectives will be to, first, define the notion of EX in relation to current theories in the field of Design, Business and Technology. Second, elaborate on the models with concrete example of application, and compare it to similar notions in tech industry. Third, intend to position EX within Company X strategy and value proposition and link it to the Company X way of working. Finally, draw from the research, recommendations for future internal development and its application in business practices.
The main research question would be what is enterprise experience? From there we can formulate sub questions:

- Why is Enterprise Experience needed?
- What are the different models and related examples of EX, in the company and similarly in the industry.
- How does EX framework fits to Company X Strategy, Value proposition and current way of working?

- How Company X could deliver true CX to both B2B and B2C by applying EX framework?

Through expert interviews of several actors, across different units, I will attempt to highlight their views, understanding, decision and the way they see the EX should be driving the digital transformation we are offering to our customers: telecom operators. I will further propose an analysis of the current company maturity and attempt to propose an action plan that would support Company X in delivering true CX to both B2B and B2C by designing for Enterprise Experience and shape our competitive advantage in the domain. Thus, supporting our company vision of becoming the industry's most desirable BSS provider.

2 DESIGNING FOR ENTERPRISE EXPERIENCE

To understand fully the framework of designing for enterprise experience, one has to explain the context, that has shifted from purely technical centric during the industrial revolution, to a more experience centric approach while entering the digital era. Therefore, in the following chapter, I will focus on describing the concepts that are key to the definition of EX especially from a theoretical point of view, starting with the notion of Experience Design (ED).

2.1 Experience Design

We live in an experience economy where human expect from interactive (digital) products and services not only to be functional and usable but to bring them engaging and pleasurable experiences (Pine, 1998, 104; Arrasvuori et al., 2010 and 2011). The goal to design towards greater experiences therefore becomes a business priority.

Several authors (Aatrs, Jones, Hazzenzahl, Newbery and Farnham, Schwartz) have attempted to define Experience Design (XD). They tend to agree that by essence experience design focus on **empathy**. Through human centered-design, one can understand why a person would use a product, or a service, what's her intrinsic motivation, what are the needs and emotions involved in an activity, and the meaning, the experience brought by the interaction (Jones, 2012; Hassenzahl, 2013).

Experience design is often defined as an interdisciplinary practice, a systematic approach, a holistic understanding of the relationships between a person and product over time. XD is about how design and business look at opportunities, frame problems and projects and evaluate solution, by designing products, processes, services, events, omnichannel journeys, and environments with a focus placed on the **quality of the user experience** and the relevance of the solution (Aatrs, 2003, 46; Jones, 2012; Newbery and Farnham, 2013, 8-9; Schwartz, 2017).

Thus, XD should help in keeping the customer engaged with the business, by providing adequate levels of quality in customer service at all stages of a customer relationship, not just by improving usability, but by unlocking options and potential (Newbery and Farnham, 2013, 8-9). Designing for experience can only be an outcome, as experience are

personnel, and relates on ones' emotions, we cannot aim at designing a specific experience as a deliverable, but we can design towards agreeable experiences rather than disagreeable ones.

In his model, Schwartz (2017) represent experience as emerging from the fusion of business, engineering and design collaboration. Moreover, the experience outcome is not the product of a linear process where design comes in the end to make things pretty, but rather the result of a collaboration between synched business, technology and design throughout the product development lifecycle ensuring a lasting and unified outcome. The author insists on the success of the experience that is measured throughout the lifespan of the user and not the one of the product.

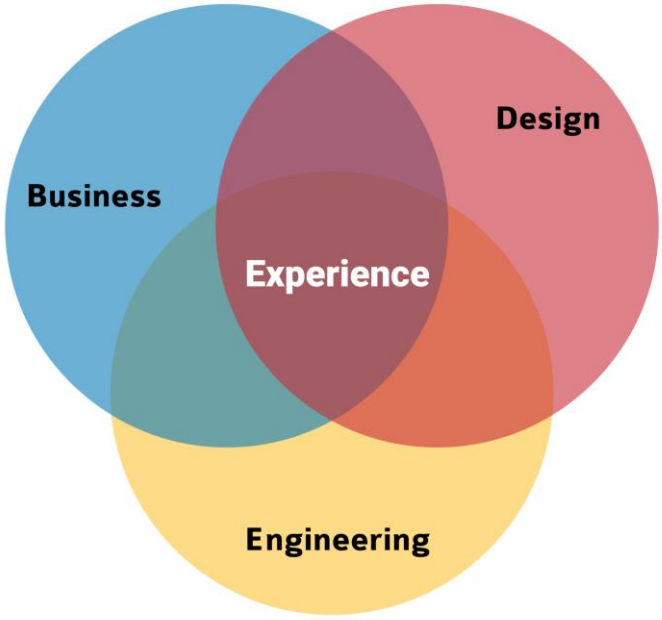


FIGURE 1. Experience Model – Implications for the role of design (Schwartz, 2017)

This triadic, or Venn diagram representation will be used at several stages of this research. In general, Business correspond to ask the question "what" - What is the business reason for it? - Is the solution or the product viable? Engineering or Technology will focus on answering the "how" - How can we build it? - Is it feasible technologically wise? Design will focus on answering the "why" - Why would someone use it? - Is the experience produced by the interaction with the solution desirable?

As mentioned earlier, XD is achieved through a collaborative process, involving several actors' such as designers, marketers, solution architect, users and other stakeholders from

the field of Design, Technology and Business. XD offers a holistic experience, not focusing solely on the user experiences, but looking at a broader scope touching users within the company (employees – business customers) and outside the company (end users – customers) (Jones, 2012; Helfenstein, 2015; Schwartz, 2017; Ryan, 2017)

I recently noticed on LinkedIn a blogpost that was published by Nasir (2017), founder at CXD labs, where he shared his thought on experience design which are resonating with the concept of EX we are discussing in this thesis. He explained how the focus from UX and CX should shift to a larger scope. When looking at how a product or a service affect and interact with a broader audience. Through his post he describes how he calls the "other dimensions of Experience Design" towards designing the overall **collective experience of a company**. Thus, by exploring the different types of interactions that occurs within and outside the companies and between those different actors. His model takes into consideration the customer experience, the user experience, that act together at serving the diverse interactions occurring between the company and the user/customer from purchasing the product/service to using it through the overall lifecycle. He also added on to the picture the employee experience, the partner experience and the overall public experience, as represented in the illustration below:

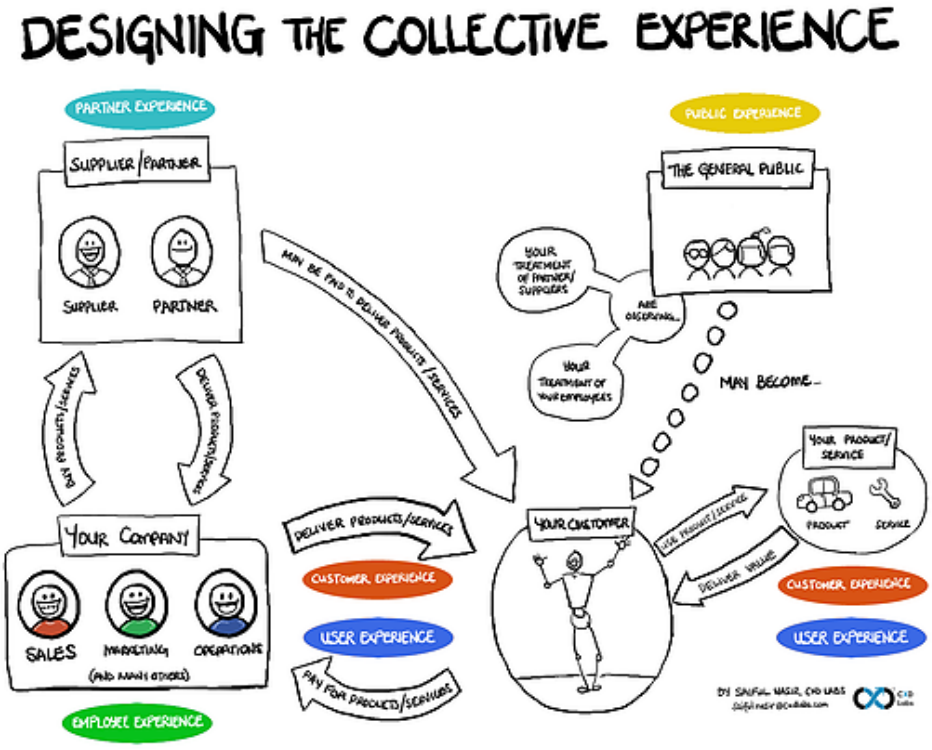


FIGURE 2. Designing the Collective Experience (Nasir, 2017)

His post fits very well to the EX definition we are discussing in the next chapter, although the definition presented below is looking at concrete way to design for it. As mentioned by the author his reflection was just an exploration based on his company experience, with no clear method or plan to achieve it. At Company X we believe on the need to focus on a holistic approach and started to develop a framework to design for enterprise experience. But what do we mean by designing for enterprise experience?

2.2 Defining Enterprise Experience

In this chapter we intend to define EX, in contrast to other experiences such as User Experience and Customer Experience, but also by explaining the building blocks of the concept and further how can it be applied in practice through customer journey mapping.

There is very little in the literature about EX per say. The term Enterprise Experience seems to have mainly been used in blog post to sum up one's idea, nothing deeper. In 2014, Reichardt a senior writer at Oracle, wrote about enterprise experience, as summing up the experience a customer has through different touchpoints with a company and the need for the company to offer a cohesive customer response in order to provide an overall positive enterprise experience to the customer. In other word as a mean for large organizations to deliver a consistent experience that keeps customers coming back. Several authors (Yen, 2013; Aldridge, 2014; Gibbon, 2016) use the term EX to define something slightly different than our concept, and largely referred to by the UX community as Enterprise UX. Gibbon (2016) defines the enterprise experience as being the same as CX ("Consumer experience is the sum of all interactions we have with a brand throughout the consumer lifecycle. If done right, we advocate for the brand and want to further engage with them") but targeting the audiences inside the organisation rather than outside. He then separate consumer experience from enterprise experience, by differentiating the interaction happening outside the organisation and the ones happening inside.

Overall, most of the work done on the subject seems to originate from Company Y which define EX as being: "In a nutshell, a combination of User Experience and Enterprise Architecture with a holistic approach to design, technology and business." (Immonen, 2012). In their practice at Company Y, the approach reveals to be significant to digital business strategy as well as a useful sales argument. But what does it mean really and why is it necessary to consider it?

Enterprise Experience concept was developed by Company Y co-workers and owners. The company was known for its creative IT services based on a mix of seasoned designers, developers and businessmen's. The company had evolved from traditional technology-oriented software and IT company to a creative design agency. Their view on user experience and experience in general was that creating and building solutions should be a desirable experience in itself. For them, not only customer-facing services mattered but leadership, management and employee experiences mattered too. That's what they called Enterprise Experience (Company Y, 2012).

"Business is experience-driven, on multiple levels inside and throughout its stakeholder network. Therefore, design must be experience-centric and experience-centric design is business-strategic." (Helfenstein, 2015).

The diversity and background of the people present at Company Y enabled them to understand the core need to success as being anchored in a fusion between design, technology and business. Based on their experience, as nicely related by Immonen in a blog post at the time, the team realised the need for a more deeper approach, a stronger collaboration where design thinking is at the heart of the work, and where technology, business and design are intertwined from initial stakeholder meeting, where the problem is described and the offer shaped, to the delivery of the solution. In his story, Immonen (2012) relates on the need to collaboratively think the enterprise architecture, as when kept separately design team and IT teams, tend to just build layers on top of one another completely ignoring the whole enterprise architecture which leads to rather useless solution. Repercussion of bad design and implementation of the employee software bring employee dissatisfaction, itself having repercussion on the customer satisfaction. Kept in silos, the process undertaken by business and technology result in bad outcome, that is how a more holistic approach called EX was thought of. So that the architects, get support from the business and designers to design compelling customer experience, and in return designer get a taste of what's required to build long term strategic capability for a company.

> "Creating solid enterprise experience is a multi-disciplinary endeavour consisting of business, technology and design expertise that combines the fields of enterprise architecture, user experience design and user psychology, and a set of management theory practices together and makes them produce unprecedented value for you. The key is in close-knit teams that combine the

> different skillsets without artificial silos or divisions of responsibility." (Company Y, 2013)

As they started to develop the EX framework, telling the story of their thinking, and mode of operating, Company Y was acquired by and merged to Company X in December 2014.

To describe the EX, three complementary approaches were illustrated (Company Y, 2014; Company X, 2015 & 2016) they serve to explain the logic behind EX framework. The illustrations represent: a clustering approach, a holistic approach and an eclectic approach that I will present in more details below.

2.2.1 The Clustering Approach

When it comes to define EX, as a UX researcher by training, I feel its most natural to start by the theoretical evolution behind the concept of EX. EX can easily be explained as a naturally evolving from utility to usability, to user experience (UX), to customer experience (CX), to reach enterprise experience and even go further to life experience. From a technology perspective, when collaborating with design, one of the first question that raised were towards the utility of products being created. In his book, the design of everyday things, Norman (2013, 23) relates very well on his own experience and how his thinking evolved from a logic minded engineer towards a more alert psychologist when it comes to creating not only usable but also meaningful and enjoyable products for people. He explains how too often engineers tend to create technical product following their own logic by focusing essentially on the technical requirement, and how a lack of understanding human behaviour, unfortunately led them to ignore the human for whom the product is created for, therefore ignoring the type of experience the product design would potentially hinder. To precisely illustrate my point, think of the last time you got angry trying to put in the system a travel claim, think how complicated and illogic that moment felt… To understand the value of EX as a logic evolution of different experience, it is key for companies to understand the meaning of the terms presented below.

When it comes to explain the evolution from utility to user experience, the first illustration that comes to my mind is the one of the first model shared on the topic by Nielsen Norman group in 2008 (see Figure 3).

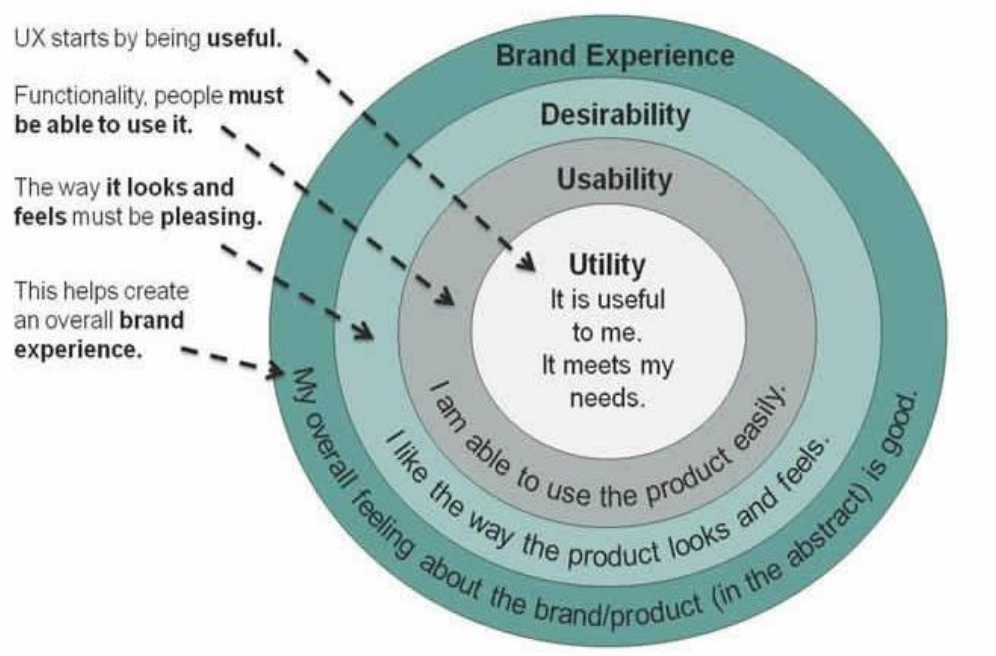


FIGURE 3. User Experience (NNGroup, 2008)

The combination of both utility and usability bring us to the usefulness of the product, service or system (Nielsen, 2012). It's the quality number one that must be fulfilled and it is at the core of the user experience. That is what will make the user want to use and reuse the product over time serving a specific need. The degree of utility will determine if the product encompass the necessary features, and usability will determine if those features are easy and pleasant to use (Nielsen, 2012). Usefulness intrinsically links to UX. In the experience economy, usefulness is necessary but not sufficient for a product to survive in the market. People become increasingly exigent on the digital experience that an ocean of product provides them.

Usability

The International Organization for Standardization (ISO, 2018) defines usability as the "extent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use". Further ISO defines user experience (UX) as "user's perceptions and responses that result from the use and/or anticipated use of a system, product or service". By definition, usability emphasizes on the need to understand the user goals to a specific task.

User Experience (UX)

Over the past 25 years, a greater focus has been given to UX. The change appear as usability becomes more and more a term used for describing the method of testing early

phase of a prototype or a product. User experience, can be seen as both the process of designing for, but also the outcome, how the person feel when interacting with a specific product or service.

From the UX illustration presented by the NN group, the second illustration that is key to me in helping to understand the components of UX is the UX Honeycomb from Morville (2004). The author builds the notion of UX around the value of a product, representing usability as only one cell, one element of the whole concept.

FIGURE 4. User Experience Honeycomb (Morville, 2004)

Morville further explain that to reach a meaningful and valuable user experience, information present in a digital product or service requires to be **Useful**, so the content of the product or service should be original and fulfill a need; **Usable**, it must be easy to use; **Desirable**: the image, identity, brand, and other design elements used in the product or service should evoke emotion and appreciation; **Findable** the content needs to be navigable and locatable onsite and offsite so the user can find what they need; **Accessible**, the content needs to be accessible to people with disabilities; **Credible**, the user should be able trust and believe what you tell them; **Valuable**, the product or service should deliver value to the user and enhance the user satisfaction (Morville, 2004).

Norman and Morville definition of UX are complementary, as persons, they are both very interesting authors as they both started with engineering background and slightly moved

towards understand the human behavior, they further brought back this knowledge to their own field of expertise and therefore started to emphasize on the collaborative need between design and tech.

