Responsible Digital Hospitality Quality Tool

Responsible Digital Hospitality Quality Measurement to Facilitate Reflective Communication
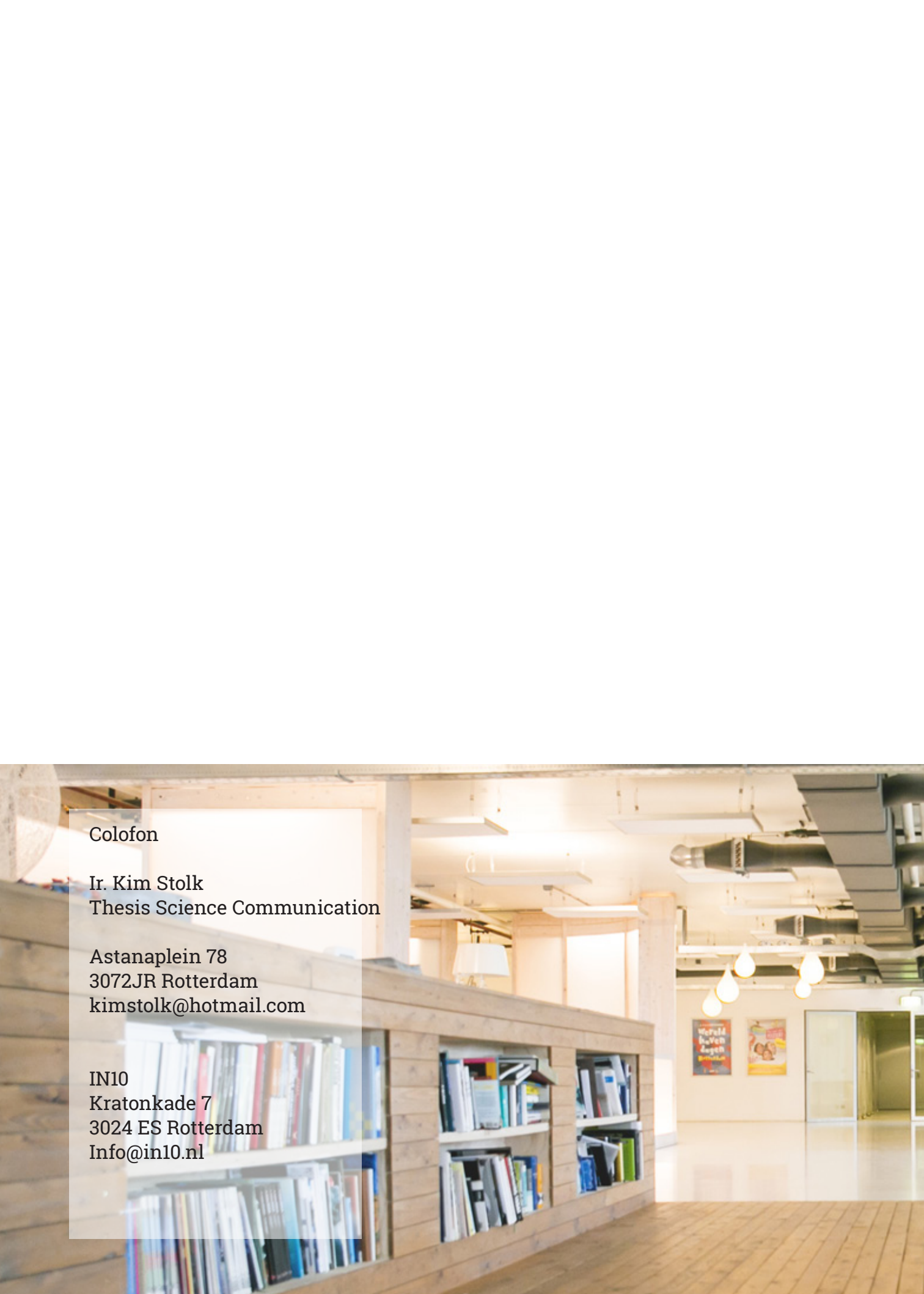
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

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Technology

IN10
verbindt
mensen en
merken

*"Nothing is impossible,
the word itself says I'm possible"*

Audrey Hepburn

PREFACE

One can argue that digital environments have changed over time, yet the goal remained the same: connecting people to information, to products and services or connecting people to people. In addition, I believe that interactions will change further from tangible to more intangible touchpoints; from physical to digital, from products to services, and similar from brand-owner created to brand-user created. Therefore, the importance of attractive digital communication and well-designed digital touchpoints and online strategies increases for companies.

Always-on connections synergize on-and offline activities for consumers and are hyper relevant today. We have become phygital. Phygital is a combination of the word physical and digital. Digital and virtual experiences are merged further with real-life experiences and such synergy is clearly visible in the currently released games, super interactive festivals, domotics and smart grids.

One might also notice that adolescents who are involved in various online social activities are stronger connected with "real" social networks and friends. The online social network seems to sometimes be a mean for people to strengthen their offline network. They are not just connected and online present, but they use it to be better connected to their networks and society. If so, the always-on society has better connected people, both online and offline then ever before. This strong connection could possibly be used in advance by digital designers, brand marketeers and other people interersted in digital communication. For instance to increase the amount of people on social networks, in digital communities and online brand touchpoints such as applications, websites, service platforms and databases.

However, we must not forget other groups of people in our society, such as elderly or disabled, that might not be as fast, capable and as willing to adapt to new technologies and innovations as we are. The question of how we can include a variety of groups in society, and thereby enable everyone to benefit from newly developed interactions and digital Environments? enters my thoughts. Even if you, the reader of this thesis just think about social inclusion, and accessibility in digital strategies more, my goal is reached.

This question in combination with a personal interest in digital innovation and brand strategy initiated this study.
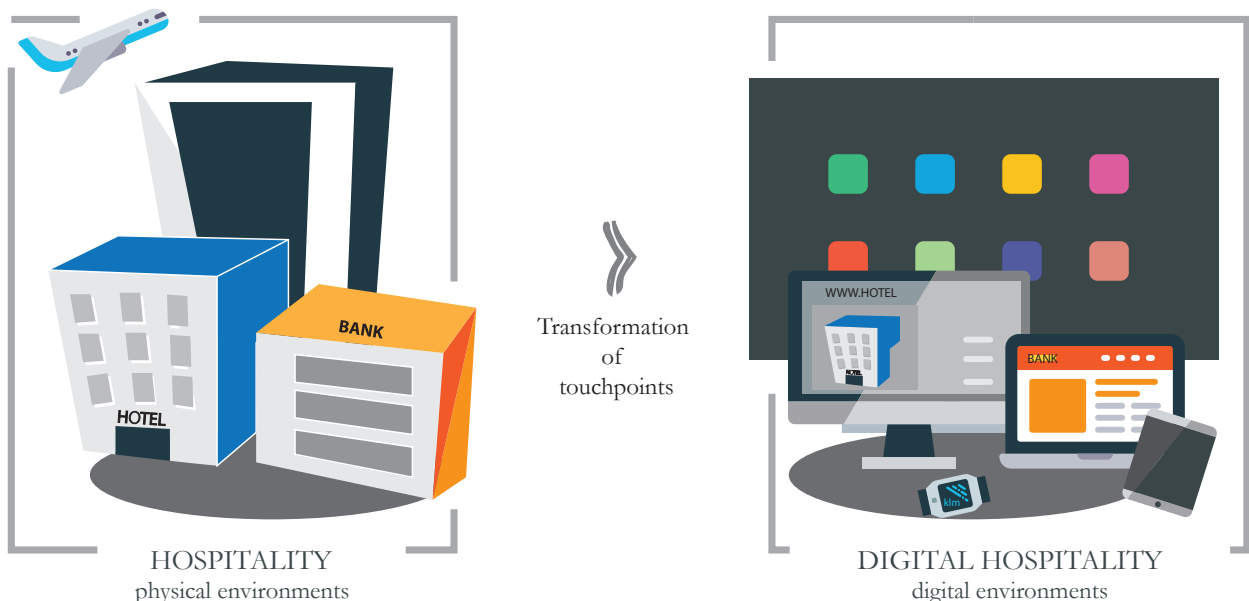

HOSPITALITY
physical environments

Transformation
of
touchpoints

DIGITAL HOSPITALITY
digital environments

Figure 1: From hospitality to digtial hospitality.

ACKNOWLEDGEMENTS

ABSTRACT

In this study, a unique combination of concepts such as hospitality, digitalisation and responsible research and innovation is brought together in the Responsible Digital Hospitality Quality Scale. This conceptual tool is more than a website benchmark or customer satisfaction measurement tool. It measurably defines responsible digital hospitality in six key domains and twenty-three elements using a visual representation of individual element scores and thereby enables digital brand owners, designers and communication experts to constructive communication and self-reflection on a status of a digital brand. The aim of reflexivity and real time assessment are tested in a small focus group session with digital experts. Literature study and expert insights are combined in an iteration process of tool design in order to develop a valid tool in survey format. Additionally, a theoretical framework is developed that combines theories of electronic service quality, user experience, RRI and interactivity. This framework could possibly function as talkative tool alone, however is not further researched within this study. More extended research on figure representation and inclusion of fun elements could provide extra value to the RDH quality tool design in the future.