Ultimately, User Experience focuses on the interaction between a user and a product/service. One definition that talk to me the most and summarise the evolutive approach illustrated by Nielsen & Norman and later Morville, is the one of Kuniavsky. She defines it as such:

> "The User Experience is the totality of end-users' perceptions as they interact with a product or service. These perceptions include effectiveness (how good is the result?), efficiency (how fast or cheap is it), emotional satisfaction (how good does it feel?), and the quality of the relationship with the entity that created the product or service (what expectations does it create for subsequent interactions?)" (Kuniavsky, 2010, 14)

User experience is dynamic it changes over time as the relationship (interaction) between the user and the product will evolve over time throughout the relationship lifecycle, depending on the evolution of user needs and aspirations and affecting changes in the product or service.

Overall, UX can be defined broadly as a concept describing user's interaction with products, the associated services and objects through a user interface. Academics and practitioners tend to agree that user experience is dynamic, context-dependent and subjective and it should be grounded in user-centered design (UCD) practices. (Arrasvuori & al., 2011). User experience design (UXD) is the process of creating products that provide meaningful and relevant experiences to users. This involves the design of the entire process of acquiring and integrating the product, including aspects of branding, design, usability, and function (Interaction Design Foundation, 2018).

The notion of UX has evolved, and the experience part has been the focus also for the Customer experience, which englobe the notion of UX.

Customer Experience (CX)

From UX covering the interaction between the user and a product or a service, CX extend the interaction including experience preceding, and acquisition postponing of the product/service. As defined by Lowden (2014):

> "In contrast to UX, CX encompasses all the interactions a person has with your brand. It might be measured in: overall experience, likelihood to continue use, and likelihood to recommend to others. In essence, UX is part of a broader CX, but CX contains some aspects outside of a product that UX does not."

The Interaction Design Foundation defines CX as referring to:

> "A customer's experience with a company or brand, at all touchpoints. A touchpoint is any way by which a customer can interact with a brand, such as when purchasing or using a product or through seeing commercials featuring it. CX design focuses on creating an optimal experience for customers at all such touchpoints" (IDF, 2012)

Further, Richardson, in Havard Business Review (HBR) defines the CX as: "the sum-totality of how customers engage with your company and brand, not just in a snapshot in time, but throughout the entire arc of being a customer." Creating great customer is not magic nor rocket science but it surely requires greater collaboration between separate units such as Business, Design and Tech. "Crafting a great customer experience requires enormous amounts of collaboration across groups in a company that often work independently and at different stages of product development. In many cases marketing, product design, customer services, sales, advertising agency, retail partners must all be working in concert to create even a single touchpoint." (Richardson, 2010,)

As for creating greater UX, creating greater CX is not a linear process and it requires a big collaborative effort throughout the whole product or service development. At Company X it is important when working on solution that support our customer's customer experience to involve them in the process of understanding their own challenges, where are the biggest paint points and challenges their customers faces when interacting with their brand, what are the key touchpoints and where does our solution can provide support towards greater CX.

Designing the CX is difficult to control as by nature, experiences are depending on the user perception, emotion and unexpected behaviour, nevertheless it's not a reason to not care about the experience our product or services creates. We can aim for certain type of experience by applying User Centred Design (UCD) and learning about our customers, through personas, customer journey workshop, user testing and by applying several users centered method to aim at greater experience, as near as possible to the one we entitle to create. (Richardson, 2010; Helfenstein, 2015)

This said, as CX relates to all the customer touchpoints with a company and its brand, it's important that all the possible services the customer interact with are given the same importance, from the digital channel (e-shop and e-care solutions) to the human channel (customer service representative in shops and on the line) therefore the later need proper tools that help them deliver greater CX. In fact, employee experience such as customer service representative (CSR) is also contributing to the overall CX. This employee experience of enterprise software does also have a name of its own, it's known as Enterprise UX.

Enterprise UX

As millennials grew with an iPhone in their hands, they are expecting purpose-built applications and better holistic experiences, when at their turn they become employees, they will start questioning why are the enterprise software so poorly designed, it's because they are seeking better experiences, not just a set of new features (Neeman, 2015). Unfortunately, as mention by Neeman (2015) too often and historically, enterprise software is purposed-designed computer software used to satisfy the needs of an organization rather than to satisfy individual user needs. Too often, development organizations give engineers responsibility for transforming requirements into user interactions, process flows, and screen designs, but as said and illustrated greatly by Norman, engineers are not the users (Sherman, 2008). Enterprise software such as Business Support Solution BSS gain greatly from UX research when designing with in mind the reason why a user (employee) needs a certain feature in relation to a specific task, and more interestingly how this user need is resonating to another user need of the similar system and how does the design can affect greater collaboration. It's the systemic and holistic approach of the needs of the pool of users and their interaction with the system that can help us build better EX.

Designing for Enterprise UX is not without facing any difficulties, common challenges for designers in such companies are first gaining access to the end users to truly gain an understanding of the facing challenges of the user themselves and not hearing the problem from a manager which is not even using the product. Collaboration towards a greater understanding of the big picture, to avoid building sets of solution that part of the whole system.

Since the first Enterprise UX conference held in 2015 (Rosenfeldmedia, 2018), awareness was raised about the poor UX of enterprise software, the conference tackled the issue that people who engage with enterprises—employees, customers, and managers—face experiences that are tedious, fragmented, complicated, and just plain awful, especially when compared with consumer-facing experiences. By sharing their experience, and especially sharing the strategy and solutions leading organisations such as Salesforce and IBM took (For example: investing in their design units, helping them understanding their core user needs, as well as providing training about designing thinking to large part of the organisation) aim at changing the deal, by not focusing on the number of cool features they've integrated into their new products or services but rather by focusing on the experience and business value related to it. At Company X we do not only care at providing world class Enterprise UX, nor just focus on designing for great UX or CX, it's the additional UX + CX + Enterprise UX to consider when designing for desirable EX.

Enterprise Experience

One of the reason why Company Y started thinking about EX is that UX and CX alone were not enough, especially for the line of business they were dealing with, where a lot of specialised apps for specialised audience and even C Class leadership people was made. They needed some approach that was considering not only the end-user, the customer but also the employee, the manager, the CEO (Immonen, 2012).

Enterprise Experience (EX) concept represented below encapsulate all the notions above mentioned (Utility, Usability, UX and CX), they are not excluding one another, but rather building on top of each other. EX is the holistic experience resulting from a co-creative ecosystem. Ultimately, EX focuses on the holistic ecosystem that conditions and generates experiences with any stakeholder in an ongoing manner. This means the necessity to look at the complete resource and actor landscape, entailing a variety of systems and tools, people, providers and partners, as well as business processes and rules, operational support, until upgrading, replacing or discontinuing the service or customer relationship (Helfenstein, 2017).

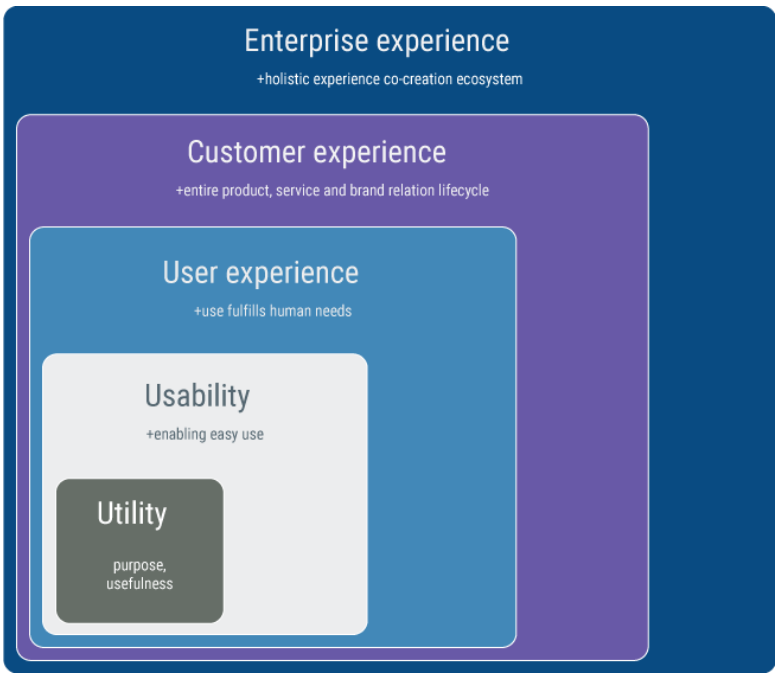


FIGURE 5. Experience Ecosystem – Clustering Approach (Toppi & Helfenstein, 2015)

2.2.2 The Holistic Approach

EX is not just about design, it should be explained in its holistic meaning. The EX framework is built on the collaboration of three areas – Business, Technology and Design, the framework gives a way to stich them together into a stronger approach.

EX holistic framework is inspired from Design Thinking approach developed essentially by Brown and later IDEO in early 2000. One of the Questions Brown (2009) tries to answer in his book "Change by Design" is exactly, "How do we balance the needs of People, Technology and Business?" In his definition of design thinking, Brown (2008, 86) describes *"*a discipline that uses the designer's sensibility and methods to match people's needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity".

The way Design Thinking integrates business, technology and human towards innovation can provide better solution to a common problem:

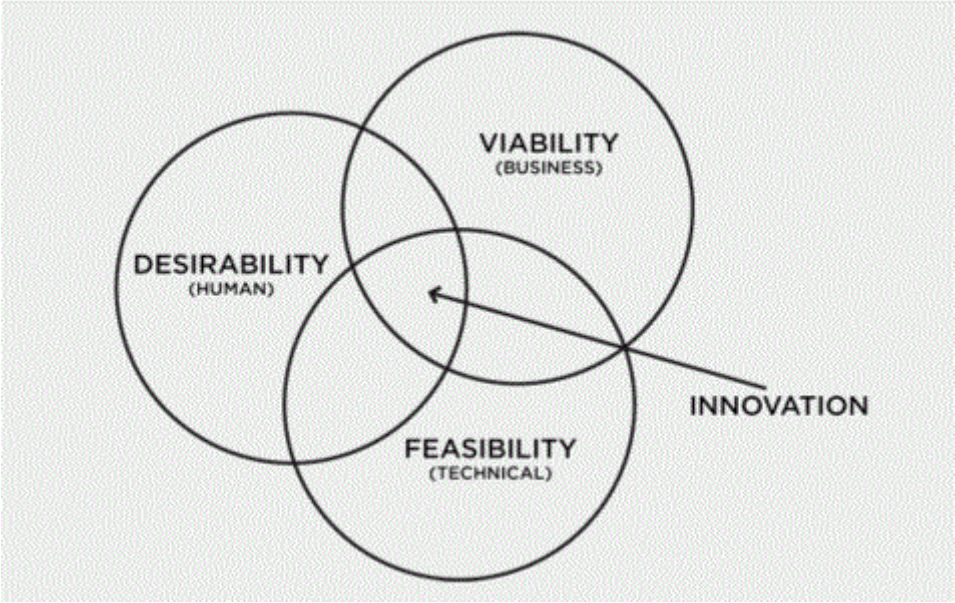


FIGURE 6. Design Thinking (Brown, 2009, 19)

In a similar manner, Brautigam (2017) argues that business, tech and design disciplines have different mean to consider human in their own approach. Where business primary focus on making money, tech focus on delivering functional products and design focus on creating desirable experiences. The author sees Design Thinking as a way to intertwine those approaches while still serving their needs, through collaborative effort.

> "They all need to be viewed together, iterated together, resolved together. At its core, Design Thinking is a formalized practice solving human needs as holistically as possible, with the full spectrum of success criteria in mind. Design Thinking is a deeply collaborative approach." (Brautigam, 2017)

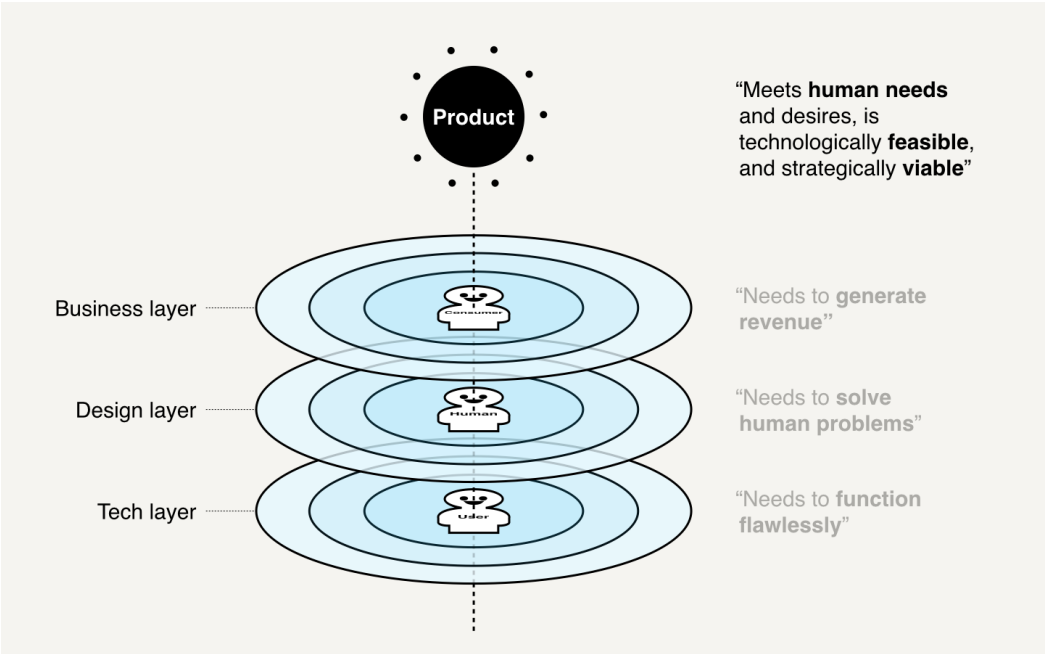


FIGURE 7. Design Thinking product layers (Brautigam, 2017)

EX approach slightly differs from those in a sense that it does not only focus on the creation of a single product, but question the production of larger product or solution such as Business Software Solution (BSS) that are rather complex and requires enormous effort of integrations, and deep knowledge of the core action to be built efficiently. Similarly, to Brown and Brautigam, EX framework offers the possibility to not only focus on creating solutions and services that answer mainly functional or business requirements, but overlook at offering products that are appealing emotionally through design and functionally through price. (Brown, 2008)

Ultimately, EX framework is about designing appealing and functional solution for a broad range of users through a collaborative effort engaging talents from Design, Business and Technology. The Design Cornerstone was thoroughly defined in the previous chapter, but what about Technology and Business? What are the key concept behind EX thinking?

Technology Design: Enterprise Architecture

When it comes to the Technology aspect of EX it refers mainly about the technology design or more specifically to the Enterprise Architecture. Enterprise architecture is defined as the organizing logic for business processes and IT infrastructure, reflecting the integration and standardization requirements of the company's operating model (Ross et al., 2006, 6). EA provides long-term view on a company's processes, systems, and technologies so that individual projects can build capabilities, not just fulfil immediate need. Ross et al. (2006) in their book "Enterprise Architecture as Strategy", depict how top companies define how they will do business (an operating model) and design the processes and infrastructure critical to their current and future operations (enterprise architecture). Thus, creating a stable base, by digitizing their core process and embed those processes into a foundation for execution. In the way Ross et al. explain it, EA process should start with senior management debating the operating model, the EA design is then the responsibility of IT who facilitates discussions with senior management, and then design the core diagram of the EA.

But is EA by itself a sufficient approach? Indeed, it bring a more solid foundation to IT, but it seems to omit the whole CX aspect and design aspect of the solution. As Immonen tells it based on his own experience, "The vision for enterprise architecture might not

consider design at all" […] "The architects don't know how they should be designing for customer experience other than maybe demanding systems to be fast or preferring vendor A instead of vendor B".

In our own experience from the field, when brought to the CJ workshops, Head of Consumer Services, Market and Consumer Manager, Customer Relation Manager, Call Centre Managers and many more, were grateful to see that the EX approach is more holistic, and they emphasized the fact that with their participation it lowers their fear that the current ongoing digital transformation and digitalisation of their business processes, and automatization of their solution was not reduced to another IT project.

Further, in the current industry revolution, companies cannot anymore operate by sticking into their own domain, the boundaries are losing up forcing them to shift towards larger business ecosystems (Solsona, 2018). As digital transformation can not only be operated as IT projects, with the risk to completely omit the experience part, designers have to evolve from product design to service design, to seek to answer organisation need by intensifying the collaborative bound and understanding of the Design, Business and Tech ecosystem.

"To understand products, it's not enough to understand Design and Technology. It is essential to understand Business." (Norman, 2013, 25)

Business Design

One of the corner stone of EX is in Business Design. Martin in his book The Design of Business (2009) depict why design thinking is the next competitive advantage. The author describes how through many great organisation stories he saw how design thinking could create sustainable advantage to numerous organisation. His idea stands in balancing a corporation analytical thinking with intuitive thinking. More precisely, he describes how too often organisation tend to rely on mostly analytical thinking, or what he call exploitation that leads towards rather administrative business, focused on short term orientation. Thus, based on analysis, reasoning and data from the past, reducing potential risk but leading to low or quasi no challenges and therefore little rewards, in opposition to a more explorative company re-inventing its business, by dynamically moving from a current knowledge stage to the next, based on intuition, feeling, and hypothetical future, further encouraging risks taking, uncertain but rather potential reward scattered with potential

failure that consolidate and exploit return. But Martin after describing the two most common ways of driving business organisation propose an ultimate way to design business, balancing on the benefit of the two above mentioned approaches. Thus, by proposing companies to embrace design thinking, Martin explains how company both "hone and refine within the existing knowledge stage and generate leap from stage to stage, continuously, in a process he calls the **design of business**" (Martin, 2009, p. 20). Essentially, "design thinking is the form of thought that enable movement along the knowledge funnel, and the firms that master it will gain a nearly inexhaustible, long-term business advantage" (Martin, 2009, p.6-7).

Only with a clear understanding of the whole system and a strong collaboration effort between in house designers, customer experience specialists and solution architect we can aim at EX. In Company X, the application of this design thinking, helped us approach the notion of EX as the central point, where design, business and technology stakeholder unites to design better solution, thus applied to external design of business and design process, to fully support the digital transformation of Telecommunication Operator.