CONTENTS

GLOSSARY

Terminology

Brand owner: publisher of content in a digital environment related to a specific brand

Digital environments: online information spaces in which people display their content (i.e. information, products, goods and services (i.e software)

Digital hospitality

Digital touchpoint: digital equivalent of touchpoint

End user: person that uses services and products from a brand

Hospitality: The act or practice of being hospitable: the reception and entertainment of guests, visitors or strangers

Human–computer interaction (HCI): human-machine interaction, or man-machine interaction, researches the design and use of computer technology, focusing on the interfaces between users and computers.

Interface: Interaction means of software on a digital device

Phygital: combination of the word physical and digital, that describes a interconnectivity between Online and offline activities

Touchpoints: those points through which a user comes into contact with a brand and encounters a service

Abbreviations

DH:	digital hospitality
EC	European Commission
ECT	expectancy confirmation theory
E-SQ	electronic service quality
EVS	experiential value scale
HCI	human computer interaction
ICT	information communication technology
IoT	internet of things
IoE	internet of everything
IS	information system
IT	information technology
RDH	responsible digital hospitality
RRI	responsible research and innovation
TAM	technology acceptance model
UX	user experience

LIST OF FIGURES

LIST OF TABLES

1 THESIS INTRODUCTION

This chapter introduces digital hospitality, the problem statement, the context of digitalisation and the business partner IN10. The research questions are introduced and the relevance for Science Communication (SEC) at TU-Delft is explained. Finally, the structure of the report is illustrated.

1.1   Digital hospitality
1.2   Problem statement
1.3   Research questions
1.4   Relevance SEC agenda
1.5   Readers guide

1.1   Digital hospitality

Digital hospitality is both a vision and an abstract concept that is introduced by IN10. IN10 is a creative and digital communication office with 44 employees, that is located in Rotterdam. The IN10 strategists and designers want to give digital meaning to the concept of hospitality that originates from the recreational hotel and leisure business. The goal of IN10 is to create a long lasting experience for the users, present a brand in a highly attractive manner, entertain people, take away worries of users and to exceed a person's expectations, all in a digital context.

At IN10, this vision of digital hospitality (hereafter referred to as DH) is implemented within digital contexts and within transformations from physical touchpoints to more digital touchpoints (e.g. from the use of physical brochures to the use of mobile applications). Digital touchpoints (such as application, website, email) are all the digital interaction moments between a brand's product or service and user. By doing so, the user that is involved with a product, service or platform, that is designed according to the vision of DH, is always at the centre of attention. A similar approach of having the user as middle point is known as human-centred design that is used in design studies (Abbing, 2010). It is also known as a customer-oriented point of view, or inbound strategy. The latter however is more frequently used in marketing activities (Schmitt, 2000; Bailey, Baines, Wilson, & Clark, 2009).

1.2   Problem statement

Specification of digital hospitality quality

There is a demand for digital quality measures by brand managers of online services and products visible in recent studies (Cassidy, Hamilton, & Gunasekaran, 2016). In other words: how well a brand is performing in all their digital touchpoints. These studies focus on website benchmarking, involve electronic service quality and research relationships between electronic service quality measurements and customer satisfaction (Cassidy et al., 2016; Hu, 2009; Ladhari, 2010). Most of these studies have a consumer point of view in which users' opinions are evaluated by assessing multiple constructs such as 'electronic service quality' and 'customer satisfaction'

via user-surveys such as WebQual (Loiacono, Watson, & Goodhue, 2002) and E-SQ (Hu, 2009) on a five or seven point Likert scale. Other measures eliminate the human factor and use software instead of surveys to define a websites quality such as WAM (Cassidy, 2015). Next to that there is an interest from the field to quantify how well a digital environment is performing and how the input of users enables a dynamic process of (re)-designing digital environments (interview IN10). Thus how the consumer perspective and their assessment results can be translated into knowledge on which field to improve (L. Cassidy, Hamilton, & Tee, 2015) and design criteria for revising current or designing new digital touchpoints of brands.

The vision of digital hospitality could give meaning to this search of translating consumers perspectives in knowledge and define design criteria, however DH is not yet specified as clear concept. This thesis therefore makes an effort to firstly outline what specifies digital hospitality as a concept, possibly in terms of current concepts from the fields of website benchmarking, digital marketing, human computer interactions, ICT innovations and electronic service quality.

Digital hospitality and RRI

Transformations from physical services to online services bring forward, next to the interaction design, the topic of privacy and data protection of people (European Commission, 2015). This topic emerges across various new technologies, such as information technology and security technology and in different sectors such as justice, the health sector and the automotive sector (Schomberg, 2011). Responsible research and innovation principles could be used as concepts to undertake innovations in ICT related areas with considerations of societal and ethical concerns, such as privacy issues and inclusion of vulnerable groups like elderly. In addition, these principles could be used for assuring deliberate design strategies such as embedding reflectivity activities and transparent communication of possible ethical impacts caused by ICT innovations and new technologies (Von Schomberg, 2011). However, the relationship between RRI and DH has not yet been explored. Therefore, this study tries to combine the yet to be specified concept of DH with RRI, in Responsible Digital Hospitality (RDH).

According to recent studies (Flipse, Van Dam, Stragier, Oude Vrielink, & Van der Sanden, 2015) measurement tools can be used to facilitate communication amongst team members, improve project outcomes and include prediction value. Simultaniously, research has shown that responsible research and innovation concepts can have a positive contribution to constructive discussions about new technologies (Wakunuma & Carsten Stahl, 2011). Such discussions for example include active consideration of societal concerns. For responsible digital hospitality these discussions relate for example to privacy issues and security of cloud data and personal data (Von Schomberg, 2011).

Operationalisation of responsible digital hospitality
Responsible digital hospitality is not yet operationalized in the shape of indicators or measurable scales and in addition, no ways have been developed yet to constructively discuss its quality.

IN10 wants to facilitate constructive conversations between IN10-experts and brand owners about implementation of new digital innovations, such as user platforms, where digital hospitality plays a central role. As a first step to enable such reflective communication between IN10 and a possible client (e.g. brand owner) this research develops such a tool, and possibilities for reflective discussions are explored.

A measurement tool of responsible digital hospitality possibly could facilitate communication in for example marketing and communication processes of digital product- and service brands. It ideally functions duplex as an evaluation tool for brands to determine the current functioning of their digital touchpoints and to identify improvement opportunities within their internal development process (such as inclusion of RRI driven guidelines) or opportunities in outcomes (such as accessible applications).

The aim of this research project is in addition to defining DH to develop and test a tool or numerical method that embodies the specified concept of RDH and enables such constructive discussions / reflective communications about digital hospitality quality and includes RRI principles.

1.3   Research Questions

In order to specify the concept of DH, include RRI principles to evolve the concept to RDH and to eventually design and test a numeric tool that enables reflective communication, the following research questions are formulated.

The main research question;
To what extent can IN10 be supported to improve digital hospitality of their customers, based on reflective communication using a tool to measure digital hospitality quality that includes RRI principles?

   A.   Which aspects can measurably describe digital hospitality?

   B.   1. How could RRI-related concepts add value to DH quality measuring?

       2. How can RRI related concepts add value to quality of DH communication?

   C.   1. Which communication-based tools are suitable to support constructive dialogue about the quality of digital hospitality?

       2. To what extent does the RDH tool enable reflective communication amongst users?

1.4   Relevance for SEC

The Science Education & Communication research agenda involves reflective communication methods by means of tool usage. This research will add value to the portfolio of tools developed by SEC by adding a new tool to this portfolio. Moreover, this research adds value to the current communication tool development projects on the SEC-agenda, such as the RRI key indicator tool (Flipse, et.al 2015) as it follows a similar principle, namely usage of reflective communication principles.

Inclusion of RRI principles within tool design is already present in the portfolio such as in the latter mentioned

tool, this research however will tap into a field that is new in the portfolio of SEC, which is Digital Hospitality quality combined with concepts of RRI.

The combination of Digital Hospitality quality, which acts in an environment of digital technologies and technological transformations, (e.g. such as is visible in air carrier services in transition of printed boarding passes to scannable QR-codes on mobile phones as boarding pass), reflective communication such as team discussions, and RRI principles such as inclusion and anticipation is yet, to be explored. The combination of digital technology design, humanizing a brand by means of DH and including RRI concepts could be argued as new and relevant in the digital era of research.