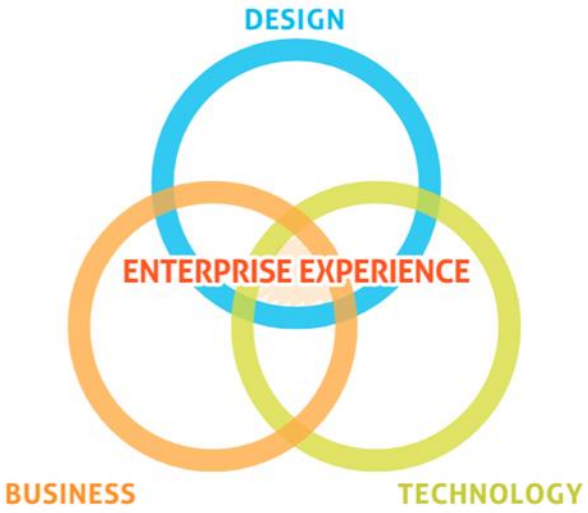


FIGURE 8. Enterprise Experience – Holistic Approach (Toppi, 2014)

Through UX design, Technology benefit from design thinking. Through design thinking, Business benefit from design methods and collaboration. Through enterprise architecture, business benefit from technology design. Together, UX Design, Business design and Enterprise architecture co-create the EX (See Figure 8 & 9)

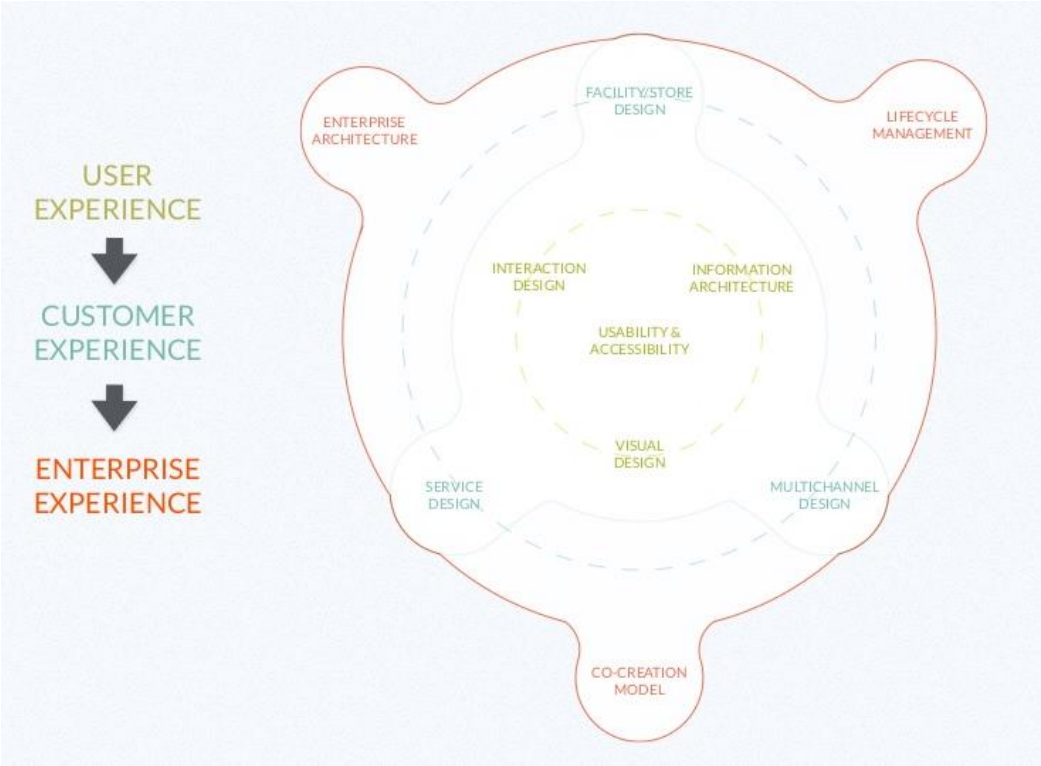


FIGURE 9. Enterprise Experience (Toppi, 2014)

In sum, following from the design-led approach of user experience and design thinking (service design) and combining them with this key premise of enterprise architecture, enterprise experience was defined the following way: Enterprise experience is interested in the overall experience for a company, both for internal users and customers. It focuses on co-creation and employee, management and end-user experience. It combines the principles of user experience and enterprise architecture, with a holistic approach to design, technology and business. It encompasses both the experience of the result and the way it is created (Toppi, 2014; Helfenstein, 2015).

So, from the underlying theory perspective, EX is a lovechild of design thinking, business design, UX and enterprise architecture (Toppi, 2017).

2.2.3 The Eclectic Approach - Journey Based Design

Customer journeys are very common methodology used to dive into CX especially used by consulting company applying service design method. We can find plenty of white papers and reports focusing on CJ in the telco industry, many which are available in TM Forum. Thus, preaching the concept of customer lifecycle and providing ideas on how to monitor the full customer lifecycle to further benefit from it. There are also numerous

consultancy companies selling their expertise in CX, having developed their own CJ frameworks, (E.g. Capgemini, Bain, McKinsey, and others) but when it comes to implementation, finding reports on extensive solutions emerging from application of such framework, it is rare even unseen. To me Company X customer journey approach is very similar to the design research methodology we used to apply in Nokia Research, and therefore I see its roots in UX design. To many others, CJ is the tool from which one can dive into the CX and is a product of marketing research. At Company X, we have fused this approach by involving in our workshops some of our senior business analysts, UX designers, and when possible, solution architects.

Lemon & Verhoef propose to understand customer experience through the customer journey (2016), in their definition, customer experience is a multidimensional construct focusing on a customer's cognitive emotional, behavioural, sensorial and social response to a firm's offering during the customer's entire journey (Lemon et al. 2016, 76). Through their metadata analysis, specific to the field of marketing, they highlight the historical construct and fundamental roots of CX in the marketing literature. For them, CJ is defined as the stages of the total customer experience. They distinguish three essential stages of the CJ, from which the CX flows, the pre-purchase (including search), the purchase itself (including buying and using the product or service) and the post-purchase, those stages are by definition iterative and dynamic. By analysing customer journeys, firms focus on how customers interact with multiple touchpoints, from consideration to purchase, aiming to understand the overall customer view (79). Often the analysis results in providing customer journey map also called service blueprint. By understanding current CJ and SBP, we can look not only at providing efficient journey, but also at designing optimal experiences to customers (Lemon et al. 2016, 83)

There are some key elements to be considered when applying customer journey to truly get insights about current CX, and be able to draw the journey "as is" in order to create better CX and therefore being able to draw the customer journey "to be", aligned with a given strategy. Rawson et al. (2013, 5) argue that excellence in individual touchpoints (the many critical moments when customers interact with the organization and its offerings on their way to purchase and after) is not enough for companies to excel in CX, they need to embed customer journeys into their operating models in four ways.

First, by identifying the journeys in which they need to excel, we call them the key journeys. The author suggests undergoing a parallel effort of gathering and analysing data, from both top-down, judgment-driven evaluations and bottom-up, data-driven analysis, to varying degrees. In our CJ approach, first gather data through strategic alignment to highlight the key journey that further through field research data test and challenge. Those data are further discussed and utilised during the workshops with customers, providing us with data from the inside completed with our own observations of the end-customers allowing us together to identify the key pain points related to each journey. Second, Rawson propose to work on understanding how the company is currently performing in each of the highlighted journeys. Once identified, each key journey shall be examined in detail in order to understand the causes of current performances. Third, the author suggests building cross-functional processes to redesign and support those journeys, to avoid tempting quick fixes, that would only be visible on the surface and not solving the core of the problem. "Only by getting cross-functional teams together to see problems for themselves and design solutions as a group can companies hope to make fixes that stick" (Rawson, 2013, 6). In Company X we invite customer representatives from across the organisation, allow us with them to look into cross functional process that need to be redesign, towards providing E2E solution with a focus on customer optimal experience. Fourth, by investing effort in instituting cultural change and continuous improvement to sustain the initiatives at scale. Not only designing optimal key journey, including cross functional process providing E2E solution is necessary, but most importantly applying the changes across the company is extremely important and challenging. Thus Rawson (2013, 10) emphasize how important are the following high-level changes: "(1) modifying the organization and its processes to deliver excellent journeys, and (2) adjusting metrics and incentives to support journeys, not just touchpoints." His defined approach is very similar to what we have so far encounter in Company X while applying EX framework through CJ workshops and services offered to our customers.

What's essential to keep in mind is that,

> "companies need to combine top-down, judgment-driven evaluations and bottom-up, data-driven analysis to identify key journeys, and then engage the entire organization in redesigning the customer experience. this requires shifting from siloed to cross-functional approaches and changing from a touchpoint to a journey orientation." (Rawson et al., 2013, 5).

In their book about XD, Newbery & Farnham (2013, 132-169) developed a very interesting CJ framework integrating brand, experience and value aspects of the CX. They divided their journey in 7 steps with a focus mainly on the end-customer. Nevertheless, interestingly, their approach contains this customer versus business perspective that we also tend to tackle in our practice. Their CJ framework is designed so that it can be reused and I really like the way they have managed to explain in detailed how each of the steps requires specific research and how those answer can be fulfilled. It sums up in my opinion very thoroughly how CJ fully serves CX research and further XD.

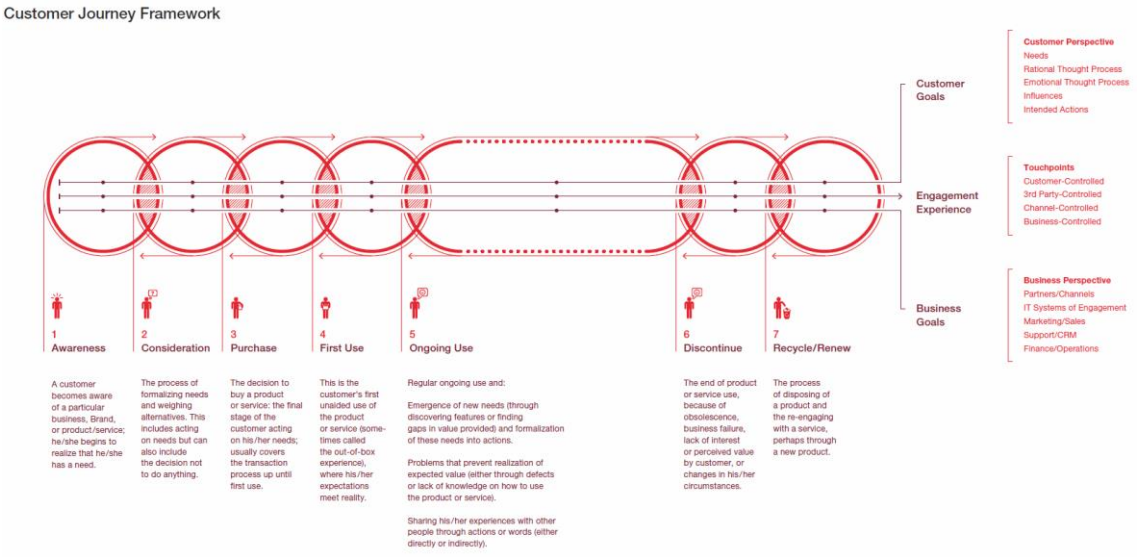


FIGURE 10. Customer Journey Framework (Newbery & Farnham, 2013, 142-143)

Through customer journey framework (EX) Company X intend to engage all the stakeholders, managers from marketing and customer insights, call centre manager and IT specialist to provide in the end a solution that tackle the customer needs. It means that instead of working with only one or separately with specific departments, and treat problems in silos, we try to bring all the key stakeholders around the table to tackle their customers pain points along defining key journeys and further providing end-to-end solutions. Thus, resulting in a proposal of more integrated solutions, serving both the end customer and the business customer, through illustrated customer canvas, mapping the customer needs to the UX stream, technical solution and required integrations as well as key business requirements. Moreover, this mapping happens to serve our internal communication and help diverse teams to understand what are the key problems to solve and how our solution can be offered in the most valuable way to customer.

At Company X, the nature of our solution and services allowed us to build in parallel a Customer journey where the Journey of end user can be built in parallel of the business customer journey (CSR). Meaning that for every step of the customer journey the business solution human or digital has been defined to enhance the customer experience.
This double approach is illustrating the overall enterprise experience, which is experienced by both the potential customer, the actual customer and the business user.

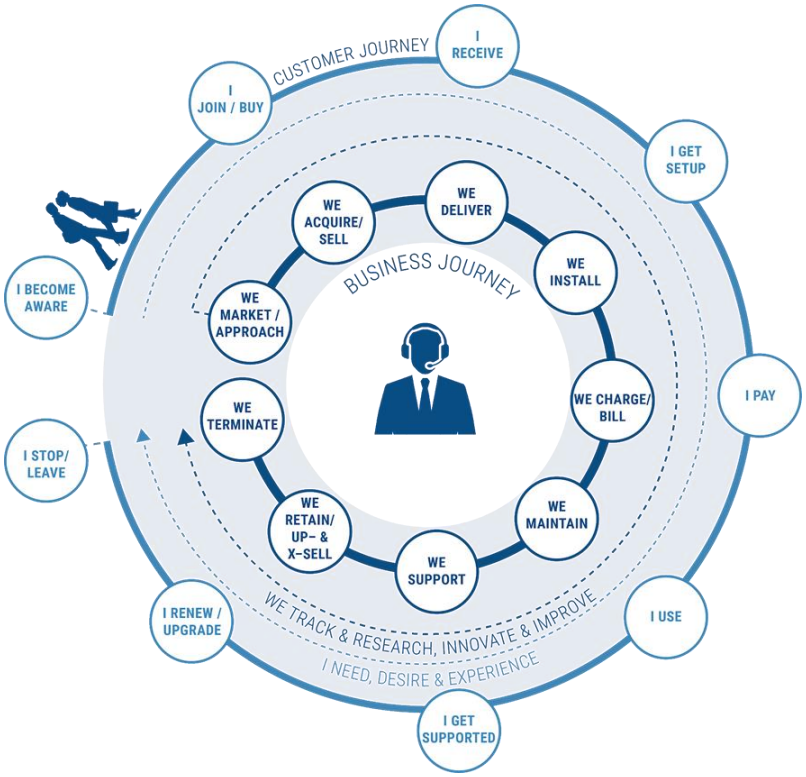


FIGURE 11. Company X Customer Journey Framework – Eclectic Approach (Company X, 2017)

"To address both customer and business perspectives, Company X Customer Journey Framework is designed to contain both customer journey and business journey" (Lin, 2018). In this model, simplified customer journeys are represented in parallel, where the business journey is designed to support the customer journey, at each step and each touch point from becoming aware to renew/leave the contract with the operator.

"CX and UX have very different responsibilities and approaches, but their work comes head-to-head in three key areas: strategy, customer understanding, and governance" Buley (2015). In Service Design at Company X the bridge between CX/UX is done through strong collaboration during the Customer Journey (CJ) workshops. The parallel

drawn between the Customer Journey (CJ) and the Business Journey (BJ) allows us to consider not just UX but also the enterprise UX.

The more journeys are used and mapped between the customer and the business, the more we can reach a full alignment between the customer and the business needs towards a positive enterprise experience, and a flowless business transformation. When aligned the CJ and BJ offer way to map the needs of the tools, the way they should be integrated and the pain point or gap in the digitalisation of some of the business process.
To conclude, as mentioned by Rawson et al. (2013, 10):

> "Optimizing a single customer journey is tactical; shifting organizational processes, culture, and mind-sets to a journey orientation is strategic and transformational. Journey-based transformations are not easy, and they may take years to perfect. But the reward is higher customer and employee satisfaction, increased revenue, and lower costs. Delivering successful journeys brings about an operational and cultural shift that engages the organization across functions and from top to bottom, generating excitement, innovation, and a focus on continuous improvement. It creates a culture that's hard to build otherwise, and a true competitive advantage goes to companies that get it right."

There's where the whole EX framework could really apply its full value not only internally but also externally by designing solution with and for our customers.

2.3 EX Design Principles

Through the evolution of the framework, and the integration to Company X product and services, the EX design principles (see Table 1) have evolved and are now developed and written in a way that they can serve best the full stack BSS from front end digital solutions to back end, and related services.

TABLE 1. Company X EX Design Principles (Toppi & Helfenstein, 2015)

Principle	**Explanation**
1. EX fuses design, technology & business	It unleashes the potential of technology for business through magical design.
2. EX grows from the human to the systemic	Its design is anchored in user psychology and reaches toward the complete enterprise architecture.
3. EX embraces front to back	Good experience is not limited to surface. We need to **consider all layers** from user interface all the way to the underlying information architecture.
4. EX is a continuous strategic commitment	It **builds bridges** between vision and business in action. It does not target single solutions or one-off projects.
5. EX is everyone's business	**Break down the silos**. We need shared ownership, and multiple assembled skill sets.
6. EX is a co-creative learning process	We need to design the **co-creation path**, not just for achievements and products.
7. EX is people-based	**Uniting** all stakeholders All of us deserve great experiences and all are needed to thrive for it; In- and outside the company.
8. EX is content-driven	The **evidence** in the content and context should be the main driver and decision-maker.

In the present chapter I gave a thorough theoretical ground to the EX concept and wanted to emphasize its roots in design and behavioural sciences. I also wanted to give the reader most likely from business field the possibility to understand widely the evolution that occur in design throughout the years and how that reflect in the need to integrate design from day one "at the table" where business and technical stakeholders are discussing about digital transformation both for the end-users and employees.

In the following chapter I intend to communicate the value of investing in design by presenting how design has grown of interest on the market. Further, by benchmarking the areas in which design adds value, focusing on a selected set of tech companies and further show how investing in design capabilities is of value in tech industry.

Finally, by presenting way to assess the maturity of a design organization in chapter 4, I will present ways to provide evidence on what has been started and where to focus next.

3 THE ADDED VALUE OF DESIGN

"Design isn't just about beauty; it's about market relevance and meaningful results" (Maeda, 2016)

By developing and utilising a design value index, since 2013 the design management institute (DMI) provided information's on the value of design-centric companies and the importance of considering design as a business strategy.

> This Index shows the value design adds to organizations and proves that the strategic use of design is not only valued, but vital. Making design a major strategic pillar of your brand and business adds powerful value. It helps to differentiate and elevate and to deliver solid business results. (Basham, 2017)

According to a study performed by DMI (2015), companies that invested heavily into design, including design processes, capabilities, and leadership over the past decade, among which "tech" companies such as Apple, SAP, and IBM, outperformed by 211 percent the S&P 500.