1.5   Readers guide

The layout of the report follows a typical order, however the sections literature review, method and results are sub divided. These sections are divided in two parts named study 1 and study 2.

Study 1 - Specifying the concept of RDH quality

In study 1 the six building blocks of digital hospitality are descirbed, the concepts involved in these blocks are combined in a theoretical framework in which existing models in literature are researched and compared. The theoretical model is translated into a measurable model (RQ-A) by using the constructs derived from the models and transforming them into items. As result, the RDH quality wheel model is presented (RQ-B1). A creative session with the experts at IN10 results in an iteration of the RDH quality tool. This results in a final conceptual model for responsible digital hospitality quality (RQ-B2).

Study 2 - Tool testing in an expert session

The RDH quality tool is developed to enable reflective communication amongst team members of a design team or between a client and IN10. Therefore, a user test on whether reflective communication will be accomplished, is required. In study 2 this is explored in a small focus group study. The method of the user-test is introduced and subsequently the results are presented (RQ C1-2).

The literature review, the methodoloy and the result section are thus all divided into study 1 and study 2. The other sections such as discussion include both studies.

| brand owners | digital communication consultants | assessment tool | reflective communication | new digital strategy |

client · IN10 expert · RDH Quality by IN10 · by brand · reflective communication · transformation strategy ICT - digital touchpoints - service designs
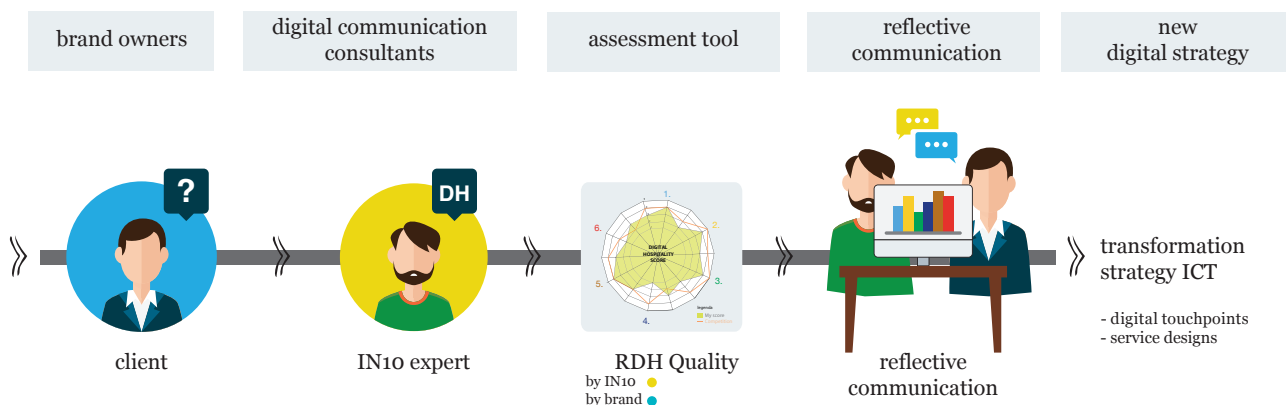
Figure 1.1 : Target group and intentional tool usage. A logical representation of a scenario when using the RDH tool. A client wants to know whether his digital touchpoints fulfil the customers needs, he contacts a digital communication consutlant and fills out the RDH quality test. A reflective communication session follows in which results are discussed, and a new strategy is set up.

2 THEORETICAL FRAMEWORK

This chapter introduces the six different building blocks that together build a conceptual framework for responsible digital hospitality. These concepts are combined in a model that is based upon technology acceptance, user experience and information systems. It will be used as start point and inspiration to design a measureable tool for Responsible Digital Hospitality Quality. The subject of reflexivity and constructive discussion is introduced.

Study 1

Study 2

2.1 Building blocks of responsible digital hospitality

Initial discussion with the company led to the discovery of the first building blocks of the conceptual framework for digital hospitality. Logically the field of digital hospitality consists of the two words digital and hospitality. Hospitality (1) and digitalisation (2) are therefore chosen as the two building blocks to start building the framework. Next, the framework is expanded by adding user interaction (3) as third building block as it is a logical follow-up concept because hospitality is traditionally linked to service provision between a guest (i.e the user) and host (i.e the brand), and digital touchpoints enable user interaction. If a user interacts and experiences a service in a digital environment, logically the (dis)satisfaction of a person is evident when using the environment and the services. Therefore, a fourth building block is added that covers the concept of customer satisfaction (4). The interaction between the digital service and the customer happens through contact moments, these are in service literature described as touchpoints, in which a service encounter between a user and a brand takes place (Clatworthy, 2011). Therefore, digital touchpoint and the orchestration (5), which is the way in which touchpoints are organized in a usage scenario or a customer journey (Abbing, 2010), is added as fifth building block. These five building blocks shape the framework for digital hospitality and function as the start point of theoretical framework development.

Besides these five concepts, a sixth concept is added as the goal of the tool, that is yet to be designed in this study, is to enable a reflective discussion on digital hospitality quality for brand owners and their team. Reflective communication involves both the outcome and process of designing digital services and next to that must enable reflective discussion on digital hospitality quality between the company, which is IN10 in this study, and a client. RRI principles (6) can give meaning to the reflective nature of discussion on process and product, and possibly add value in the era of new technologies and the ethical questions these technologies bring forward (Von Schomberg, 2011). Therefore, the concept of responsible research and innovation is added as sixth building block. In comparison to corporate social responsibility, RRI focuses more on societal challenges and inclusion of social groups and on both product and process reflexivity. That focus tis relevant for this study as it relates to the ethical and emerging field of ICT (Stahl, 2013; Wakunuma & Carsten Stahl, 2011)

In the next paragraphs, the six building blocks are discussed individually in the same order and for each block conclusions are drawn to enable bringing together the concepts in a next step of developping a theoretical framework. The theoretical framework enables the first steps of generating criteria for designing the responsible digital hospitality tool.

1. hospitality	4. customer satisfaction
2. digitalisation	5. digital touchpoints
3. user interaction	6. RRI principles
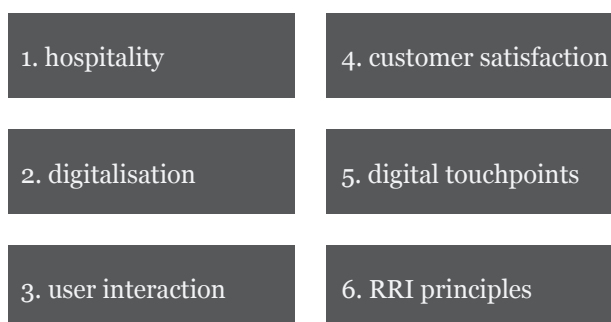
Figure 2.1: Building blocks of responsible digital hospitality. These six building blocks are used for tool development of responsible digital hospitality quality. These building blocks are identified by means of discussion with the company experts and by means of logical reasoning.

2.1.1 Hospitality

Etimology from Latin

The word hospitality derives from the Latin hospes, meaning "host", "guest", or "stranger". Hospes is formed from hostis, which means "stranger" or "enemy" (the latter being where terms like "hostile" derive) the Latin word 'hospital' means a guest-chamber, guest's Lodging. A hospes is thus the root for the English words host (where the p was dropped for convenience of pronunciation), hospitality, hospice, hostel and hotel. (Lewis & Kingery, 1915, p. 317)

Definition of hospitality.

For this study we use the Oxford English Dictionary defintion of hospitality as: "the act or practice of being hospitable: the reception and entertainment of guests, visitors or strangers". And we combine that with the metaphor stream and the social and economic exchange stream to define hospitality as: "a complex relationship between a guest and a host with different levels of regulation and free will troughout a process of arrival, usage and departure". Moreover we agree that having knowledge of what would invoke great pleasure in the guest is a key element of hospitality.

Theorizing hospitality in three streams

In social studies there are three streams that divide the literature of hospitality, these are hospitality as social control, hospitality as social and economic exchange and hospitality as metaphor (Lynch, Molz, Mcintosh, Lugosi, & Lashley, 2011). These three streams will be shortly described to introduce the broad scope of hospitality.

1. Hospitality as social control

Hospitality as social control being a means of controlling or managing a stranger, a process involving two participants, the host and the guest that facilitates development of relationships, from stranger in to familiar, outsiders into insiders (Selwyn, 2000, p. 19). The bipolar nature of the word hospes, meaning friend and enemy explains these categorisations.

2. Commercial context of guest host relationships

Hospitality as social and economic exchange is seen as an effect of sharing and providing gifts and generosity for the expectation of reciprocity (Brotherton and wood, 2007). This viewpoint is especially interesting in the commercial context, as there might be negative reciprocity where one attempts to get something for free or if there is a distorted relationship between host and guest. An example that highlights the paradoxical nature of a possible distorted relationship is when a guest acts out of free will and is involved in hospitality, for example on a digital network like Facebook, however the experience may be highly regulated by the host, which causes a loss of free will of the guest (such as, for example, the acceptance of conditions). Hospitality actions therefore might not always be emancipatory and may have an oppressive aspect beneath the welcoming surface (Lashley, Robinson, & Lynch, 2007). The guest-host relationship, whether these are between humans or a human and a machine, is due to these layers of aspects complex. This complexity in the relationship between a guest and a host (e.g. a user and a computer system) invites one to critical reflection (Dikeç 2002).

3. Methaphor of hospitality terminology

Hospitality as a metaphor connects two different things that share a similar characteristic in order to clarify experiences and qualities of human and non-human relations (Lynch et al., 2011). Hospitality is not confined anymore to hotels, restaurants and in-flight services since acts of hospitality are in our everyday interactions, as we alternate between moments of hosting and guesting, and in addition, non-humans, such as the built environment can have a mediatory role (Bell, 2007) as we move through streets, airports and train stations, on the phone and online. This point of view, of non-humans as mediatory role, opens up new possibilities of thinking about human machine interactions (Lynch et al., 2011). Next to that, it is not a co-incidence that information technologies draw on the language of hospitality: home pages, hosting, ports, router. This terminology suggests that the interface between humans and digital environments is likely a metaphor to a relationship between strangers, the humans, and the service technology as hosts of each other (Ciborra, 2004). Ciborra argues that hospitality can make technology more human due to this relationship metaphor, and in addition he implies careful consideration and reflection of questions about identity, humanity, power and control.

hospitality service and digital hospitality

It is not a new finding that good hospitality service leads to satisfied customers and a satisfied customer is likely to return to the venue and most probably will recommend the products and services to friends: "If consumers are satisfied with a product or brand, they will be more likely to continue to purchase and use it and to tell others of their favourable experience with it" (Peter & Olson, 1987, p512). Similar to traditional hospitality, already described in studies since 1985 (Davis & Stone, 1985; Realand et. all., 1985), is a satisfied customer also the goal of digital hospitality (expert interview IN10, 2016). Therefore, studies in traditional hospitality are reviewed to gain basic insights in how to achieve customer satisfaction. The concept of customer satisfaction will be explained in more detail later as it is the third building block.

Seven studies that include the basics of early traditional hospitality were researched by means of a brief comparison study. The service element, the sharing of "something" between two persons, or a person and an object, in hospitality can be accordingly divided into three different levels in hospitality and are visible in table 1.

The first level contains mostly basics, more functional elements and the core of the service; such as food and beverages for restaurants and transportation of bags for air carriers. The second level defines the performance element of the service, it is secondary to the basics, or indicated as an indirect service such as the service of waitresses for restaurants and seat assignment for air carriers. Nevertheless, important for the total hospitality experience. And finally a third level is revealed that consists of the environment, the non-human object, in other words the location such as the building and furnishment layout.

More recent literature provides insights in different levels of customer satisfaction in relation to hospitality of tourist destinations (McMullan & Oneil , 2010). They use a different approach compared to the traditional studies, as the auteurs include details on emotions and behavioural intentions. The model of McMullan and Oneil (2010) is despite the added details, designed according the similar principle of a core as product (that relates to a user's cognitive product satisfaction) and a second

Table 2.1 : Literature review for traditional hospitality. This overview identifies several layers in which services are present.

3 The environment such as building, layout, furnishing, lightning				Subsidiary: accessibility, convenience of location, availability, timing, flexibility, interactions with those who provide service and other customers		Overal visitor satisfaction (OVS)
						Future behavioural intentions (FBI)
						Emotional satisfaction (ES) peoples confidence of choice for the destination, items that create positive or negative feelings: friendliness and hospitality, variety of attractions, cleanliness of destination
2 Behavior and attitude of employees who are responsible for hosting, serving	The performance element: The Service	Indirect service: parking facilities, concierge, public telephones	Secondary inquiries and reservations, seat assign-ment check-in at gate		Situation specific, and thus no universal elements.	Cognitive service satisfaction (CSS): measuring satisfaction with services: hours of operation, staff willingness to help, accessibility to local sites
						Cognitive product satisfaction (CPS): satisfaction with specific products, shopping, restaurants, beaches.
1 Material product in narrow sense: Food and beverages	The functional element: Food and beverages	Direct service: Actual Check -in / check out in the hotel	Core: transporting bags and persons	Essential: food and beverage in a meal experience		Cognitive Dissonance (CD): conflicting emotions
Author: Realand et all (1985)	Czepiel et al (1985 p.13) Satisfaction with a service element	Davis and Stone (1985 p29) service encounters	Lovelock 1985 p272 Service attributes	Lewis (1987) Service encounter attributes	Fiebelkorn (1985)	McMullan and Oneil (2010) customer satisfaction with a tourist destination - claim that accurate approach and higher predictive power

layer of service (that relates to a user's cognitive service satisfaction) and in addition emotional satisfaction, behavioural intentions and overal satisfaction have been added.

Digital and network hospitality

A concept of hospitality that is linked to digital touchpoints is described as "network hospitality" (Germann Molz, 2014). In network hospitality the key elements of traditional hospitality, namely the guests, the hosts and satisfaction are recurring. They only communicate via digital means as networking applications (Germann-Molz, 2014). Examples of these hospitality exchange networks are the free Coachsurfing. org (started in 2003) and the for profit hospitality network of AirBnB that exchanges for example a house for another house. The network hospitality communication manners are based on a core service of providing hospitality to a guest, on the performance of the host and finally, on the environment and touchpoints in which the communication takes place, which are digital.

The three-layered division of core - performance - environment is still applicable and shown for example in network hospitality. In the digital hospitality model, designed by the author of this study, shown in the right part of figure 2.2, the layers are re-organised in an inclusive manner in which emotions of customers are added as an additional layer that surrounds the three other layers. The environment is the outer shell that makes performance possible. Optimal service

performance brings forth the core product and the core of the brand, its authenticity. All levels are linked and seen as equally important for the digital experience.

The main difference between the two models is that in traditional hospitality, the core, performance and environment can be treated independently of each other. An example of coffee sales will make this division clear: Coffee can be sold in a barrista cafe environment, in which service is added by providing wifi. The environment such as the building and lounge chairs makes the experience complete. The same coffee can be sold in a barrista truck that is placed on a university campus withouth wifi and without chairs. Within digital hospitality, these layers are connected and a service cannot exist without a digital environment or brand presence. The similarity between the models is that inclusion of all levels leads to fullfillment of a more complete experience (Mcmullan & Oneil, 2010).

Focus on core, performance and environment

In this study focus lays on all layers, the core which is the brand and its authenticity, the performance which is the service of the brand and the environment which are all the digital touchpoints of a brand.

Conclusion building block 1: hospitality

- Hospitality can make technology more human.
- Guest-host relationships are complex and therefore need critical reflection on different layers such as the welcoming surface and underlying regulated experience.
- Good hospitality services can lead to higher customer satisfaction.
- There are three layers: the core which is the main product or service, the performance, which is how well the service performs in interaction with the user and the environment in which core and performance are present. These are of equal importance.
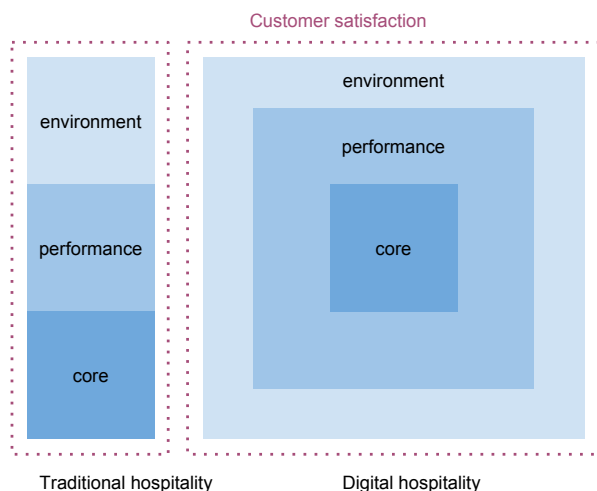
Figure 2.2: Traditional and digital hospitality layers.

2.1.2   **Digitalisation**

Elements of a digital environment

We spend our lives in spaces, whether personal, geographical, social, or informational (Benyon & Höök, 1997). Digital environments are online information spaces in which symbols, structures and functions allow information to be stored, retrieved and transformed. Moreover, these information spaces, which make it possible to navigate and map through information elements, have surrounded us every day, as we have lived, worked and relaxed in these spaces for the last twenty years (Benyon & Höök, 1997). The information elements within an online space or digital touchpoint may have various forms (such as text, photographs, diagrams, music, etc.), involve animation and reconfiguration. Moreover, digital information environments can offer 3D representations, modifiable configurations for users, and access to large data sets (Dillon, 2000). They are central to our everyday experiences, since they are no longer depending on static devices such as a computer.