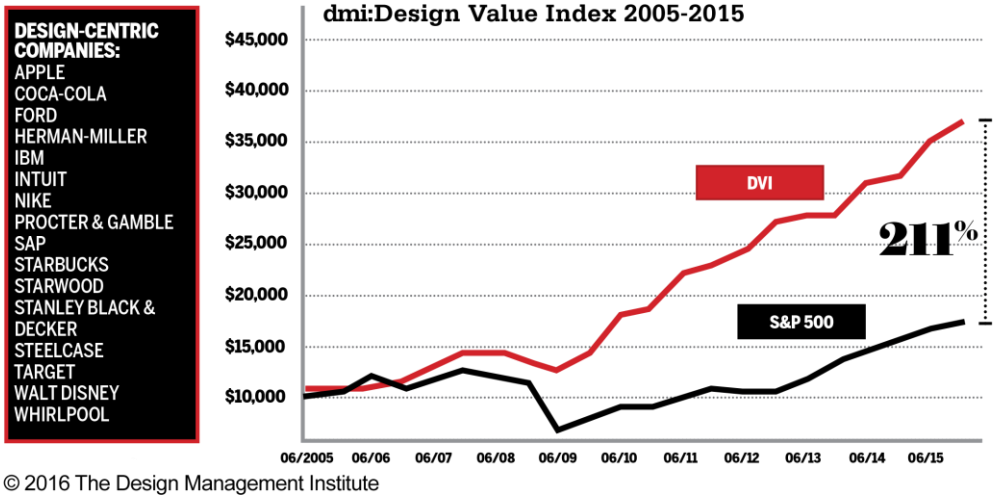


FIGURE 12. Design Value Index 2005-2015 (DMI, 2016)

Moreover, Forrester (2016) published a report commissioned by Adobe on how Design-Led Firms Win the Business Advantage. By design-led practice, they mean a company where "Design is seen as a strategic differentiator for the organisation. Formal design processes are established for marketing, product, and customer experience initiatives. Design is integral to shaping digital CX and is involved at every stage when strategy is being set" (Forrester, 2016). McKinsey, recently dedicated a whole report celebrating the 50th

of design thinking, depicting the why of design for value and growth (D4VG) in relation to Apple, and further offers insights on creating end to end customer experience.

By applying design thinking into their business development practice, many companies have understood the added value brought by design and design approaches. The vulgarisation of Design thinking led by Brown at Ideo created a massive trend where “Design skills and Business skills are converging”, especially by companies that embraced Design Thinking towards innovation and digitalisation such as Apple, Google, Citrix and many more. The field of service design has directly emerged from design thinking application, in the latest Service Design Network conference held in Helsinki (26.04.2018), we could hear how service designers through design thinking, customer journey mapping, personas, managed to utilise service design to bring added value to the business (Eden, Intuit); change the company culture at Kone, (Santos and Guzeynova, 2018); provide tools to answer the evolving needs of services required by the industry shift towards service platform and industry ecosystems (Solonas, Aalto University, 2018).

Many companies have shown greater results for a combination of reasons. Design thinking has allowed business to embrace design approach as a methodology to success.

Nowadays we can already observe two types of companies believing in the power of design thinking and thriving to design for experiences – Design lead companies, and the one who choose to leverage and empower design activities within the organisation.

3.1 Design as Strategy

In a world where technology evolve faster and faster thinking of efficient technological solution can’t be enough to sustain a business. by essence, business persist when they are able to create and provide sustainable value to their customers. Design by principle and as a process can strengthen that value.

In this thesis we aim at defining the benefits to focus on designing for Enterprise Experience and how companies can benefit from applying design as a strategy? In this first part I will talk about design as a strategy and step by step explain the relevance for BSS providers to push design to a strategy level to stay highly competitive in the transformation era towards digitalisation.

For many of us in the field Design and UX, the value of design thinking and further the value of design as strategy is clear. The idea of applying design thinking to business can sounds a little different. According to Capper:

> "Today, design has become an integral part of the process through which strategy is defined. Design and strategy have become intertwined through successive elements of creation, research, thought and evaluation involving many disciplines as well as the ultimate user." (Capper, 2013, 27)

Many organisations have already embraced the design thinking approach into their strategy, and made their design approach a key differentiator. (Carper, 2013; Brown & Roger, 2015). Ultimately, "Strategic design is about applying some of the principles of traditional design to "big picture" systemic challenges. It redefines how problems are approached, identifies opportunities for action, and helps deliver more complete and resilient solutions" Johnston (2016). In fact, design as strategy, implies that strategy is no longer simply the creation of the plan that is executed through design—rather, design has become more integrated and is now a part of the strategy Capper (2013, 27).

Nevertheless, we need to admit that in 2018 like in 2015; as stated in his short statement on Design as a strategy by the editor in chief of Harvard Business, still many do not fully foresee the business value related to it. Some examples can therefore be of use to support our statement.

3.2 Design Best Practices in Tech Industry

Why so many world's leading organisations are increasingly investing into in-house design capacity? That's a question Baron (2015) attempt to answer as part The European initiative on Design for Europe. In fact, companies are increasingly aware that design is a key driver of innovation. Through human centered design approach, they can focus more on their customer and user needs. therefore, companies that have traditionally been highly technology-driven, such as software firms, high-tech production companies and financial institutions, are beginning to acknowledge that user needs take priority over technology (Baron, 2015). As mentioned earlier in reference to Immonen, assigning design a bigger role in the internal organisation is key to avoid getting only pretty solution

from design agencies, which are often lacking the deeper collaborative work with enterprise architect and business analyst that bring in the big picture of the design required, not only from the surface but as an integrated part of a bigger system.

As an attempt to summarise some of the best practice in the industry when it comes to apply design in a systematic way (See Table 2), we resume some of our learnings through a combination of sources gathered from literature review, webinars and online presentations. To give an overview of tech industry valorising Design as a core element of their organisation, we selected AirBnB, Uber and Netflix as representing disruptive digital platform. AirBnB and Uber, in a similar manner to Company X try to equally develop great experiences through both the consumer and the business journey; where Uber consider both the riders and the drivers when designing the Uber experience, AirBnB consider the tenant and the renter. We selected IBM and Salesforce who recently invested a lot in their design unit and both providing Business Software. And Apple as revolutionising the design thinking in the tech industry.

Apple is the first company that comes to mind when designing great experience. It's the company by excellence that is utilised when explaining how the holistic experience from purchasing a product to use is filled with joy and satisfaction. Apple is one of the best example when it comes to illustrate the perfect amount of collaboration between Business (customer needs), Design (functional and aesthetic) and the technology (state of the art in many aspect of the tech.). IBM had begun to earn a reputation as a forward-thinking, backward-designing company by the early 2000s. By implementing their new design program IBM intend to be more strategic and shift away from the engineering-driven "features-first" ethos towards a more "user first" mentality, allowing them to solve real problems for real people instead of building a few features here and there Says Gilbert, General Manager of IBM Design (Francout, 2016). Thus, investing massively in design training and hiring trained designers. Bringing the number of newly employed designers to 1300 over 3 years, lowering their designer - engineer ration from 1:72 in 2012 to 1:8 in 2017 (Francout, 2016; Field, 2017).

At Uber, Design is used efficiently to minimize the effort and maximize the impact, as pointed out by Smith, Senior Design Manager at Uber:

> "Design plays a pivotal role in the growth team's mission to accelerate the growth of the business. We touch all parts of Uber—product, marketing, and internal tools. We design for riders, drivers, and operations teams across

> the 68 countries where Uber operates. Everything we do gets tested, tracked, and measured to ensure we're maximizing growth in all areas of the company." (Smith, 2016)

TABLE 2. Companies integration of design from organisational level – Design markers, tools and talent.

	Design Importance Markers	Design System	Designer/Engineers Ratio
AirBnB	DesOps Design as DNA	Airbnb's Design Language System	NA
Uber	ED is for both consumer and business users	NA	1:8 (2017)
Netflix	Highly iterative and collaborative design culture	NA	NA
Apple	Design Organisation E2E ED	Human Interface Guidelines	NA
IBM	Design Organisation Enterprise Design Thinking Framework	IBM Design Language	1:72 (2012) →1:8 (2017)
Salesforce	Design for Enterprise UX	Lightning Design System	NA

As pointed out by Schleifer (2015) fully 'design-led' companies don't work. It's foolish to think that Design alone is the only source of value, it is its strong integration and collaboration with the business design and technological design activities that bring value. It's the ability to collaborate and integrate the design activities across the company that are fruitful. Furthermore- what Shaffer point out is that it's not the design-led culture approach that he recommends, but rather the user-centred culture, that can be shared by all the stakeholder from their own position and discipline.

Furthermore, to strengthen their Human Centred Design (HCD) competences, many tech companies do not hesitate to acquire design companies, in his 2016 report of DesignInTech, Madea (2016, 7) notice that since 2004, 42 design firms have been acquired. Over 50% of which have been acquired within 2015 with Accenture, Deloitte, IBM, Google and Facebook as the most acquisitive (Madea, 2016).

In the above-mentioned companies, the investment in design is seen through the appointment of design leaders to key position in the organisation, their role is to make sure that

design is present in the whole process of developing a product or a service from conception to delivery. As pointed out by Sheppard (2017), for customer-centric culture to drive design impact throughout a business it starts at the C-suite level, with design leaders who are also credible business leaders .They further invested in developing design languages and Design Language System (DSL) (LONA for AirBnB; Lightning Design System for Salesforce; Carbon and IBM Design Language at IBM) to strengthen and bring efficiency to the collaboration between designers and developers, but also to reduce friction throughout the entire digital product design process (Fanguy, 2017; Todaro, 2017). As Curtis puts it, “the system’s promise is enabling a consistent experience to spread across products and sustained with a dependable, predictable practice” (2017). In the end, saying we’re customer-centric isn’t enough. Showing we’re customer-centric should be a continuous effort.

Where does Company X stand in comparison to those giants? In order to evaluate the current maturity of the company (Company X) and its potential to deliver greater EX by applying this framework we would like to assess the maturity level of the company. As our approach is holistic and focus not only on UX design but also on the design of Business and Tech, we are planning to look into a combination of approaches.

4 ENTERPRISE DIAGNOSTIC/ MATURITY MODEL ASSESSMENT

Developing and talking about an EX framework does not necessarily ensure that the company has what it takes to make it happen. To be able to fully apply the EX framework to deliver value externally to its business customers' a company needs to have certain key elements in place. By analysing the degree of maturity of a company we gain information of what are the key corner stoned installed, and the one that remain to be build. By applying such assessment, we can see what are the inhouse current capabilities "as is" and based on the definition of EX, best practice from diverse industries and internal knowledge propose an action plan on the capabilities "to be".

As EX approach is holistic, we can't rely on one maturity model in particular, for that reason we decided to create our one evaluation/ diagnostic scale to evaluate the current maturity of our company internally. Furthermore, we can then objectively assess the potential added value of applying such framework, within the company as well as a method to provide greater EX to our customer.

A maturity model refers to a measurement of the ability of an organization for continuous improvement in a discipline. It is a tool used to assess the status of certain capabilities that exist within an organization and help them to understand where these need to transform or improve (tmforum, 2017).

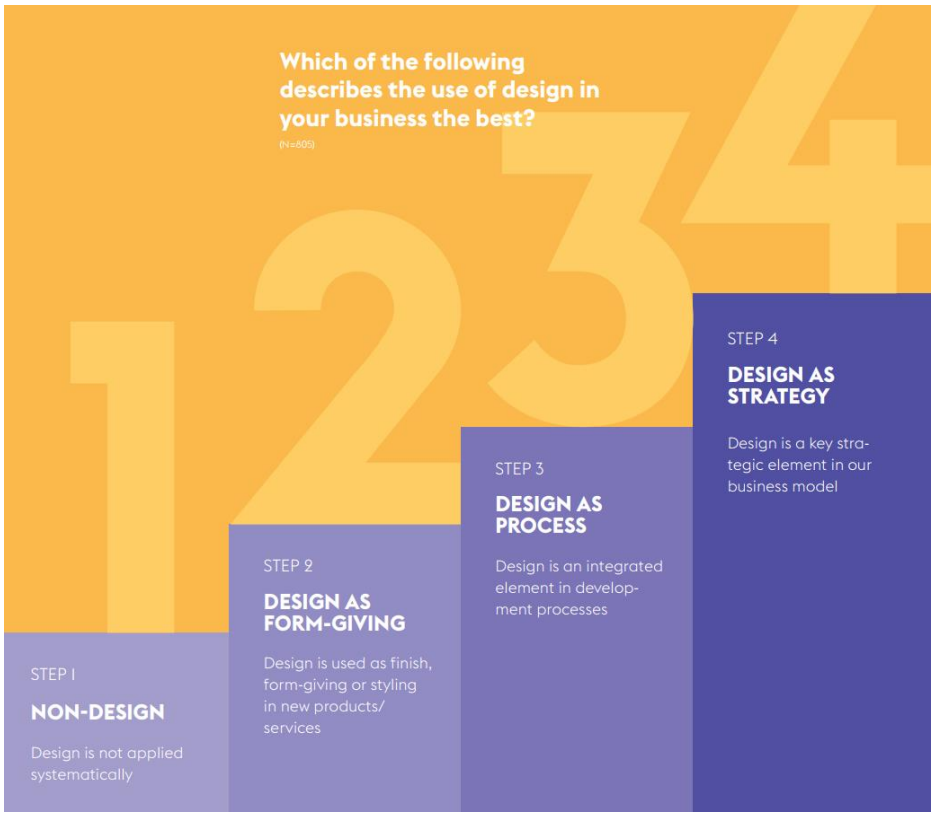
Maturity models can be used to assess qualitatively people/culture, processes/structures, and objects/technology. In the following chapters we introduce a selection of maturity model that were picked to relate the best to our research, the maturity of the design process, in relation to the process of business design and technology design process.

4.1 Design Maturity Assessment

Design reflect often into intangible outcomes, which are rather difficult to evaluate. Many have tried to developpe a way to assess several aspects of Design in an organisation. Through the description of Corporate UX maturity stages, Nielsen (2006), and through capabilities assessment scale Buley (2015), assess companies' capabilities on delivering satisfying UX experience throughout the organisation.

There are a few Design maturity stages description existing (e.g. Corall, 2016; Hanson, 2017) in the current research, we decided to focus on The Design Ladder developed by the Danish Design Centre in 2001, as it evaluate the use of design within the organisation and has further been utilised by many companies throughout a European project, thus demonstrating the validity of the model.

The Design Ladder was developed by the Danish Design Centre in 2001 as a communicative model for illustrating the variation in companies' use of design. The Design Ladder is based on the hypothesis that there is a positive link between higher earnings, placing a greater emphasis on design methods in the early stages of development and giving design a more strategic position in the company's overall business strategy. The Design Ladder consists of four steps as represented below.



Please FIGURE 13. The Design Ladder (Danish Design Centre, 2015)

Design Management Institute (DMI, 2013) in collaboration with Motiv Strategies developed a market index tracking the performance over time of design-focused companies relative to S&P 500. That index requires longitudinal study results that we do not have. Nevertheless, their Design Value System (DVS) is used to look at how companies com-

municate the value of investment in design, assessing the maturity of a design organization, and benchmark the areas in which design adds value. They research three components: The Design Value Index, The Design Maturity Matrix and the Design Value Map. In our research we will use in the measure of the possible in background of our analysis the criterion (questions) selected in measuring their design value index (Yong, 2015), thus removing the last criteria being that “a company has been publicly traded on a U.S. exchange for the last ten years.”

1. Design is used at scale across the organization, both within business units and as a centrally managed function with a high degree of influence with its senior leadership team.
2. Design is clearly built into the structure and processes of the organization, such as its organization charts and process maps.
3. The design function is managed by an experienced executive or executive-level head of design, with typically 15 to 20 years of design management experience, who can interface with senior leadership.
4. Design sees a growing level of investment to support its growing influence.
5. Design is a centrally managed function with a high degree of influence with its senior leadership team

4.2 Maturity Models

> "Maturity in context implies a potential for growth in capability and indicates both the richness of an organization’s implementation process and the consistency with which it is applied in projects throughout the organization." SEI (1995)

To draw the organisational diagnostic, we will use partially the information describing process maturity as the one described in the Process Maturity Model (ITIL), in combination to the “5 steps to perfect maturity” (Erickson, Hewlett Packard Enterprise, 2016). ITIL Process Maturity Model was first develop with a focus on IT but is also widely used and applied to other fields, thus providing a more holistic diagnostic. The two models defined by 5 commonly used levels (Srinivasan, 2013; Erickson; 2016)

1. **Initial** (chaotic, ad hoc, individual heroics) - the starting point for use of a new or undocumented repeat process. There are ad hoc activities present, but you are not aware of how they relate to each other within a single process.

2. **Repeatable** - the process is at least documented sufficiently such that repeating the same steps may be attempted. You are aware of the process, but some activities are still incomplete or inconsistent, there is no overall measurement or control.
3. **Defined** - the process is defined/confirmed as a standard business process. The process is well understood and implemented as a single process but is not integrated with other processes.
4. **Managed & Measured** - the process is quantitatively managed in accordance with agreed-upon metrics. This process is now managed by incorporating financial management, forward scheduling, trend analysis, and business relationships and is integrated with other IT systems and service processes.
5. **Optimized** - process management includes deliberate process optimization/improvement. The process is fully integrated with business processes to provide a platform for the strategic executives to make reliable business decision using the power of their technology resources. (Srinivasan, 2013)

In the Emergent Collaboration Maturity Model, Morgan, (Chess Media Group, 2011) sum up a way to look at the capabilities in place, but also looking at the type of governance and processes in place. This model provides us a good way to look into the current status. As one of the key aspect EX is thriving for is a collaborative approach to design holistic experience, this model seems rather appropriate.

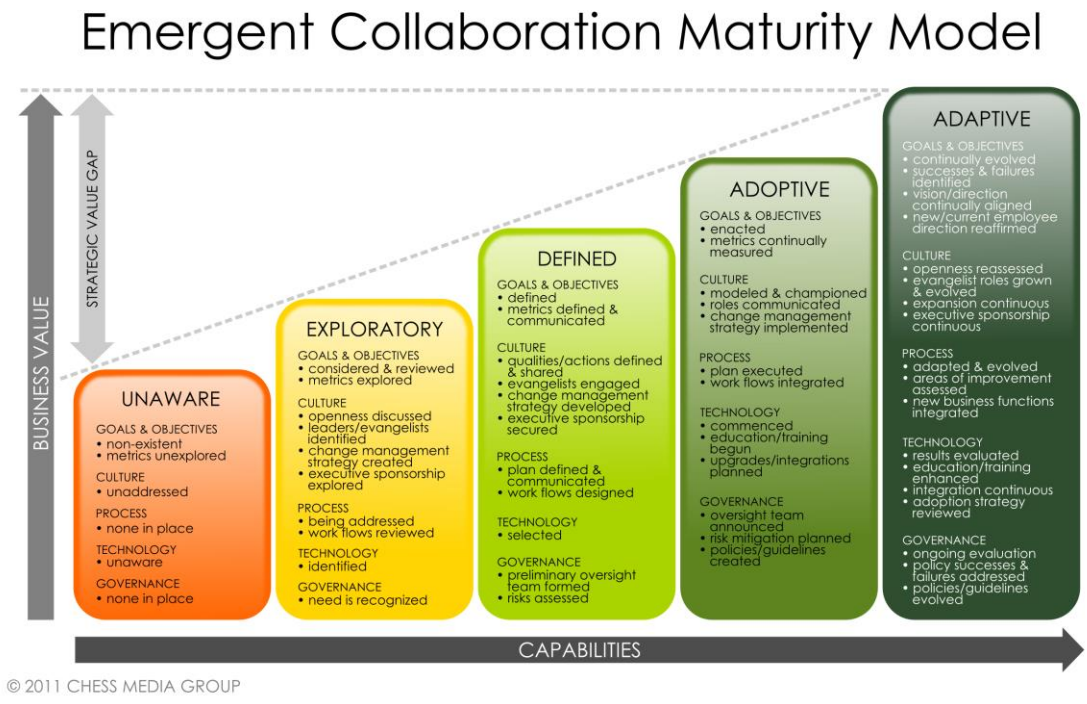


FIGURE 14. The Five-Step Maturity Model for Building a Collaborative Organization (Morgan, 2013).

5 DESIGNING FOR ENTERPRISE EXPERIENCE IN THE DIGITAL TRANSFORMATION ERA

As the industry faces a rapidly changing economic and competitive landscape driven by internal and external digital disruptions, it's increasingly important for operators to look at new digital business models to make sure that they share in the value from digital transformation (WEF, 2017). We believe that applying EX would bring value when it comes to develop new services and digital product to our customers, also EX can help us to first understand what are their customers' key pain points and together reflect on it, secondly propose solution by integrating and deploying our services to streamline their processes and further bringing digital value to their transformation journey. Mainly we believe that Designing for EX can support our customer when adapting to new consumption patterns, enhance customer experience, provide New business models answering their need to monetize new revenue streams.

Furthermore, our UCD approach will support them in moving from an engineering culture to a service-oriented culture with a strong customer focus and to further support them in creating new business model necessary for them to survive in the digital marketplace (Accenture, 2014)

As the consumer world has digitized first before organization. For the past ten years, Businesses have gradually understood that they need to invest in creating the optimal overall user experience. With the rise of the need to digitalise services, the UX focus started to shift toward a broader field of CX. The pace of the innovation in the interaction between users and product and brand have left behind the tools used within the company to serve the user and reach a delighted CX, employees tend to overcome the situation by bringing in the company some digital solution that they find useful and similar to everyday tools they are familiar with. Companies mainly for safety reasons have forbidden such usage but this is a hint that employees are seeking for easier, and more adaptable solution. Through EX we tackle the needs of both end-users and business user as well as the business themselves.

6 RESEARCH QUESTIONS AND METHODOLOGY

6.1 Research Questions

Based on the theoretical background and our literature review, above mentioned, we explain why we believe it's important to design for EX. We also illustrated how Design has proven to bring value to many companies. By applying specific UX and CX strategies, and by investing heavily into design at several levels of the organisation, several companies have strengthened their brands. The DVI show that over ten consecutives years design-driven companies have outperformed S&P 500 by 200%. Therefore, we can formulate the hypothesis that thriving to design for EX is beneficial to Company X Business success.

More precisely our research deals with the following three research problems and related expectations.

1. What are the existing models and related models of Experience Design we can take example from the tech industry?
    a. What does it mean to design for EX, how is Company X currently equipped for it?

Through the current knowledge about EX framework, literature review, and a selection of companies we sat a grid of best practices of companies investing in design at a strategic level with a strong emphasis on UX and CX. That list will be used in further analysing the current capabilities Company X has and need to further invest in to succeed in applying experience design company wide. Additionally, that will help us set return on investment (ROI) expectations.

2. How does EX framework fits to Company X Strategy, Value proposition and way of working?
    a. How EX can support Company X in fulfilling its vision to become the industry's most desirable BSS provider?

We will attempt to describe Company X current status when it comes to use Design in a Holistic way. Company X publicly defines itself as a provider of Digital Transformation Solutions to Telecom Operators. Currently (2017-2018), Company X Strategy, Value Proposition, Mission and Vision are presented as follow:

Company X strategic argument:
"In a highly competitive global telecom operator landscape, pressure grows for operators to find solutions that increase efficiency and that can transform the way they run their businesses." (Company X website, 2017)

Company X Value Proposition:
"Company X improves business performance with a robust cloud-based BSS offering allowing Communications Service Providers (CSP) to offer exceptional service through both consumer and business touch points." (Company X website, 2017)

Company X vision: *Our vision is to become the industry's most* ***desirable*** *BSS provider.* (Oikotie, Qvantel Finland Oy, 2018)

Company X mission: *Our mission is simple; to grow telecom operators' business* ***efficiency.*** (Oikotie, Qvantel Finland Oy, 2018)

As defined in Company X vision and mission, desirability & efficiency being the key experiences to thrive for, through the expert interviews, we will look into the dependencies of Company X strategy, value proposition and discuss how they relate to EX. We want to understand what does it require from a company such as Company X, to fully fulfil its vision to become the industry's most desirable BSS provider? In other words, we want to understand what's required internally to design for Enterprise Experience?

3. How can Company X deliver true CX to both B2B and B2C by applying EX framework?
    a. What can our customer expect as a value proposition and how can we measure it?

By analysing the status of Company X in applying the framework using a combination of maturity model and interviewing internal experts we aim at first, understanding the overall maturity level of the company in comparison to the framework requirements and secondly provide recommendation for future business practices.

6.2 Methodology

In this research I focus on a Case Study. Case study method are known to provide in-depth understanding of phenomena, their constitutive processes and the actors involved (Gagnon, 2010, 2). Moreover, Gillham (2010, 1) defines a case as unit of a human activity imbedded in the real world, which can only be studied or understood in context, which exists in the here and now, and that merges in with its context so that precise boundaries are difficult to draw. In this specific research, the case is an organisation, Company X. As a case study, Company X organisation maturity, processes and design representation are investigated to answer the above-mentioned research questions. As a UX researcher, I am aware that my knowledge is stronger regarding the field of design and that is the reason why my analysis and action plan proposal will focus mainly on that field even though as described earlier EX should be regarded as a holistic approach fairly balancing the collaborative effort of the business, technology and design.

Data gathering was divided in two parts, both following qualitative research methodology. “Within a broad theoretical framework, the goal of a qualitative research is to make sure the theory fits the data and not vice versa.” (Taylor et al., 2015). Moreover, as pointed out by Gillham (2010, 10) The qualitative method focusses primarily on evidence (such as what people tell you, what they do) that enable us to understand the meaning of what’s going on.

First part: Qualitative data are gathered through semi-structured interviews of selected expert from inside the company. The idea is to interview them and validate or invalidate the hypothesis formulated based on literature review, and potentially highlight some unseen or forgotten point. I choose semi- structures interviews over fully structured interviews to lose some rigidity in the process, and give space for the interviewee to express themselves further if needed, keeping some freedom in where the conversation may go, but also stay open to the possibility of exploring further related topics (Lazar et al. 2010, 189-190). As a trained researcher, I like to use semi structured interview in order to keep a frame of topic and time but keep it loose enough for discussion. Semi directed interview if well done can be the richest single source of data (Gillham, 2010, 65)

Second Part: Organisational diagnostic will be drawn on a personal analysis of the current maturity of the company studied. By applying maturity model in the field of design, such

as design ladder, and from the field of IT, ITIL Process Maturity Model and the Collaboration Maturity Model we will attempt to draw a maturity diagnostic – from a holistic perspective involving IT, Design and Business processes.

6.2.1 Subjects

We decided to interview six company experts. Each expert has been selected in relation to one of the three specifics fields of expertise, Design, Technology and Business. Each of them have experience in working across the three specialties. The interviewee's title presented in the resume table correspond to the one the interviewee had at the time of the interview (between November 2017 and January 2018).

TABLE 3. Experts' Characteristics

Interviewees	**Field of Expertise**			**Years of experience**
	Business	Design	Tech.	
Interviewee 1 Business Architect	X	x	**X**	8
Interviewee 2 Designer	x	**X**	X	11
Interviewee 3 Head of Portfolio and Product management	X	**X**		17
Interviewee 4 Business Analyst	**X**	x	x	3
Interviewee 5 Global Head of Services	**X**	X	X	22
Interviewee 6 Head of Products	**X**	x	X	19

When asked about their perceived involvement in developing EX at Company X, answers varied greatly among interviews. When asked to report on a scale from 1-10 - How much they felt currently involved on the topic of developing EX at Company X?

Their answers varied from 1 almost not involved at all to 10 fully involved.

For those who felt little involved they felt that they lacked time or should be more involved into developing and applying it in their work or that they contribute only partially to it, but the organisation does not seem to also support it currently fully.

- "At the moment **1** - In the past probably **3 or 4** but it was generally through unofficial channels. It's about the time but also about the role I have, we have now it used to be I had a more holistic approach to everything, I was involved with Sales, I was involved with Services, I was involved with Design, now we've Isolated everything to the point that I am over here and Design is over here…" I.5.

- "I feel that I'm not part of it and I think I should be" I.1.

- "Maybe **3** because I am not trying to develop the whole thing but I am trying to develop the customer and business journey, so that part only, and I would not take it as a full definition I think the full definition need all three approaches" I.4.

Others felt partially involved, I.3 and I.6, even though they should really be the one further developing it and driving it and being the guardians of it.

- "I am not using the word EX, but what I am trying to avoid is that people take it as a purpose, instead as a tool and means. I have to be sure that there is a path towards EX there is the mean and there is some target, for me it's still the vehicle not the purpose. In my work when I am talking portfolio or strategy, it's in the back of my head, it is in my design thinking. but it's not something that I am exposing all the time". I.6.

Those who felt fully involved are currently subcontracted worker to the company maybe giving them the full freedom of integrating it and developing it as their needs requires it.

"10 - as far as I am concern for my own task. Let's build a way or a theory on how we instinctively work, cause that was the way we worked as we did it this way. We are not info-label experts and we did a lot of useless and experimented things that spend a lot of energy through the years, it's not like we have been doing perfect design and development but the approach was good. I.2."

6.2.2 Expert Interviews

Semi directed Interview of experts and key actors of the EX model, from the field of Design, Technology and Business. The interview lasted between 1h-1h30. Each of the interviews were recorded with consent of the interviewee. The interview questions were developed to confirm or invalidate and complement the research and get a professional perspective on the framework. Expert interviews are popularly used in research for a number of reasons, according to Bogner et al. (2009, 2), they are more efficient and concentrated method of gathering data than, participatory observation or systematic quantitative surveys. Moreover, they can serve to shorten time-consuming data gathering processes, particularly if the experts are seen as "crystallization points" for practical insider knowledge. Further, expert interviews offer researchers an effective means of quickly obtaining good results.

Each question was carefully selected, designed to elicit various aspects from the participant expertise. The questions were build based on my current expertise as an interviewer (UX researcher), and inspired from several articles: related to expert interviews, and Ibarra's Interview guide template presented in qualitative research guidebook by Taylor et al. (2015, 334-337). Moreover, the questioned where framed to focus on the four main questions; on the definition of EX and what does it mean to them in practice; about Company X maturity in term of design implementation; how does EX relate to Company X value proposition and what need to be done to make it our value proposition? (See Appendix 1)

6.2.3 Maturity Assessment(s)

In this specific study, the maturity assessment was done based on the researcher skills only, we understand that the value of the assessment could be strengthen through questionnaires send to leadership team.

Nevertheless, this was not the main methodology but rather a complementary approach to give an overview status on the current maturity stage to better propose an implementation plan and further aim at designing towards enterprise experience. Maturity assessment model selected were presented in chapter 4.1 of this thesis.

6.3 Data Analysis

The recorded expert interviews were written into transcript. Content analysis of transcripts were used to both enlighten the definition and holistic approach of the EX given in introduction but mainly to illustrate the company internal analysis that enabled us to further shape the action plan proposal. In this research content analysis therefore apply to the context of textual information (Lazar et al., 285).

Krippendorff, (2004, 18) defines content analysis as: “a research technique for making replicable and valid inference from texts (or other meaningful matter) to the contexts of their use. Therefore, content analysis entails a systematic reading and analysis of text (Krippendorff, 2004, 18); a replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding (Lazar at al. 285). In the current research, content analysis was applied by analysing systematically the content of the 6 interviews transcripts, to highlight main recurrent theme.

This research technique was selected as it is known to provide new insights, increase the researcher understanding of a particular phenomenon, or inform practical actions.

Using maturity model assessments provided key insight to draw the organisational diagnostic in term of maturity and processes. With the knowledge acquired through the best practice analysis of similar approach applied across the tech industry, and the information’s shared by the experts during the interviews, we can propose a tangible action plan towards organisational change that would support the EX framework.

7 ENTREPRISE EXPERIENCE AT COMPANY X

"Only by understanding a team's current state can we then strategize and plan for how we will elevate these practices to amplify the value they add to their host organizations" (Malouf, 2018).

7.1 Company X Capabilities

Use of Design

Based on the interviews, experts had hard time to agree on levelling the use of Design in our business based on Design Ladder. It might be due to the fact that some rather from Business background see EX more as a vehicle or a tool when others like designers might see it as a purpose. Depending on the expert they placed it between step 2 and step 3 (see Figure 12), which means that business and tech expert agreed that design is mainly used as finish, form giving on styling in new products and services. Some also noticed that unfortunately, too often in the company design is considered as the last touch for the look and feel and sometimes reduced to purely an aesthetic artefact of the product. As mentioned by one of the experts: "Now it is more like a paint job that the EX is used as a buzzword, and some PowerPoint slides are used in MWC, and then in some free sales presentations but then there is no link to the software or CC reality so it is a paint job!" I.1. Others, design experts, more optimistic see the design as an integrated element in the development process, on step 3, especially concerning the development of new products, in the latest engagements they have had with new customers.

In fact, with some project we are at a better stage than in some other ones, but overall as a company culture we are going towards step 3. As it is an evolutive process, a step achieved is not forever unless you keep constantly working on it.

Some could also reflect on the evolution of the place of design in Company X: "I think traditionally we have been in step 1- which has not been design at all, I think we have been trying to move into step 2 which we are trying to do with our new products, we have actually had some concept of design with that but I still do not think that, it's not the starting point" I.5.;

"We have been trying and discussed of having design as a strategy, but there is going to be only a few people in the company that see the value of it as a result. when we have to make decision design result is one that is sort of left out"

Those reflexions further show that there is internally a lack of understanding on the potential of systematically integrating design as early as possible as a key element in the development process.

TABLE 4. Experts' answers to the use of design in Company X business.

Design Ladder Level	Argumentation
Between steps 1-2	"Design is involved but it's sort of the afterthought, and I know that with some of our new customers we are moving, or thinking into moving to step 3, so we are actually bringing it to customer phase and bringing design early on, but it is somewhere between 1-2 at the moment." I.5.
Step 2	"Company X has so many software units and have many phases and so it is difficult to answer" I.1. "As we are preaching kind of design oriented way of work but in practice we are still pushed very much by the customer project." I.4
Between steps 2-3	"There are people and areas that are already in 4 but as I said as a company culture and company DNA we are there, between 2-3"
Step 3	"In client NN rather on step 2, in Concept Creation almost on step 4" I.2. "In the beginning of step 3 in average, as design was the underlining strategy and leading elements" I.2. "we are present in the step 3 because we have, since 1/2 year made a request to form an official "Design Unit" that would be part of the overall lifecycle so that it would be an implicit function but an explicit function of the overall organisation" I.3.

Three experts emphasized that to design for EX, it requires to aim at step 4 where design becomes a strategic element: "it requires to aim at step 4 where design would become a strategic element in our business model" I.1; step 4 is what we should aim at, especially: "When we talk about the digitalisation and customer driven or human driven approach I think that is the only path that can be taken." I.6; but, "we can't really be on step 4 unless it is companywide". I.2

Further, based on his expertise and experience from Company Y, I.2. points out that “going back and forth on the Design Ladder, is in a way because EX is not applied in a systematic and sustainable way. when certain key people are in certain key projects they are working in that way, but when they go away or get moved or create their own company, it is not transportable.” capabilities and knowledge then need to be shared but also widely spread in the company.

Currently, EX design is used as a sale argument rather than really applied systematically to influence on the overall experience of our products and services. As pointed out by our business experts, our current design activities do not match yet our market talk:
“I think given our market and how we place ourselves in the market, the overall market messaging and so forth we would be really out for this pushing for design as a strategy. We are talking about understanding the end user needs their goals and how our customers, really operators can match and meet their goals. So, from that perspective we really should be here (3-4) I mean that it’s the message we are giving but unfortunately that is not how we are operating.” I.5.
“It will always be a challenge, but from the other hand, our messages and our marketing talk is also in step 4 - but how to follow up on it, it's kind of difficult” I.3.
“I think EX relates to on how we can achieve the things we are promising as in a way we build our products better than others - so it is a quality and approach into the concept and innovation.” I.1.

We could observe and agree that on one hand the message given to our customers is well received and understood, but the process in place, that requires us as a team to gather information from the different stakeholder and propose offer based on the technical, business and design needs are complex.
Currently we can agree that we are towards or in step 3 and there are clear encouraging points and blockers that can be identified:

Encouraging points:

- Evangelist and Believers:
    - “we have champions and ambassadors that take that Company Y Venn into the design team, and design philosophy, we have been sponsoring UX design, or usability design day, we are kind of voice level in that sense.” I.3.

- “Compare to other companies we have a very strong mind and step forward, and we are very well walking in step 3” I.3.

- Customer demand and sales pitch
  - “Company X enables digital life style and provide a digital ecosystem for digital customer engagement. " that fits more towards the EX concept. and then "we design solutions that reflects user behaviour and enhance interaction with the digital world" That is what they are selling right now - it's the corporate slide set they are using at the moment. If they can live up to this - than it's ready good.