The connection between on- and offline is strengthened by new technologies such as cloud computing, Artificial Intelligence (AI), and robotics (Wakunuma & Carsten Stahl, 2011) and by new devices such as smartwatches, virtual reality-glasses and smart-phones that connect real-life to digital (IN10, 2016). Digital and virtual experiences are thus merging further with real-life experiences (Sundmaeker et al., 2010) and marketing and communications are now crossing over from the real world to the virtual world and vice versa. In a new paradigm of Internet of Things (IoT) (Atzori, Iera, & Morabito, 2010) or internet of everything (IoE) (Retail & King, 2015), digital and physical entities are linked through connected objects such as beacons and smart devices such as energy meters (Toon- Eneco, 2016). IoT allows large numbers of physical objects to interact with digital networks and platforms by producing and consuming information (Miorandi, Sicari, De Pellegrini, & Chlamtac, 2012).

Increase of human computer interactions

The concept of communication and interactions through web usage has changed over time, see figure 2.4. In the early stages of the internet in the 1980s, when it was called the Arpanet and used as backbone for military and regional academic networks, there were no commercial extensions and usage was primarily for work- related communication and knowledge sharing (Leiner et al., 2009). Since the 1990s, commercial networks and enterprises are linked, resulting in an exponential growth in internet usage as personal and mobile computers are connected to the network. However, today, users increasingly obtain access through mobile devices and skip the traditional access means through personal computer use (Napoli and Obar, 2013). New platforms and devices reshape the ways in which the internet is used and how information systems (IS) are used. The internet is currently used for the purpose of 7 goals: information, news, commercial transactions, leisure, social interactions, gaming and personal development (Van Deursen, van Dijk, & Peter, 2015). Usage for information purposes has still the highest usage ratio: and searching for information is still a popular usage (Van Deursen et al., 2015; Purcell, 2011). In addition, a website can have three main functions, namely information based (news websites), transaction based (bank), retail based (shopping catalogue) (Purcell, 2011).

Due to these new technologies, an increasing number of conversations, that used to be human-human, is substituted by human-computer interactions (HCI). For example, chat robots like Yamuda (see more at: Coolblue customer service) evolve the way customer service is funtioning. According to some experts in the field of network development (KPN, 2016), these chat robots will in the next few years replace all man in customer service. But how likely is it that everybody wants to converse with an intelligent computer rather than talking to a human? And suppose that it is a likely scenario, how are we to cope with ethical questions within this new era of artificial intelligence?

The amount of human-computer interactions is growing and new technology opens new opportunities in digital interactions that could revitalize human-human interactions (Wakunuma & Carsten Stahl, 2011). Long distance relationship for instance can already flourish through smart video applications such as Skype and Facetime. Remote cuddling, possible through usage of embedded sensor technology, enables augmentation of another person or gives one the feeling to be together

with their partner[1]. Although interactions become more digitally oriented, offline interactions will always be present (Schol, 2015), in real life or through the intermediary of a digital tool.

Physical and digital hospitality service quality.

Since the 1980's service quality in the traditional context of hospitality has been the focus of research as roots of service quality occur in the expectancy disconfirmation theory (Oliver, 1980). The concept of this theory, that will be explained in building block 4 'customer satisfaction', is mostly defined as a measure of how well the level of provided service meets the consumers' expectations.

In this study focus lays on digital hospitality and therefore on the digital equivalent of service quality which is electronic service quality (E-SQ). E-services are mainly based in the digital touchpoint of a website /web environment. This obviously is just one of the many digital touchpoints that a brand has. Others are applications, games, e-mails, e-books, etc. However the website and e-service quality are important for the concept of digital hospitality because IN10 often has the most influence on the website design of their client (Interview IN10, 2016). E-services are 'all services delivered via an electronic medium' (usually the internet) and comprising transactions initiated and largely controlled by the customer (Colby & Parasuraman, 2003 p. 28). E-service quality has been defined as the extent to which a website facilitates the efficient and effective shopping, purchasing and delivery (Zeithaml, Parasuraman, & Malhotra, 2002). Latter authors mention that the quality of a website in delivering services is crucial for success and

1   Http://www.littleriot.com/pillow-talk/
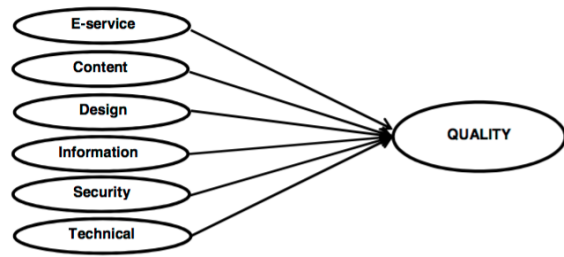
Figure 2.3: Website quality division in constructs. Source Cassidy, 2013

they argue that well-designed websites create an interest in the brand and provide in-depth information. Moreover, a well-designed website can affect the decision to re-visit the website and eventually purchase the services or become a member of the brand's community (Piccoli, Brohman, Watson, & Parasuraman, 2004; Rahman, Khan, & Haque, 2012; Zahir Irani, Mohamed Fadel Bukhari, Ghoneim, Dennis, & Jamjoom, 2013). Therefore, website quality, (i.e. e-service quality) is a prerequisite for effective digital hospitality and reflects its ability to deliver high-quality customer service (Iliachenko, 2006).

Measuring website quality / ESQ

Various approaches, over 27 studies deployed in the past twenty years, of determining a website's quality are available (Cassidy and Hamilton, 2013, Ladhari 2010). Ladhari (2010) provides an extended overview of instruments that are developed for measuring e-service quality that are subject to comprehensive in-depth content. Ladhari has included 26 measurement models such as E-SERVQUAL developed by Zeithaml et al., (2002), WEBQUAL developed by Loiacono et al. (2002), and e-TailQ developed by Wolfenbarger & Gilly (2003) in the review. Most approaches (such as above mentioned) use customer survey methods with Likert scales that vary from one to

Table 2.2 Web Experience Model classification, domains and elements

Functionality factors		Psychological factors	Content factors	
Usability	**Interactivity**	**Trust**	**Aesthetics**	**Marketing mix**
Convenience	Customer service/after	Transaction security	Design	Communication Product
Site navigation	sales Interaction with	Customer data misuse	Presentation quality	Fulfillment Price Promotion
Information architecture	company personnel	Customer data safety Uncertainty	Design elements Style/	Characteristics
Ordering/payment process	Customization Network	reducing elements Guarantees/	atmosphere	
Search facilities and process	effects	return policies		
Site speed Findability/				
accessibility				

24

five or one to seven (Ladhari, 2010). The study indicates six key dimensions of electronic service quality that are derived from all reviewed studies these are 'reliability/ fulfilment', 'responsiveness', 'ease of use/usability', 'privacy/ security', 'web design', and 'information quality/ benefit'. "Constantinides (2004) examined how firms can influence the outcome of virtual interaction and buying process by focusing their marketing efforts on shaping customers' web experience". He focusses mainly on websites in his study..

According to Cassidy (2013), the components of website quality can be grouped according another division. She uses the following six functions: e-service, content, design, information, security, and technical. The website assessment model (WAM) that she developed, is an approach that enables brand managers to benchmark their websites.

There are thus several ways to measure a website's quality, and the term website quality and electronic service

quality and its meaning is not agreed upon by researchers. The study of Ladhari (2010), gives next to key dimensions, insights in methodological issues related to development of electronic service quality scales (i.e. research methods, survey administration, sampling methods, service industries considered, generation of items, assessment and purification of items, dimensionality, scale reliability and scale validity). He argues that opportunities lay in industry-specific and locally developed scales.

Conclusion block 2: Digitalisation

- Digital environments consist of symbols, structures and functions that allow information elements such as text, photographs and animations to be stored, retrieved and transformed.
- New technologies such as artificial intelligence, robotics , cloud computing and device innovations strengthen online and offline presence of people.
- Concepts of RRI could give meaning to ethical questions related with new technologies
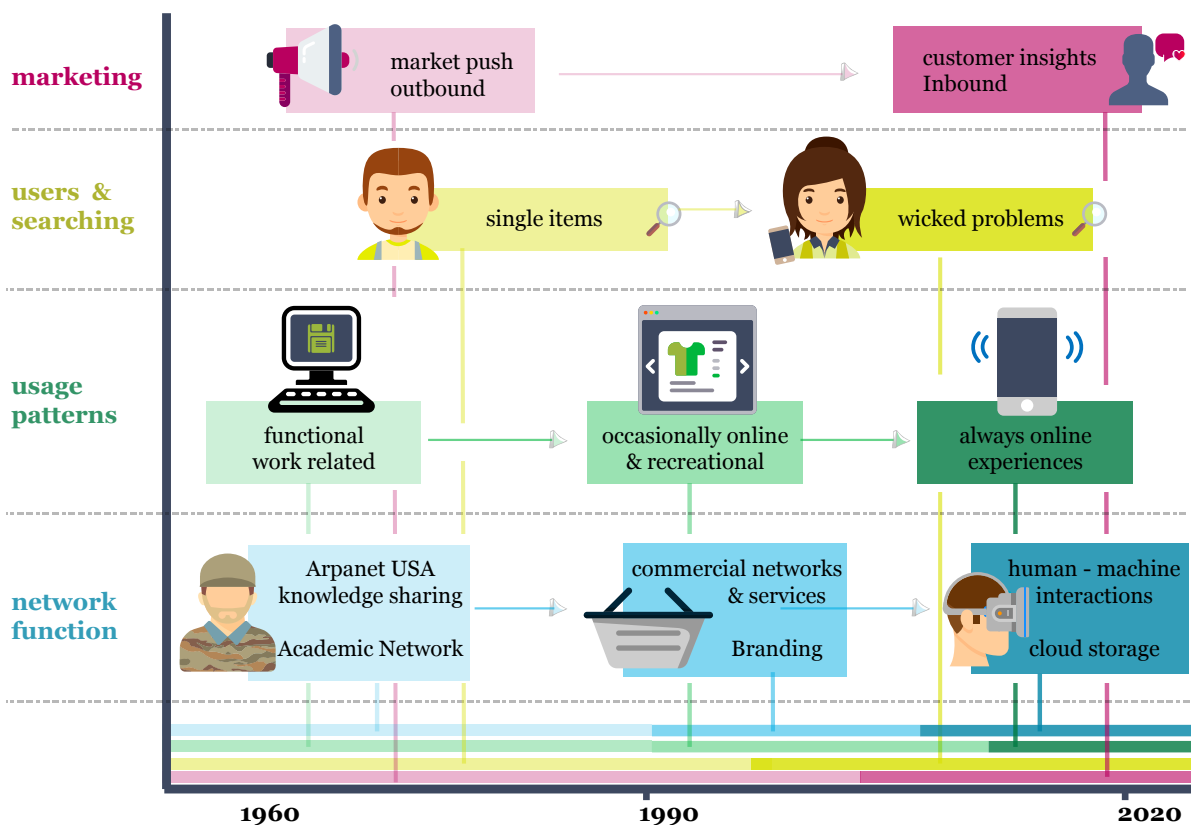
Figure 2.4 : History of internet and usage. These insights derived from literature might be relevant for scale development of digital hospitality. Changes are visible in four categories, within the network function a change is visible from knowledge sharing, to commerce to social interactions. Usage of the web has changed from work related style to an always online lifestyle in which users try to solve wicked problems. Marketing efforts change from outbound to inbound. - Image by K. Stolk

- People are involved in complex, wicked problems
- Digital environments have changed over time, yet the goal remained the same: connecting people to information, to products and services or connecting people to people.
- E-service quality is crucial for success, and is a continuous process of optimizing website design and in-depth information provision.
- Key dimensions of electronic service quality are reliability / fulfilment; responsiveness; ease of use / usability; privacy / security; web design and information quality / benefit.
- Website quality can be divided into E-service, Content, Design, Information, Security and Technical (Cassidy et al., 2013, 2015).

2.1.3   User interaction

From company centred to user centred

The way of engaging with customers has been changed by inter alia, digitalisation and new technologies, from a market-push style to a customer value based style that has a focus on creating value by providing enjoyable experiences (Brakus, Schmitt, & Zarantonello, 2009; Schmitt, 2000). The outbound strategy of conveying a message of the product's superiority and service excellence, in other words information that is "pushed" into the digital environment, is slowly making room for inbound strategies, where emphasis lays on rich customer insights and on human-centred strategies to provide a pleasurable consumer experience rather
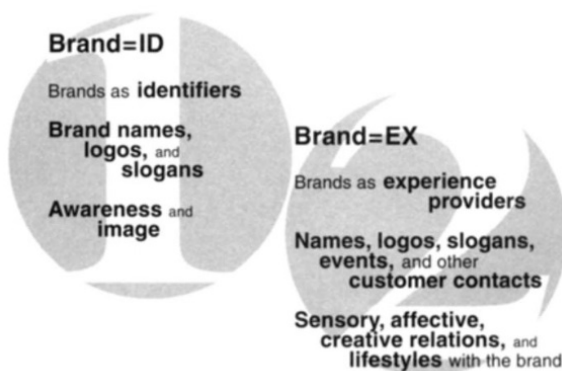
than superior product attributes in a brand's positioning efforts (Addis and Holbrook, 2001). Experience shows that only the "consumer-oriented" corporations, that have a focus on human centred strategies, can beat the competition. These companies focus on the needs and wants of segmentations of customers, specifically defined target groups. Instead of waiting on complaints and customer inquiries, consumer-oriented companies are 'pro-active'. Several studies show a positive relationship between market orientation such as customer-centred and optimized organizational performance (Langerak, Hultink, & Robben, 2004 Narver and Slater, 1995).

The logo-blasting approach is becoming inappropriate, it is no longer adequate to merchandise a brand and put a logo on every box and product (Schmitt, 2000). Brands have changed from brand identifiers to experience providers (Pine & Gilmore, 2011; Schmitt, 2000) because people are no longer searching for single items but for solutions to wicked problems; consumers of our modern economy ask for more than superior products and services, they want to get engaged in unique experiences (Pine & Gilmore, 2011). In addition, more money is spend on luxury, leisure and experiential consumption to make experiential purchases as a way of identity expression (Lorentzen, 2009). Consumers search for enjoyable experiences (Davis, 1992) people are 'rational and emotional human beings who are concerned with

Figure 2.5: The essence of two marketing paradigms: from traditional to experiential marketing - Focus lays on experiences and creativity that is reflecting in users and their lifestyles instead of pushing rather empty brand logos on the market - source : Schmitt, 2000.
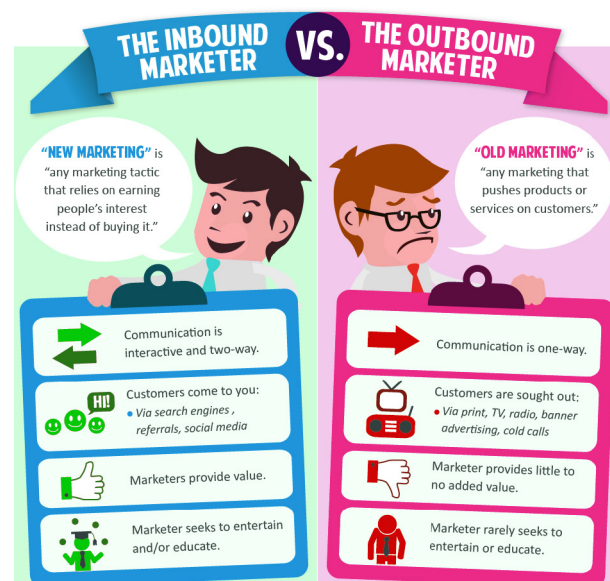
Figure 2.6: Differences of inbound and outbound marketing - re-designed by author

26

achieving pleasurable experiences' (Schmitt, 2000 p3) and they involve in identity expression online to have a feeling of personalisation and uniqueness (IN10, 2016). This shows how diverse and versatile companies have to be in order to comply with the present customer demand.

Hyper relevance in digital hospitality

To eleborate more on the present customer demand, research reveals a new paradigm of Hyper-relevance (Retail & King, 2015). Hyper-relevance enables consumers to receive what they want, when they want it and how they want it, by usage of data to provide more personalized and targeted services and products (Retail et al., 2015). Continuous feedback loops, data generation and data mining of needs and wants of these segmented consumers maximize the satisfaction that a product or service brings. Hyper-relevance is made possible by Internet of Everything (IoE); enabled solutions and innovative business models that deliver value (such as efficiency, engagement, or savings) in real-time, throughout the customer journey (Retail et al., 2015). Moreover, they state that an analytics-driven approach is required that applies intelligence to the context of the consumer (e.g. context awareness through location, details on goals that users want to achieve) thereby allowing brand owners to dynamically provide the most appropriate experience.

The designers and strategist at IN10 endeavour designing a flawless transformation of physical to digital touchpoints and by doing so, make the perfect customer journey for end-users of their clients' brand. In other words, create a long lasting, hyper relevant and unique experience (IN10, 2016). Therefore, user experience and context awareness caused by hyper-relevance fit the vision of DH and are hereafter seen as key elements for the framework of digital hospitality. In addition, digital touchpoints that provide a user with a unique experience and surprise them by exceeding one's expectations will remain (Kotler, Kartajaya, & Setiawan, 2010). Provision of a unique and enjoyable experience is according to IN10 one of the underlying principles of Digital Hospitality.