Blockers:

- Byers:
  - “We can't really be on step 4 unless it is companywide” I.2
  - “It should be CEO, everyone should know innately what EX design is about, so it cannot be something that is external to you” I.1
- Value:
  - “We have been trying and discussed of having design as a strategy, but there is going to be only a few people in the company that see the value of it as a result. when we have to make decision design result is one that is sort of left out” I.5.
- Strategist:
  - “We do not have too many people that really can live and be ambassador of the design thinking in the company. It is one of the principles of the EX to be part of the strategy.” I.3.
- Education:
  - “The perception of many people even within Company X is that the UI and visual design it's it” I.3.

Based on the expert evaluation, we can already see that to apply EX framework, requires some internal changes, starting by convincing leadership team on the added value of design, convince them also to consider it as an integrated element of the development process and show results on the value brought by it to further making it become a strategic element of Company X business model. More specifically, we would benefit investing in communicating on the best practice and commonly known value of design thinking in the industry, we would also beneficiate of developing our process and show how design and

design means and tools can further streamline internal processes affecting directly our efficiency to create develop and deliver our products, in accordance to what was sold and preached in the first place.

Both approach, applying EX framework as a tool or a vehicle and considering EX as a design purpose are valid. One will guide us on looking at what is required to invest in to actually aim at the other. In Practice, at Company X both approached are tackled. First, Designers are the guardians of designing for EX. First, among the Concept Creation team when concepting, a team of selected people representing those three disciplined is invited to work together towards a solution. The work is guided by height EX design principles. Second, in the Service Design unit through Customer engagement process, the CJ team push to utilise the CJ framework as a tool to drive EX design. When we work on delivering CJ canvas as an outcome of a series of workshops we collaborate strongly with all the partners to design Experience, Business and Tech to offer the best overall solution to our customers. Involving at different phases of the CJ process, from inside and out, service and business designers, business analysts, UX designers and solution architects. The CJ framework has prone to strengthen the collaboration between the different units to create overall greater experiences, but also to communicate the approach.

Maturity

Maturity was a recurrent aspect that appeared during the interviews, the fact that our company grow rapidly implies that our processes, communication, our methodologies, products, tools and competence may be lacking on maturity, as stated by the experts:

“I do not see Company X to be very mature on this (level of design in business), Company Y was much more mature but Company X is not” I.1.

“EX is a kind of a maturity state, and in SD you can do within a certain maturity state and it depends on how you are doing and what you are doing, the **tools** and **competences** you are using, then you rich a certain maturity state” I.6.

We need to build the foundation, the grown work before going further: “You cannot come to EX and start from that - you have to build that maturity **methodology wise**, **competence wise** and **process wise** and you are combining different kinds of models and philosophies and so it's not the one thing. You need the design, business, Enterprise architecture approach.” I.6.

“we haven't been officially doing EX in the sense that it is not recognised at Company X. as a core kind of approach and the feedback is really good, so even though our **products**

are lacking in features and **maturity**, we are getting there, but the overall approach has usually the response has been very positive, even in the case we do not get the client, on the core concept of the system." I.1.

There are several ways to look at an organisation maturity, at first, we focused on the way design is perceived as being applied to the business. When combining the process maturity model and the collaboration maturity model, based on our internal knowledge of the company in combination with the expert interviews we can establish, diagnose, a broader picture on the status of the organisation. When looking at what was stated earlier it seems that clearly the business value is understood by some (interviewed experts, designers, and marketers) but has not been translated yet or understood in terms of strategic value. As by essence the EX framework thrives a collaborative approach, the collaborative maturity model seems the most appropriate one to be used in our analysis. If we look at The ITIL process maturity model, or at the Emergent Collaboration maturity model, we seem to be for both rather on step 2. Meaning that as resume in Table 5 (see Table 5 below) our process is emerging, but still requires some development to be fully implemented as part of the overall process development activities and further communicated organisation wide. In term of collaboration we stand more into an exploratory phase at the moment towards a more defined one.

According to Schwartz, 2017 a unified design process has two perspectives:

- A high-level product design perspective focuses on developing an overall experience strategy that would compel a target audience. Usually, the business side of the organization initiates these activities and engages experience strategists to envision a new or an updated product.
- A detailed product design perspective focuses on defining the product-specific experience qualities on the individual-user level. All design practitioners collaborating on the design share this perspective.

To achieve the first point, Company X could beneficiate on developing a design strategy common or at least communicated to the whole organisation. Concerning the second point, designers, have started to develop a series of design principles, and communicate to the rest of the organisation. To support a more unified design process that could further support designing for EX, Company X could beneficiate to integrate more strongly design in top organisational level and embed it more clearly in the E2E process, systematically from the customer engagement, through the development to the delivery and overall lifecycle of the provided solution to customer.

As mentioned by I.2, regarding our way of work, “EX then relates to on how we can achieve the things we are promising as in a way we build our products better than others - so it is a quality and approach into the concept and innovation.” he further explains that “It's not just about the CX and employees but also an internal thing. Apply it ourselves.” therefore we should really work on it internally to be able to deliver on our promises, but also to walk the talk.

TABLE 5. Company X Organisational Diagnostic – Summary of ITIL Process and Emergent Collaboration maturity model matrix elements.

Dimensions	**Observation**	**Improvements**
Goals and objectives	There are no clear vision and mission driving the EX currently at the leadership level. The EX Principles are a good start.	**Define** goals and objectives and metrics to assess them (KPI) Provide element that show the added value of design
Culture	The X culture is restraint to a small group of people – it is not communicated widely.	**Strengthen the EX culture** communicate and share insights Engage and support evangelist Foster change management acquire executive sponsorship
Process	Unclear design process within design core team and outside. The Design Process attempt need to be completed and integrated to the overall dev. process.	Process needs to be clearly documented, with reviewed workflows Clarify inconsistent activities **Educate and communicate UCD process** planned and defined with clearly designed workflow further **implemented as unified process** to be integrated with other processes.
Technology/ tools	Starting documenting and applying design pattern library. The Customer Journey Framework (as a tool) and its application are really encouraging.	Develop pattern library into a wider design system that can be useful and increase the collaboration effort between Design and Tech.
Governance	Lack of clear Design official leadership.	Need to be recognised as a Design unit with clear management.

Scaling

When Company Y was acquired by Company X 2014, they could still operate in a similar manner as they did when co-located and F2F direct communication was easy among a small team. Company Y was also mainly focusing on utilising EX framework or approach as a consulting service method. In Company X EX framework is less of a consulting approach rather a service approach. Currently, CJ framework (deriving form EX framework) is applied as a service, bringing together "consulting" in a research way and offering. Within couple of years Company X has encountered a fast growth 100 – 400 employees, bringing new challenges and the needs of organising the way people collaborate, communicate and document their work. How to scale EX framework prior practices to fit to the new organisation? this relates to ask the question: how to scale the approach of designing for EX, and more specifically, how to scale Design?

The maturity of the design organisation will affect the scaling of its capabilities and vice versa, ideally, an organisation can invest from the start in a UX team that would grow as the organisation does. Baines & al. 2016 explain how a mature UX organisation should move towards a situation where different disciplines and processes can operate in a far more efficient and frictionless way. Further, the author points out how scaling requires greater collaboration and formalisation, formalised processes are needed as well as proper tools to manage it, but more importantly there is need of governance of the UX function. (Baines et. al., 2016). Scaled Design across the organisation, both within business units and as a centrally managed function was the criteria number one DMI looked at when measuring the value of Design of an organisation.

Scaling is one thing but the difficulty of integrating design into development operations is another, Malouf (2017) reflects on the difficulties companies often face into integrating Design in the triadic collaboration of expertise: "In the product triumvirate (Product Management, Engineering, Design), design is least integrated into DevOps environments. This has caused the classic "wagile" (waterfall before agile) systems that many organizations have fallen into". His argument resonates to the experience described by Immonen (2017) and the reason of creating such EX framework.

In his DesigninTech Report (2018, 47) Maeda, share some recommendations on how to scale Design to your needs in a tech industry, his recommendations support our vision. Base on a case study, in reference to (Designing Programmes, Gerstner, 2017) he divides

his recommendations into 5 main topics (See Figure 15), develop a Design culture organisation wide, acquire and invest in Design Talents, appoint Design Leaders that will support the designers by leading the vision and mission can bring to the whole organisation in resonance to the overall organisation mission and vision, Developpe and apply Design Systems towards development efficiency and build Design Operation to manage Design as a service within the organisation.

01 Design Culture	02 Design Talent	03 Design Leaders	04 Design Systems	05 Design Ops
You need a CEO who cares about design, and recognize that good design is good business. It's because the customer wants it	You need a strong designer hiring leader. "Someone who you wish was designing instead and loves talents, too."	You need a primary design lead who cares about leadership and enjoy fostering new leaders.	You need a few computational designers who works inclusively. Plus listen to Nathan Curtis.	You want to product – and project – manage design as a service inside the organisation. and recently hired for Design Ops

FIGURE 15. Scaling Design Case Study (Maeda, 2018)

7.1.1 Design Thinking Culture

Design culture can often raise from bottom up, but it is clearly necessary and easier if the CEO and the leadership team cares and understand the added value of developing a design culture. In his Book, Change by Design, Brown describe how Design Thinking should be adopted by the whole company to foster this culture of design. During the interviews, the importance of CEO understanding and being sensitive to the EX approach was made clear. As pointed out by I.1. "If you really want to apply EX you need to be in the strategy level. and it should be in the CEO, everyone should know, innately know what it is about so it cannot be something that is external to you".

As described in Principle 5- EX is everyone's business, independently from one's role or position in the company, and independently from the unit, EX break down the silos, need shared ownership, and multiple assembled skill sets.

Further some effort on providing design thinking to the whole organisation is key, thus starting with our business analysts facing the customers, but also our developers that can sometimes be too much in their own engineering world. "We have recruited some people with really outdated IT thinking sort of, even the non-design, so people from the Museum basically and then not having the sort of educational training programs to *un-museumaze* them modernising their thinking" I.1. At IBM, when they started to undergo this massive Design investment, they started by developing in 2014 an Enterprise Design Thinking Framework available to all from designers, developers and marketers (IBM, 2016). By the end of 2016, 100,000 IBM staffers had gone through some design training "design bootcamp" (Francout, 2016), they also developed a "special training to help turn executives into change agents", as they recognise the challenge of trying to change the mentalities and organisation culture without executive support (IBM, 2018). As mentioned earlier in reference to Martin (2009, 6-7) by spreading design thinking across the company, as it is the form of thought that enable movement along the knowledge funnel, we could gain if well mastered long-term business advantage.

Moreover, without committed leadership, no business can realize the structural, process, and cultural adjustments needed to become a design-thinking organization (Martin, 2009, 28).

7.1.2 Design Operations and Governance

Looking into our current organisation chart (See Figure 17) allow us to observe that design is represented under 2 rather small functional unit, hierarchically nested under another product management, or product development. In fact, we have a smaller set of in-house resources placed under design functions and operations located under Product Management, under the Service Design (SD) where the ratio is 1 designer / 13 business analysts another set of designers are placed under Product Development, where the ratio is 1 designer / 17 engineers (including developers and solution architects).

What's been observed is that when design operates as a virtual team across the organisation unit, it is not seen as valuable as a concrete team or unit and it makes it inefficient for designers to try to get their point across and in top level organisation. We believe that it's due to the lack of recognition and visibility, as well as the lack of authority.

If we look at the stages of development of typical design organisation as described by Skinner (2017, See Figure 16) we barely are in step 2, we simply have a full team of designers, except for the content strategist who could be responsible for the voice and tone, the content structure, and the copyright, and a communication designer that would take care of the branding. This resonate to our current request of a copyrighter and designer in charge of the branding that would support our current team work. The next step described by Skinner (2017) is the creation of the Design Org. (Step 3)

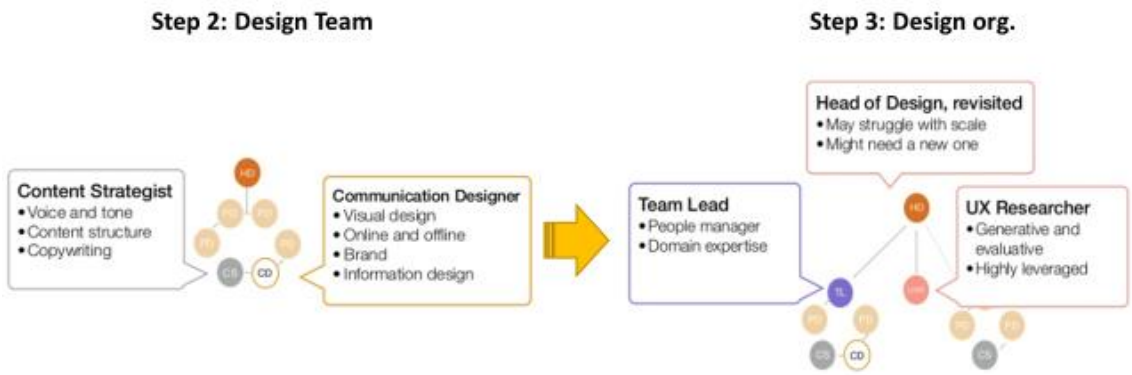


FIGURE 16. Org Design for Design Orgs – Steps 2 & 3 (Skinner, 2017)

Skinner description (2017) gives an overview with a clear focus on the Design organisation itself, but to have a holistic approach we need to look at the representation of design in the overall organisation.

> Experience Design, as a functional unit, is often hierarchically nested under another unit, such as marketing, product management, or engineering. In highly compartmentalized organizations, trust is sometimes an issue, and designers, who depend on the cooperation and agreement of all stakeholders, have a hard time aligning competing visions for the product (Schwartz, 2017)

Our simplified organisation chart (2017) is similar to the commonly used one represented in Figure 17.

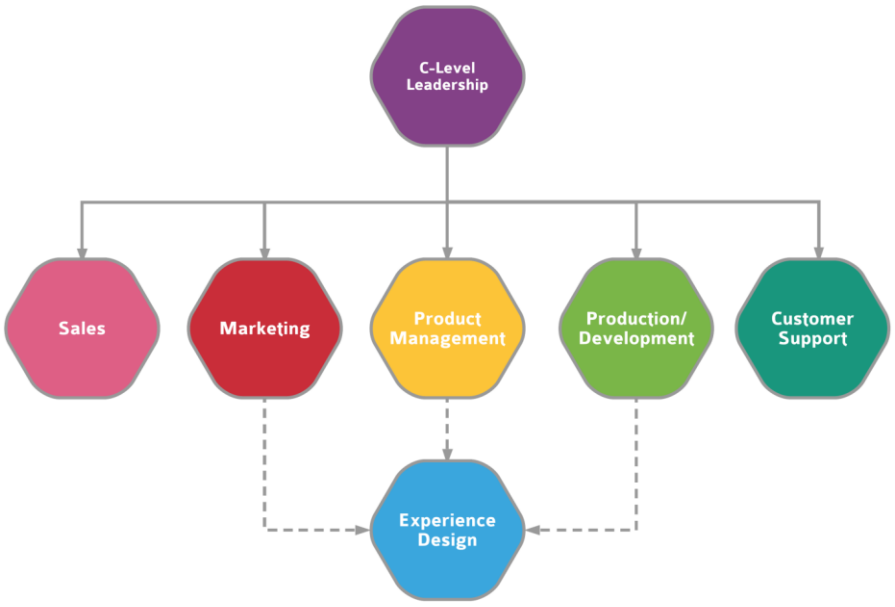


FIGURE 17. Designing the Collective Experience – Organisational Chart (Schwartz, 2017)

How to empower Design? As many organisations recognizing the value of integrated design (Apple, AirBnB, Salesforce, Dropbox, and so many more), designing for EX would beneficiate from fully integrated in house design department/unit/organisation. Starting with a recognised design unit, led by a senior designer who reports directly to the CEO.

"In the end the goal is exactly to do what is necessary to amplify the value of your design team and its perception as valuable in your organization." (Malouf 2017)

When studying the organisation design of design organisation, Merholz and Skinner did come up with a summary of 12 qualities design organisation should pay attention at.

TABLE 6. The 12 qualities of effective design organisations (Merholz & Skinner, 2016)

Foundation	**Output**	**Management**
1. Shared sense of purpose 2. Focused, empowered leadership 3. Authentic user empathy 4. Understand, articulate, and create value	5. Support the entire journey 6. Deliver at all levels of scale 7. Establish and uphold standards of quality 8. Value delivery over perfection	9. Treat team members as people, **not resources** 10. Diversity of perspective and background 11. Foster a collaborative environment 12. Manage operations effectively

When looking at the qualities of a design unit and compare to our current organisation, some improvement could be done on the way UX/UI designer are scattered and utilised in Company X current organisation. Further, as noticed in the interview, a lack of authority and clear organisational structure does not help to drive EX approach: “one problem now is that the project and program structures are too unclear, product managers and project managers have been too powerless or passive to drive the thing forward - so that is why I think a new organisation might be good.” I.2.

Despite the attempt to create a design unit, “I made a request to form an official Design Unit that would-be part of the overall lifecycle so that it would be an implicit function but an explicit function of the overall organisation.” I.3., we have currently a small design team that is not following clear defined processes in line with the dev process but comes at the end of the process to finalise UI and work on flows according to the architecture design agreed with business analyst and solution architect facing the customers. We are therefore still applying mainly the EA part of the EX and not involving Design as much as recommended in the EX framework.

How do you structure a creative organization experiencing growth? what about Design Operations (DesOps)? Several authors (Shaffer, 2015; Merholz & Skinner, 2016; Schartz, 2017; Brautigam, 2017; Collett, 2018) have shared their views on how to structure the design responsibilities across the organisation.

Shaffer (2015) tackled similar question by answering that it’s not about developing a “Design-Led Culture”, but rather share with other people in the company, what typically lies only within the realm of designers—the user viewpoint! it’s about giving Design the possibility to share, inspire, guide and collaborate with others to integrate the user-centric approach when designing tech-driven experiences of or digital products, services and system toward an optimal EX.
AirBnB seemed to have succeeded in integrating DesOps into their processes.

> “DesOps is an approach which encourages collaboration across design, product and engineering. The aim is to make design processes as scalable, robust and rapid as those in development, without jeopardising quality or creativity” (Collett, 2018).