Conclusion block 3: User interaction

- Market strategies have changed from outbound to inbound and thus from pushing information into the market to analytics-driven approaches that gain

consumer insights before presenting hyper relevant information to the market.
- Segmentation or personalisation is required to serve everyone in the best manner and to enable a brand owner to provide personalised services.
- There is a shift noticeable in type of web usage: from basically information based to information plus experience service based.
- Consumers have changed from content in-takers to content co-creators that want to get involved in unique experiences.
- By exceeding's ones expectations one can create an element of surprise and a unique experience.
- User experience and context awareness caused by hyper-relevance are key elements for the framework of digital hospitality.

2.1.4   Customer satisfaction

Types of digital customers

Users of digital technologies can according to behaviour literature, that distinguishes between hedonic and utilitarian systems (Hirschman and Hoolbrook, 1982), be divided into a similar classification. The goal directed web user that searches specific information or is on the web for work related tasks is utilitarian. The experiential web user, that is pleasure oriented and traditionally surfing on the web recreationally is hedonic (Sánchez-Franco & Roldán, 2005; Van der Heijden, 2004). Literature on user experience (UX) in the context of human computer interaction (HCI) provides a similar division of interactive digital products with 'do-goals' (pragmatic goals) and 'be-goals' (hedonic goals) (Hassenzahl, 2003,2004). In other words, do-goals are related to usability, such as 'easy', 'logical' or 'clear' and be-goals are related to enjoyment such as 'cool', 'beautiful' and 'original'. The brands that IN10 works with have both types of users as targetgroup. Monuta for example fits well with goal directed users, whereas Rotterdampas suits the hedonic users.

Interface and content design

People interact with the digital environments in many ways such as on a phone or on a smart watch. The interface between humans and the digital device they use is crucial to facilitating this interaction and the user experience (Wildner, Kittinger-Rosanelli, & Bosenik, 2015).

	Active value	Reactive value
Intrinsic value	Playfulness	Aesthetics
Extrinsic value	Consumer Return on Investment (CROI)	Service Excellence
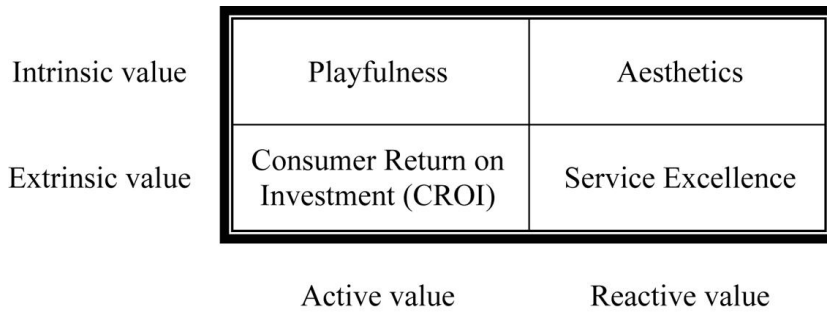
Figure 2.7: Typology of experiential value Scale Source: Mathwick et al. (2001)

User experience in HCI involves a person's behaviour, functional and experiential interaction, the attitude, valuable aspects and the emotions about using a product, service or system (Hassenzahl & Monk, 2010).

The interface design, that usually consists of elements such as navigation, information and visuals, determines the level of perceived usefulness, perceived ease of use and satisfaction of the user (i.e. the customer) (Davis et al., 1992; Sanchez-Franco et al., 2005). Visual aesthetics, such as usage of colour and fonts of computer interfaces, play an important role in user experience research (Zhou & Fu, 2007; Hassenzahl, 2004; Van Schaik & Ling, 2009). The perceived user-interface design informs a user about the page layout while interacting with a website (Cho, cheng & Lai, 2009).

Pragmatic and hedonic aspects in satisfaction

Where the web has been always functional as main goal, and retrieving information is still one of the largest uses (Van Deursen, 2015), over the years there has been a growing significant body of theoretical and empirical research regarding the role of intrinsic or hedonic motives to use the web (Cyr, Head, & Ivanov, 2006; Hassenhahl, 2010; Park, 2012). Studies (see more: Hassenzahl 2004, Sanchez-Franco, 2005) show that people do perceive utilitarian and hedonic aspects as independent of each other. However

hedonic (intrinsic) motives also apply and positively influence the do-goal web users (Sánchez-Franco, 2005). In other words, the value of an information based touchpoint increases when hedonic features are added. The importance of the aspects of utilitarian and hedonic aspects may vary with the situation, for example at a news website the utilitarian aspect is more important then at a blog page (Hassenzahl, 2007; Keng and Ting, 2009).

Research shows that there is a positive relationship between ease of use and internet for entertainment (hedonic) purposes (Atkinson and Kyss, 1997). Another study indicates that system developers should add hedonic features, such as game elements (Venkatesh ,2008) and visual elements. Visual and design elements are seen as elements to increase ease of use to designs of utilitarian digital environments (Tractinsky et al. 2000; van der Heijden 2003). They achieve user acceptance where it would have been rejected by the users if it was solely information based (van der Heijden, 2004). Next to that, research shows that visual aesthetics of interfaces is a strong determent of users satisfaction and pleasure (Lavie & Tractinsky, 2004).

The value classifications of Holbrook (1994) describes intrinsic versus extrinsic values, and active versus reactive values. Intrinsic value is described by Holbrook as
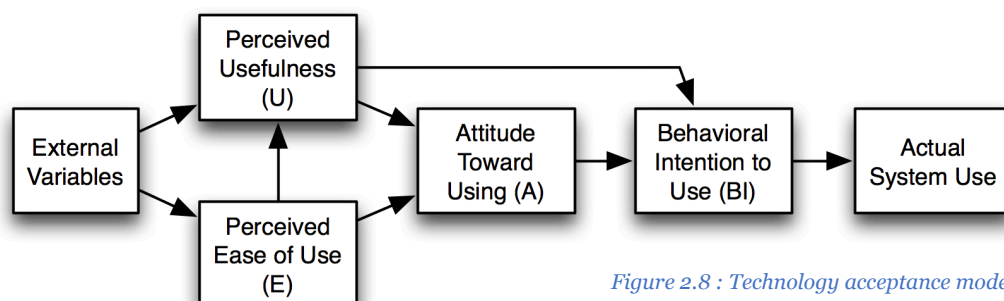
Figure 2.8 : Technology acceptance model TAM. Source: Davis 1989
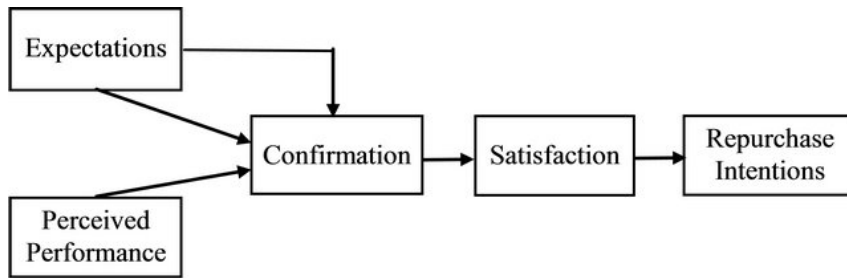
Figure 2.9: Model of expectancy disconfirmation theory. Positive confirmation leads to satisfaction and repurchase intentions. Source: Oliver (1980).

`appreciation of an experience for its own sake,' and active values are present when customers are participating and take a collaborative role in the consumption process. These values are used by Mathwick (2001) to develop the experiential value scale (EVS). This scale, that is shown in figure 10, provides an overview of four key elements that are important for user experience and attitude towards usage in digital touchpoints (Mathwick et al, 2001).

Most of the research on usage intention of a technological service is rooted in Davis' technology acceptance model (TAM) (Davis, 1989). Davis researched the elements 'usefulness' and 'ease of use' in digital touchpoints in his initial model. Perceived usefulness is "the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989, p320). Perceived ease of use is "the degree to which a person believes that understanding a particular system would be free of effort" (Davis 1989, p. 320). The scope of the original model of TAM is restricted to 'intention to use' and 'behaviour to use'. The past two decades, the model has been expanded with additional variables, such as 'perceived enjoyment' (Davis et. Al., 1992), "the extent to which the activity of using the computer is perceived to be enjoyable in its own right, apart from any performance consequences that may be anticipated" thus how enjoyable the technology usage would be (Davis, Bagozzi, & Warshaw, 1992). In addition the model is extended with 'internal and external control', as well as 'intrinsic motivation', 'emotion and design aesthetics' (Cyr et al. 2006), and 'satisfaction' and 'user interface design' (Cho, Cheng & lai, 2009).