According to Collett (2018), when good design operations are in place, they will help to break down silos within organisations and further support client-consultancy relationship. In turn, Brautigam (2017) preach the interdisciplinary approach that would operate across the organisation, not only vertically but also horizontally. First, the interdisciplinary approach at the core of the product team, that would work within product verticals. But the author points out that often, when design teams become too isolated, their risk to dissolve inside the product vertical increase. Another problem that can occur, is that the design team weakens their Human centred approach due to the continuous exposure of the business and tech rationales. In Company X, Service Design (SD) is mostly run by BA's which somewhat seems to weaken the UCD approach that could bring designers in.

Brautigam (2017) continues by explaining the need of a strong presence of the design discipline transversally is needed to sustain design competence across product verticals.
In his Design Organisation Matrix, Brautigam (2017) differentiate the design discipline leads from the design teams. The design discipline leads operate horizontally within the organisation with a role of "design consultant" across the different product verticals. Their responsibility is to grow design competencies across the entire design discipline.
The design teams within product verticals are led by Service Design Leads (SDL). Their primary focus is on the product. SDLs work hand-in-hand with Product Managers. (Brautigam, 2017)

According to Skinner (2017), when designing design organisation there is no One-size-fits-all for design operations. When to apply design ops. also depends on maturity of the organisation but on the other hand design operation maturity might depends on how design management is represented in the organisation. On the need of design leaders, Walter (2017) emphasize that design leaders initiate change, by promoting design practices and prioritizing objectives."

As demonstrated in Table 7, depending on the size, type and strategy of the company, the design management roles can vary. Further, according to Baines et al. (2017), due to the numerous touchpoints involved in our projects (multiple stakeholders, teams, roles, and business functions) it is helpful to have someone who can liaise with all of them. Thus, to ensure that principles such as consistency and familiarity are maintained across large applications, multiple UX teams, or multiple applications (Baines et al. 2017).

In the leadership role, the fundamental skillset of a UX director/strategist/head of UX is determined by its ability to oversee the entire process and so have a solid understanding of everything from research to design and technology (Baines et al., 2017).

This table (Table 7) gives an idea of the type of design leaders and drivers may be required when designing for EX.

TABLE 7. Resume table of DesOps Organisation Matrix

DesOps	**Leadership (LM* 1)**	**Team (LM2)**	**Team (LM3)**
Merholz & Skinner, 2016	Design Program Manager	Key design Roles: • Product Designer • Communication Designer • UX Researcher Other design roles: • Service Designer • Content Strategist • Creative Technologist	
Baines & Howard 2016	UX Director/ UX Strategist/ Head of UX	UX Researcher UX Architect/ UX Designer UI Designer UX/Front End Developer	
Wood, 2017 EPD	Design VP	**E**xperiences: vision **P**roduct dev.: ops and local. - design syst. **I**nsights: User Research **C**ontent: Content strategy	
Brautigam, 2017	CDO/ Design Director	**Design Discipline Leads** Insight: Head of Research IXD: Head of IXD Visual Design: Creative Director (VD) **Design Leads** Prod. Verticals: SD Leads	UX researchers/ Trend Researchers/ SD Interaction Designers Visual Designers Hybrids / Creative tech. Design strategist

LM: Line Manager*

Simply, DesOps require a clear Leadership, be it a CDO or Design VP or a UX Director, then a Design Team with a few Design Leads representing divers Design Disciplines UX,

UI and Research and the core members of the team with team members representing the different designs key to our products.

7.1.3 Talent and Skills Required

From our interviews, a clear knowledge of the skills required was discussed. It's the skill most commonly referred as TShaped people. "The concept of T-Shaped people, have been around for quite a long especially in design - T shaped people are the one of having inverted T shaped kind of skills. So, they are expert in one and also have understanding of the others. It's key for EX that all of the players, who are involved in creating EX have to have this skill" I.2.
It requires basically that you have experts / senior level in one domain let say Design, and at least a junior to advance level in Design and Tech.

The concept of T-shaped skills was described by David Guest in 1991, but was popularised by Tim Brown, CEO and evangelist of Design thinking of design firm IDEO, when describing the type of people, he wanted to work. According to Brown (2010)
TShaped people "have a principal skill that describes the vertical leg of the T, they are mechanical engineers or industrial designers. But they are so empathetic that they can branch out into other skills, such as anthropology, and do them as well." This TShaped people are not only useful in the Design unit but also throughout the Business and Tech units are they are the "backbone of the collaborative culture" according to Brown (Hansen, 2011).

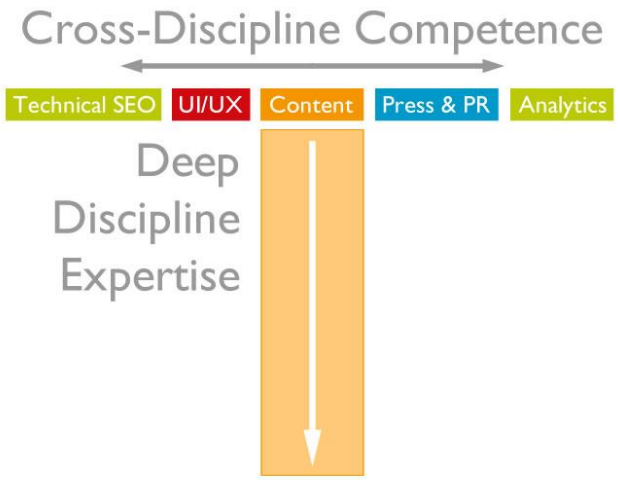


FIGURE 18. Example of TShape skilled Marketer (Tekula, 2012)

The vertical bar of the T refers to expert knowledge and experience in a particular area, while the top of the T refers to an ability to collaborate with experts in other disciplines and a willingness to use the knowledge gained from this collaboration. A t-shaped person is someone with t-shaped skills.

Most importantly, inviting TShaped people to join the company should be linked to the intent in building **cross functional teams**, where their talent can be the most useful. Currently, and it does not seem to be the case with the later reorganisation (2017), as noted by I.4: "from the team building perspective, business, design and tech- I think it is even further away after reorganisation, we are also not committing to that." – The importance of cross functional and multidisciplinary team is also determined by the EX framework when represented as a convergent association in the holistic diagram, as emphasized by I.2 and I.4 during the interviews: "when you are forming the team and collaborating at trying to get the engine running the holistic approach is important" I.2. (See Figure 8 & 9)

According to Madea (2016), there are two growing categories of "designers" which are those coming from Business and Tech. the three categories as represented below are co-dependent (See Figure 19). According to the author, companies should embrace at least two of the three in order to win in this century.

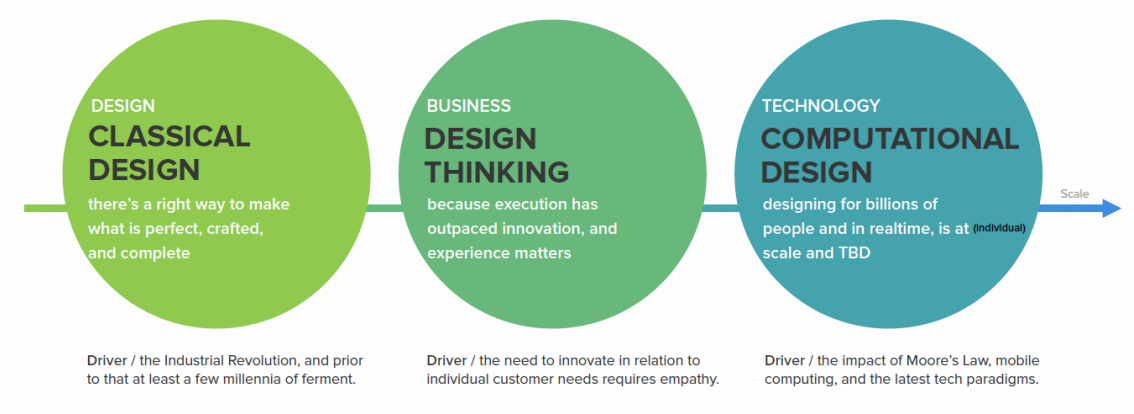


FIGURE 19. Three Kinds of Designers (Madea, KPBC, 2016)

Those cross disciplinary competences are only necessary if we apply the EX framework, and are required for ultimate collaboration among cross functional team. Moreover, to keep the employees motivated and want to grow with the company, Merholz and Skinner

(2016) emphasize the need for articulated career path that would allow professional development, DesOps as presented earlier may offer a career in design management can be perceived by designers as a clear opportunity for growth and therefore lower the employee turnover that has been quite flagrant in the recent month.

7.1.4 Tools Supporting DesOps

If well implemented, the EX framework aims at getting rid of the silos that can exist between business and development, or between development and design. As mentioned by I.2. “In theory for EX and in practice when we have been doing it, it kinds of makes it much faster to make a feature request or requirement into an actual feature. like B2B sales tool box - it was a three men team and done by three guys the all kind of SFA platform in one and a half year - from the point that the client said we would like to have a sales toolbox - when there were no silos between tech, design and business.”

At scale, when designing for digital experiences, one should consider implementing design system. Design system can improve the design and development workflow. What does it mean in practice? “By utilizing a collection of repeatable components and a set of standards guiding the use of those components, companies (Such as AirBnB, Uber and IBM) have been able to change the pace of creation and innovation within their teams” (Fangy, 2017). There are several benefits on implementing a design system at Company X, it would bring efficiency to the team, instead of creating components from scratch, designers and developers can re-use existing pieces and create new pages with more efficiency and speed, it would provide consistency for the users. Design systems enable teams to create familiar experiences for its audience, eliminating inconsistencies and making sure that every time someone interacts with the company, their experience will always look and feel the same (Teixeira, 2018). Especially if we want to provide desirable omnichannel experience and further seamless EX.

Design system tend to strengthen collaboration within the development process and between designers and developers, by shortening the time of implementation – reused agreed pattern, allow creativity outside the given guidelines. At Company X, UX designers and developer have started to create a pattern library, but in the current design unit, the lack of resources and real design management is affecting the speed and implementation of a greater design system. A thoroughly defined, documented and communicated

design system could really speed up the implementation of all our front-end solution as well as really help in the customisation phase of our product to our customers, it would lower the amount of insane work our designers are dealing with and it would really ease the phase from design to implementation as well as simplify the implementation of any last-minute requirement.

7.1.5 Key Benefits and Measurable Impact

During the interviews, we raised the question of what are key benefits to expect when designing for enterprise experience? Simply said, great experience brings good business! Because design is more than just making thinks look good, Good design can add strategic value to any organization of any size, in any industry (Basham, 2017).

Study shows that improved awareness of design and management of design driven increased business performance within SMEs. Therefore, design should cease to be seen as a cost, and instead should be considered as an investment in the future (Best, 2010, 35) More and more companies thus embrace design as an integral part of their business strategy to fully benefit of the value of an end-to-end experience. It further reward companies through strong consumer demand, higher margins and customer loyalty (Carper, 2013). According to Lin (2018), because through EX framework the human-centric approach, central to EX, envisions the business transformation not only as an IT project, but a truly holistic matter incorporating business, design, and technology, our customer could benefit from.

Concretely, if we look at IBM, their Design transformation through heavy application of design thinking and the development and application of their Enterprise Design Thinking framework (IBM, 2018), they shorten their time to market by 50%, reduced their development time of 33% and made a ROI of 303% (Forrester, 2018)

Overall, the results of an integrated design are expressed in the quality of the products, improvement of sales performance, and increased customer satisfaction (Schartz, 2017)

What can our customer expect from the application of EX Framework?

According to the expert interviews, and based on their experience on applying the premise of EX framework in their daily work at Company Y, the true value was seen by their

customers in many ways. When asked about it they see how the process would be more fun and engaging, less boring. But also by providing visual material to the stakeholder that would help them communicate and convince their peers or superior that were either not understand or reluctant to change.

“They would have more fun - the whole engagement with the software vendor -it would not feel such a jar as it often is and it would be nice to have nice material there and cognitively smoother and not sort of difficult to decipher and so on and having relevant software! I can use the argument that we got for CDT from our customer and when we have launched it and it had been in production for some time and it had been a co-creative process to build that software.” I.1

The holistic approach provides a possibility to look at the deep nature of the problems that need to be considered and the change that needs to be undergone. There are no quick fixes, no easy fast superficial solution but the problem needs to be solved from ground up.

"If we want to create great experiences for our customers in enterprise environments, the whole enterprise needs to be designed from ground up. That involves thinking about the design in the enterprise architecture/information architecture level and upwards, all the way through business logic to the front-end code, as well as other service touch points. EX is not CX in the sense that we did not give much thought to the non-digital customer touchpoints, but CX is still sort of included in EX, in the sense that we need to provide the support systems for the employees so that they can provide the experience to the customers” I.2.

Visual illustration or representation of complex streamlined processes, what are the current pain points, how are they connected to different unit of their enterprise and how can with our approach deliver visual, technical and business understanding of the job to be done. That is what is currently done for example with the CJ canvases as an outcome of the CJ workshops Company X provides to its customers. But also, the customer involvement to relate on their brand and services will help them really see what’s the problem and how we intend to help them in solving it.

“If we talk about one or any of those illustrations (e.g. customer journey canvas) of course a more holistic view, more awareness of the value of the service they get, because if you only look at the technical point of view you do not understand the business value, if you do not understand the business value how can you rip the benefit from it? The same apply

to the design. To apply CX or the CJ approach it will give the operators a quite good view form outside in, so they can take away a step back to look at their own offering from customer perspective so they can be more competitive, they can have more stable customer base and can have better revenue from their customer base" I.4.

Further, all the experts agreed on the fact that Company X CJ approach to EX framework is unique and different from our competitors, EX can stand as our true value proposition: "CJ with end customer and business customer, is a unique value Company X is developing for the customer. Because we have the customer journey and the business journey that apply in the same picture, the lifecycle starts and end with the customer but then through the lifecycle, you have customer and business hand in hand to support and create the experience together. It is a unique value because if you look at technical providers they usually have this business journey implied even if they do not say but they have the business perspective, and if you look at business consultancy like McKinsey and Cap Gemini they only talk about Customer journey because they do not need to implement anything from the business side. but we try to fit them here. it does not only serve the product. First of all, we have the product and technical solution that is what McKinsey does not have, but then we also try to develop the business understanding and know how. So that is why we are different from others technical providers." I.4.

"I think at the moment, there are no telecom operators who are really designing their services for the end user, their customers, it is still about technology, and data. It's not about lifestyle or behaviour. I think if we, and judging of the method if "we can implement that to our services or our solutions, services and our products and the way of thinking, then we enable them to change their mentality away from their data bundle, then they start to think on how is this enhancing. […] Currently, they need to think about services and marketplaces, they need to think about the lifestyles people uses, they need to think about changing from just providing basic connectivity, do they want provide insurance, do they want to be a digital gathering place, I think operators at some point are going to be data brokers that they contain all the information about the customer, that's something that has value, like google does." I.5.

"The way I see this, an operator should be a machine that continuously can create experiences that will nurture life-time value of the customer - they buy more, they stay longer, the employees stay longer there, their knowledge is reusable, it should bring this positive

experience machine that will save cost, increase customer base, will grow ARPU, if you do not break your experience value chain that what it should deliver." I.3.

"At the end customers are expecting lower cost, better loyalty from the customers, increased revenues and ARPU. Isn't that linked directly to the EX? The loyalty is related to that - better overall experience you have - that increase the loyalty on both customer and employee side - better loyalty means increased productivity - so that part - but lower cost - increased revenue, there are no direct link to those -you can use EX framework to improve on those sides but you can also use other approaches, so it's not directly linked to that." I.6.

To sum up, EX framework if fully applied can help to bring value to our customers in many forms:

- Through visual illustration anyone from the company can understand the nature of the problem and the changes that need to occur.
- Our customer gets to look at their customer from a new perspective – by us providing an inside out view of how their customer perceive, use and expect from their product, brand and beyond.
- They can expect to offer an overall greater experience to their customers and employees, with a snow ball effect on lowering their cost, creating loyalty from their customer and increasing their revenue and ARPU.

How can EX success be measured?

As presented in a selection of maturity models (Chapter 39), measurement often starts in maturity level 4-5. As Company X was represented to be mainly at stage 2-3, we can only at this stage reflect on exploring metrics, and aim at defining and testing them for the future. If we look at how IBM measure the added value of applying Enterprise Design Thinking framework to their business, they consider the time to market, the length of the dev process and the overall ROI, even is that one is discussable especially as we know it is difficult to measure intangible thinks that often results from designing for experience.

Our experts where not yet sure how can we directly measure the impact of EX. In fact, by nature design outcome are often intangible and seen as a cost rather than an investment in the future. The KPI approach could be the preferred one, but yet not applicable due to the degree of maturity of the implemented framework. Also, I believe that to be able to

measure the success of our solution on the overall EX we need to implement it directly in our product and that goes back to, do we have the capabilities in place and do we exactly know what do we want to look at?

Experts through the interviews gave some ideas on how we could measure the overall perceived EX success qualitatively, through customer survey, and combine it with quantitative data, or key performance indicators, with the risk of measuring indirect outcome. When looking into metrics specific to operator business such as the number of defect, number of complaints and change request received.

“The best measurement for this sort of thing would be qualitative, so basically asking feedback from the customers, there are some also quantitative measurement that can be done, and also in the quantitative then maybe the number of defect and so on but it's a little bit boring metrics- but I am not that goo with Experience Design quantitative metrics. Perhaps there could be - How many complaints, how many CSR change requests are coming in.” I.1

“we could look into option rates for certain concepts and ideas. But beyond that it becomes difficult, in term of KPI, for readiness reasons. I think we need to think about this as value proposition, we can go to our customers and say we guaranty that if you do this - than you get this - and we should have the KPI that we should broadcast but we haven't thought about it. it has an inverts effect, Customer satisfaction goes up, profitability goes up, employee satisfaction goes up” I.5.

Other way EX success could be surveyed would be when looking in the end at the overall perceived quality of the project process.

“Some aspects of the project can be quicker, so less fighting and less negative experience, and also some smaller turnover of employees? if it's more fun, employees tend to stick around, and so on.” I.1.

“Well it could be organisational metric maybe I am not really good with those - do we just like do we deliver on time - How is the process when we deliver, how close are we from the subjective kind of bull’s eye on features, also because it is about experience, maybe some questionnaire on do you understand what you are doing? and all of that especially to the employees. I.2.

We could also measure the EX success in terms of promises delivered. Does what was agreed in the contract delivered on time for the specific items related to EX?

“Usual verification and validation - does the product do what it is supposed to do? and does it do without errors and failures, and the velocity of doing it - how much do we have to spend on it and what is the turnaround from features request or idea into completing it.” I.2.

“How well different functions and info are available when you need them - cause when we try to look at what is the experience, it's this and that- then I have what I need here and now -no matter if I am an end user an employee or a manger. […] Then again it is about how much time it will take you to first of all reach the point that you will be able to do that activity, how much time it will take to do the activity, how fast from trigger to execution - but if you click in selfcare - on an activity, how it goes through the system before it happen to reach the end result of what you decide (time on task) at the end EX is the processes architecture, use cases, usability, UX. but at the end it is what are you trying to achieve it is the most important thing is that you have a clear understanding of what you are trying to achieve then you execute then you see the end result.” I.6.

How exactly can we measure EX is yet unclear, I would propose to look at the overall KPI from business, Tech and UX and see how combined in comparison to previous result are they bringing any value. In a report on Design Management, Borja de Mozota (2015) considers the business side of design and provides measurement indicators. By measuring the performance of the design function in an organisation makes it possible to justify the use of design and its potential growth. Hence, she proposes to measure the impact of a design project by traditional management indicators such as management ratios and Key Performance Indicators (KPI). She emphasizes that these ratios should be studied in time and space and in comparison, with other businesses in the same economic sector. the list is non- exhaustive and includes for example: *Customer satisfaction survey, Recognition / reputation survey, Staff satisfaction survey, Growth in margin / turnover, Increase in number of new customers* and many more. Thus, if our leadership team fully support EX as a design strategy, measurable impact of design investment or design management as defined by Borja (2015) should be considered seriously and would need to be researched further.

7.2 A receipt for delivering desirable EX

When it comes to designing for experiences, there seems to be several recipes. Some talk about cookbook, some about playbook (Google), we want to propose just one receipt, reflecting on our research, proposing experience design as a business strategy.

Business strategy can be defined as "a long-term plan of action designed to achieve a particular goal or set of goals or objectives" (Stewart, 2008). If Company X aim at utilising EX as a business strategy, a long-term plan of action should be proposed in order to match its vision to become the industry's most desirable BSS provider (Company X, 2017)

Designing with a holistic approach, an overall experience, implies to have a strategic rather than tactical approach to design. According to Johnston (2016),

> "With today's focus on efficient process driven execution one major thing is sometimes missed. A Strategic Design approach […] Strategic Design is the application of future-oriented design principles in order to increase an organization's innovative and competitive qualities. […] Traditional definitions of design often focus on creating discrete solutions—be it a product, a building, or a service".

Therefore, based on our research, to design for EX and before being fully able to apply it to its best value, Company X need to consider investing in making:

- **Design as part of the company strategy** and represented clearly in the organisation – diagram – Design Unit – that give authority and power to design and further communicate and educate organisation about design thinking and design process.
- **Design operations** where design management empower the designers voice but also define and structure the process and resource utilisation as well as communicate a clear design strategy and usage.
- **Collaborative Design Language** to strengthen the collaboration between Design and Development – tools such as design system and process need to be developed, communicated and applied.
- **Tracked and Measurable impact**: in order to fully believe in the success of EX we need to be able to provide methods of measurement and do it at several stages of the process, internally for our own improvement and externally for our customers and eventually for our customers' customers.

As strategy, not technology drives digital transformation (Kane, 2015), we believe that investing in EX as a strategic move would greater profit our customer in thirst of successful digital transformation.

8 CONCLUSIONS AND DISCUSSION

In this thesis we aimed at defining what does EX means to us and how we developed a framework to it. By first defining the EX Framework and what does it mean in theory and in practice we were able to share a common understanding of what it takes to design for EX. As EX is a rather new approach, we felt the urge to go deep into explaining its foundation and therefore give the reader a full understanding on the power of the framework, rooted into solid ground. By essence, EX look into both end-consumer and business customer journeys. EX design is a collective and collaborative effort, it is a combination of User Experience (UX) & Enterprise Architecture with a holistic approach to Design, Technology and Business. We were able to present the different models developed in Company X and the way we tend to apply EX framework while serving our customer through the Customer journey workshops. We further depicted some of the known added benefit of spreading a design culture through the company by reviewing on top companies' best practices. By looking into tech industry best practices and more specifically how they were empowering design, spreading a design culture throughout the company, focusing on designing for experiences, applying design thinking approach across their organisations, we highlighted a common trend which is to invest in design in the tech industry. We show how design has grown in term of strategic value and how it became for many companies a vital element to deliver desirable digital experience. By bringing in the human aspect, but also by looking into the future, design thinking approach lead to design for overall greater experiences. Thus, addressing the needs rising from experience economy where human expect from interactive (digital) products and services not only to be functional and usable but to bring them engaging and pleasurable experiences.

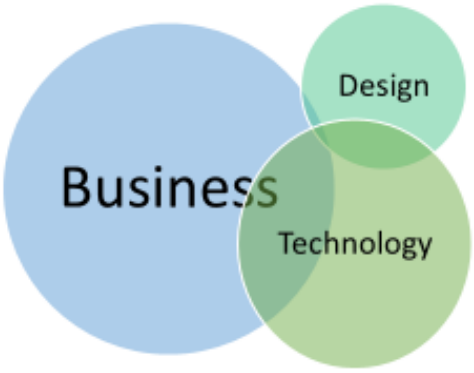
One could argue that current Company X strategy and value proposition does not exclude designing for EX, but it does not also clearly mention it. Nevertheless, in its vision to become the industry' most desirable BSS provider, we see great potential in EX if fully applied. As shared by our experts during the interviews, designing for EX is already sold to and appreciated by many of our customer, but how to apply it, through the whole process from sales to delivery seemed to be an open question? To be able to fully serve our customers with integrated EX framework, we needed to consider the feasibility of our current internal capabilities. Therefore, by asking experts and assessing our current internal organisational capabilities, in term of design operation and process across the organisation, combined with maturity assessment, we could highlight a clear lack of resources

when it comes to Company X design assets. As defined in the theoretical part, ideally, experience design requires equal collaboration between business, technology and design. To remedy such lack, companies such as IBM, Apple, and other companies in the tech industry have invested massively in recruiting talented designers. But acquiring talent is not enough. If we want to reach more maturity, and expand our capabilities, we found out that it's a little more complicated and three issues were highlighted:

1. The Byers: lack of support from CEO and leadership team that might be linked to not seeing the real value of the approach
2. The Strategists: lack of actors, believers and guide of the design, recognised a strategic element of the organisation with equal authority as other function such as business (Sales and Marketing) or Tech (dev.)
3. The Education: quasi non-existent design thinking culture, where tech and business are the main drivers.

Those are potentially resulting from the low maturity of company capabilities as well as the difficulty to scale such approach in a fast pace growth, which seemed easier to implement in a start-up environment. Overall, making it very difficult to really apply EX framework at all the level of the development process, as it lacks support from the top, understanding from the collaborative partners, and no clear voice, representation nor authority.

To summarize the current capabilities could be illustrated as below:



Nevertheless, many encouraging points were highlighted, the emerging awareness of focusing on customer experience understood by our business leaders, and the need to become always more efficient in delivering our products. Also the growing interest from

the UX design team in being involved in the overall process, pushing the approach forward. Further, the maturity of our customer journey framework and approach, as it support both our service to customer and our internal process to delivery are key assets to Company X.

By further analysing current best practice when it comes to fully embrace design in the organisation culture, and based on the expert's own experience, we could highlight some key element, where Company X could improve to deliver true CX to both B2C and B2B customers. This proposition plan, would further help Company X not only to use EX framework as a sales argument but truly embrace it in its way of work and further as a key strategic element. It's not enough to claim in our sales speeches that we care about CX it is vital to give us the means to do so.
By increasing its current design capabilities Company X should aim at moving from design as a form giving (Step 2 in the Design Ladder, 2015) to make sure design as a process (Step 3 in the Design Ladder, 2015) is communicated, and applied across the organisation so that the aim would be to move into step 4 where the design process is fully align with the company's business vision in becoming most desirable BSS. Thus, by following the suggested plan below would bring Design recognition:

1. Creating a strong design thinking culture across the organisation, that further provide long term business value.
2. Implementing Design Operation with assigned design leaders, thus empowering design unit with a clear defined role and structure within the organisation. Further communicating the recognition of design not only as a process but as a strategic element of our BSS solution internally and externally.
3. Inviting creative talent with TShaped skillset that can truly support and apply the EX framework in collaboration with current inhouse BA's and Developers.
4. Empowering cross functional team to work with state of the art methods and tools, such as applying for each and every customers Company X CJ approach, supporting cross functional team members in developing Company X design systems to fully unleash their design thinking capabilities.

In return, Company X could really use EX as a value proposition from which our customer could expect:

- More engaging and successful experience working with us

- Way to create greater CX through the customer lifecycle, but also raising up their employee satisfaction.
- Overall lower their cost, strengthening their customer loyalty further impacting on increasing their revenue and ARPU.

To fully measure our ROI, we need to consider measurable KPI, and other metric that would support our decision but also convince our customer of the approach, this specific part would need further research, starting by broadcasting directly our customer about key KPI they might be looking at already, then possibly implement and test measurement tracking within our BSS solution for better results.

We may also consider the risk such decision may imply, and thus research in the field of risk management could be pursued.

In the end, having EX as a business strategy resume to say to have a cohesive approach to UCD throughout the organisation. With a holistic approach to Business, Design and Technology we are equipped to provide our customer with better solution when it comes to undergo a deep digital transformation. Optimally, for Company X, applying EX as a business strategy should in return imply shorter time to market, reduce BSS development time and greater Design ROI.

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APPENDICES

Appendix 1. Interview Template 1(3)

Introduction:

For my MBA thesis, I have decided on defining the notion of EX to give the possibility to other in the company to use it in their dev. Activities.

1. As you have been participated somewhat in the thinking or development of the EX design framework I would like to interview you as an expert from one of the following fields:

- Business
- Tech
- Design

Who – questions to introduce the expert to the listeners, and establish the expert's credibility

2. Can you tell a bit about yourself?
    a. Your current role and responsibilities
    b. How long have you worked in ... area?

Why - questions to motivate the listeners to keep listening by describing the problem and the benefits of solving it – showing the ladder below (design level in company) –

The Design Ladder was developed by the Danish Design Centre in 2001 as a communicative model for illustrating the variation in companies' use of design. The Design Ladder is based on the hypothesis that there is a positive link between higher earnings, placing a greater emphasis on design methods in the early stages of development and giving design a more strategic position in the company's overall business strategy. The Design Ladder consists of four steps as represented on the paper:

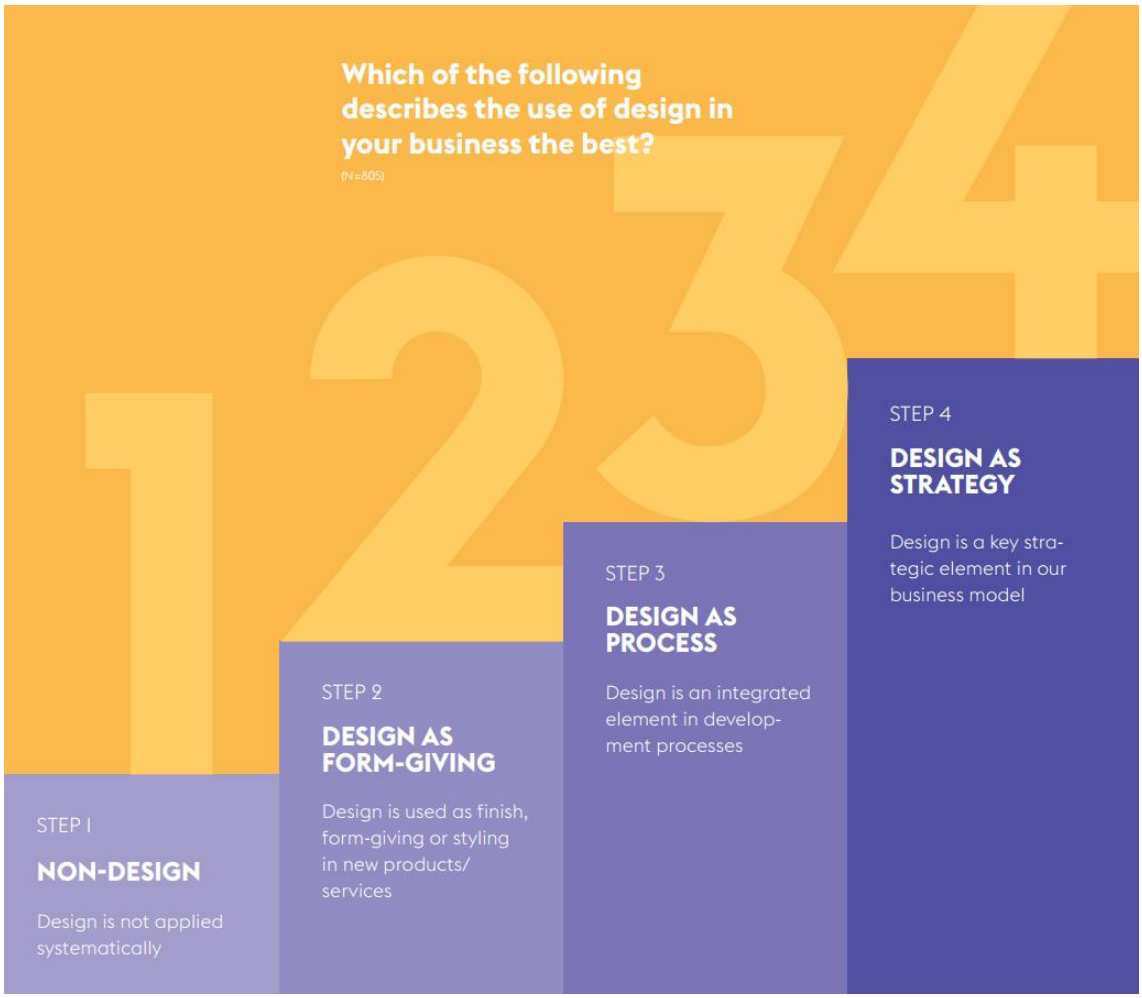


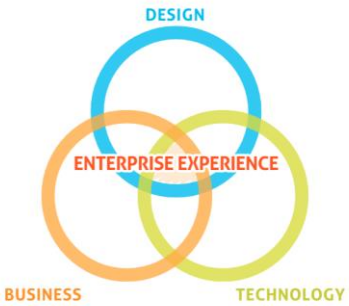
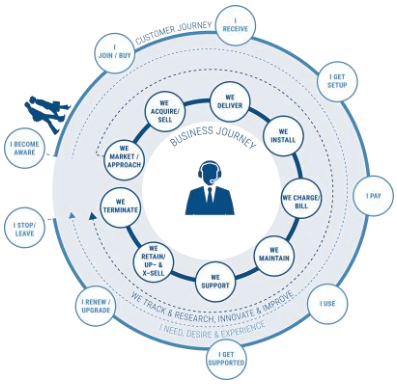
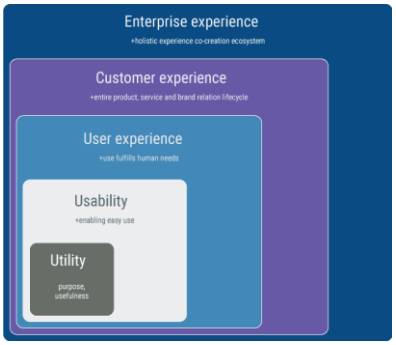
FIGURE N. The Design Ladder (Danish Design Centre, 2015)

3. Where would you place Company X on it?

What – questions to give an overview of the solution

Design thinking methods have been recognized as helping introducing design towards greater business. At Company X some people think that EX could be a good way to do as such. They define EX as "In a nutshell, Enterprise Experience is a combination of User Experience & Enterprise Architecture with a holistic approach to design, technology, and business."

We've identified 3 ways to represent EX approach, I will present them to you, and let see which approach suits your thinking the best: (this could help select an approach for different collaboration/customer interaction)

		
A- The holistic approach Design, Business, Technology circles.	**B- The eclectic approach** Journey Based Design	**C- The clustering approach** From Usability to UX to CX to EX.

A- The holistic approach: Design, Business, Technology circles

The first one, is represented by a circle Venn diagram including Design, Business, Software or CX, UX, AI perspectives.

B- The eclectic approach - Journey Based Design

This model illustrating the mapping of both business and customer journey, could help understand the value of the holistic approach of EX. In practice, both journey analysis are more valuable if treated in parallel, reflecting the EX of using our digital solution from backend to frontend.

C- The clustering approach to EX.

Historical (theoretical) concept on development - utility - usability - UX - CX and Company X new approach EX. Kind of the natural evolution explanation.

The idea is not to focus only on UX or CX but work on designing and creating an experience, for the end user as well as the employees using our solutions.

How - get into the details by asking the expert to describe the solution in more depth-

4. Are you familiar/ more sensible with one of those?
5. Which one represent the best your understanding of the EX approach?
    a. Could you define it in your own words, from your own perspective?
6. Regarding your own experience in the field (A-B-C), to which big concept/theories do you link it to?

What If - Questions help the listeners to project the solution into the future

If we think that

- Company X Strategy: *"Is to provide Digital Transformation Solutions to Telecom Operators. In a highly competitive global telecom operator landscape, pressure grows for operators to find solutions that increase efficiency and that can transform the way they run their businesses."*
- Company X Value Proposition: *"Company X improves business performance with a robust cloud-based BSS offering allowing Communications Service Providers (CSP) to offer exceptional service through both consumer and business touch points." (Company X website)*

7. In your opinion, how does EX framework fits to Company X Strategy, Value proposition and way of working?
8. What sort of results can typically organization (our customers) expect if they put our framework into practice? (What are Benefits of EX)
9. How developing the Enterprise Experience framework within Company X could be relevant?
    a. Could it become Company X competitive advantage/value proposition?
    b. How could that be simply implemented already?
    c. How shall we get started?
10. How could we measure the success of EX approach?

Contact - Finally, you give the expert some exposure by asking how they can serve the listeners – some concrete example on how client/customer has used similar approach successfully or could beneficiate from this approach.

11. Have you seen this approach being applied in different organization?
12. Are you aware of companies in telco or other (If any) are already doing it well?
    a. Can you give an example?

   b. Can you describe a client that is using this approach successfully?
   c. If customers would like to get more help with this process, what service do we offer to them?

13. Finally, on a scale from 1-10 - How much do you feel involve currently on the topic of developing EX at Company X?
    a. Why

Thanks for your time.