Intrinsically enjoyable experience: flow

Flow is a metric of online user experience and could be defined as an intrinsically enjoyable experience (Koufaris, 2002, Sanches-Franco, 2005). Constructs as flow and playfulness are thus used in the context of digital touchpoints to identify aspects of enjoyable experiences of using technology. Flow is according to Koufaris (2002) a positive, highly-enjoyable state of consciousness that occurs when our perceived skills match the perceived challenges we are performing. When this happens, we gain intrinsic joy from the activity and want to continue with it. This is known as a state of flow. Flow is found to influence behaviour of online customers (Lee & Chen, 2010) , if the task is too simple, the person will be bored, if the work demands more skills than the capacity of the person, anxiety is created. Other researcher confirm a positive effect of flow on behavioural intentions (Nah et al., 2011)

Values that influence customer satisfaction

The experiential value framework, EVS designed by Mathwick, Malhotra and Rigdon (2001) was based on

Figure 2.10: Interactivity model based on EVS. Model of Keng and Tin, not supported hypotheses are ------>, 2009
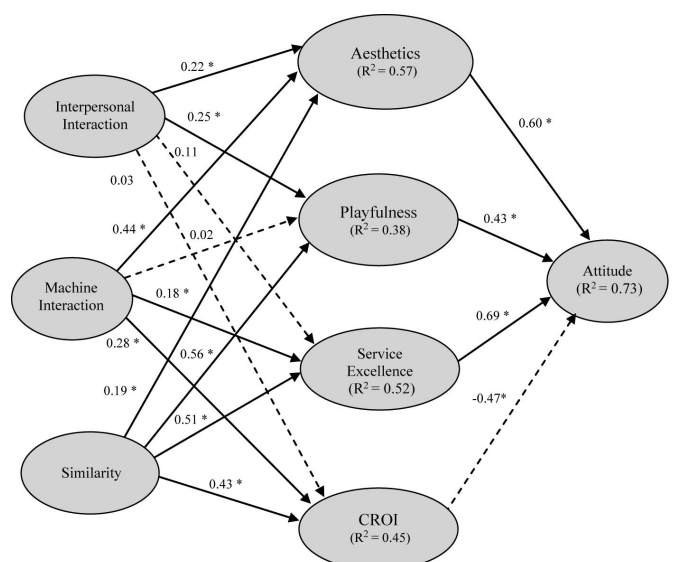
Notes: * denotes significance at the *p* < 0.01 level; -------> denotes not supported hypothesis

the classification of Holbrook and incorporates four experiential values in technology usage. This research is meaningfull to describe DH as it involves key elements of usage attitude of digital toughpoints. The four values will now be discussed. Aesthetics consists of the two features; visual appeal: experiences through senses (e.g. hearing, sight, touch and taste) and entertainment. The value of playfulness (escapism) is created by customers themselves, and shows potential amusement and emotional value of a shopping process (Mathwick et al, 2001). Customer return on investment (CROI) reflects the utilitarian parts of a shopping process and involves active investment in economic, behavioural, psychological resources and feelings or emotions that connect to rewards, what is received in return (Sarkar, 2011). Service excellence is the value of appreciation of a service that offers expertise and a reliable service performance, thus making service promises true by providing what was promised to customers (Holbrook, 2000). The EVS model is extended by Keng and Ting (2009) in a relevant research on online blog usage with interactivity, which they divide into interpersonal interaction, machine interaction and similarity: the perception of being similar to another person, emotion or viewpoint. They find that service excellence has the largest influence on generation of positive impressions, and secondly aesthetics, the website design and overall visual effect. In a blog environment, social aspects as sharing emotions, are important and therefore economic values that are based in CROI have little influence on readers' commitment (Keng and ting, 2009).

Expectancy confirmation theory

Mathwick's value of Service excellence, making service promises true, logically connects with expectations about the product and service. Consumers buy products or services with pre-purchase expectations. Once the product or service has been bought and used, the outcomes are compared against the expectations. Three scenarios are then possible. There is confirmation, the outcome matches the expectation and this leads to satisfaction and a possible repurchase. There is disconfirmation, either positive or negative, that occurs when there are differences between the outcome and the expectations. Positive disconfirmation occurs when the service performance is better than expected.

Negative disconfirmation occurs when product or service performance is less than expected. The theory which has been discussed above is founded by Oliver (1980), who proposed the expectancy disconfirmation theory, and has been the most commonly used definition of customer expectations.

Satisfaction is achieved by confirmation or positive disconfirmation and dissatisfaction is caused by negative disconfirmation of pre-purchase expectations. Well-developed companies aim to delight their customers by promising only what they can deliver or exceed expectations and deliver more than was promised (Kotler, 2011). Changes in someone's expectations can result from a change in objectives (i.e. business trip or holiday trip), change in needs (i.e. thirsty or full; tired or rested), new personal or vicarious experiences (i.e. recently had an excellent hospitality experience at another air carrier) and any other influences that make outstanding a particular quality of outcomes (i.e. it is a very hot day and the restaurant is not air-conditioned).

Service perception and usability

Knowledge of customer expectations and requirements provides understanding of how quality of service and products is defined by the customer. It facilitates the development of customer satisfaction questionnaires and it influences on repeat of purchases and word-of-mouth recommendations (Tsao and Hsieh, 2012). There are several ways to determine service quality through soft, subjective measures that focus on customers' feelings, perception and attitude. These subjective measures include customer satisfaction surveys and questionnaires (Vavra, 2002) that are filled in from a customer perspective.

Traditionally, usability is considered a key factor for predicting behaviour intentions of users (Davis, 1989). According to Bai, Law, and Wen (2008) study on website quality and customer satisfaction, factors of website quality include functionality and usability. A websites usability includes the ease of navigating or to make purchases (Flavian, Guinaliu, & Torres, 2006) ease of naviagtion is also shown in information systems (IS) (Gable et al.,2008). Usability and satisfaction could be achieved by ensuring that the website includes current

and comprehensible information, suitable language and resources for responding (Constantinides, 2004). Websites that incorporate adequate navigation functionality are likely to provide more value to customers than those that are difficult to navigate (Van Schaik, 2015).

In comparison to offline customer satisfaction, online customer satisfaction results from expectations about other attributes, such as the assessment of the web, after sales, lead-time, delivery speed, product or service introduction and convenience (Gajendra Sharma Li Baoku, 2013). The theory of planned behaviour shows that a customer is more likely to interact frequently with a digital touchpoint if usability ensures higher perceived behavioural control (Wigfield, Tonks, & Klauda, 2009). Constantinides (2004) classifies usability of websites under the functionality factor in his web experience model. His discription of functionality is as follows: 'Factors enhancing the online experience by presenting the virtual client with an good functioning, easy to explore, fast, interactive Web site' (Constantinides, 2004, p. 114).

Conclusions block 4: customer Satisfaction
- An individual's satisfaction with outcomes of a hospitality experience is based upon a comparison of outcomes with expectations (Oliver, 1980).
- According to the expectancy confirmation theory (Oliver, 1980) one should deliver an outcome that matches expectation or deliver more than was promised to exceed expectations (Kotler, 2001).
- Expectations are a mutable internal standard based on many factors, including objectives, needs, personal or vicarious experiences.
- Since users' perception and intention can change over time, it is important to measure the quantities at several points of time, and see it as a dynamic process rather than a linear process.
- Intrinsic values and the appreciation of an experience can lead to a positive flow experience in which the users are

intrinsically enjoyed (Sanches - Franco, 2005)
- Individuals have a full range of motives to interact with a technology. Motives have been characterized in intrinsic (hedonic, emphasising internal rewards such as satisfaction and pleasure from performing behaviour, how enjoyable the technology would be), or extrinsic (utilitarian, related to do goals and usability and focusing on external rewards including for instance incentives and bonuses).
- People use the web for utilitarian/pragmatic purposes (do-goals) or hedonic purposes (be-goals) and indicate them as different purposes.
- EVS is relevant to this study as the intrinsic and active value are corresponding with the vision of Digital Hospitality and the four values are key describers of attitude to digital touchpoints.
- Including navigation elements, fun elements and visual elements positively effects a persons attitude towards a touchpoint, also if this touchpoint has a utilitarian function such as a providing news.

2.1.5　　　　Digital touchpoints

Digital brands in touchpoint orchestration design
Interactions between a user and a brand mainly happen through touchpoints. Touchpoints are central aspects of service design (Clatworthy, 2011) and are the points where products and services owned by the brand-

Figure 2.11: Model of brand touchpoint Wheel. Orchestration of different touchpoints is divided in three stages of customer experience. Source : Abbing (2010) Brand driven innovation

31

owner, interact with the end-user or enable end-users to interact with each other (Abbing 2010). A user might utilise many different touchpoints as part of a customer journey, a use scenario (Abbing, 2010). For example, if someone buys a book online, the use scenario consists of the following touchpoints: the online book store on desktop or mobile, the paying environment, such as a pdf receipt of the purchase, and finally the e-book. Each time a person relates to, or interacts with a touchpoint, they have a service-encounter (Clatworthy, 2011). Touchpoints affect people's perceptions of the brand, shaping their confidence and beliefs in the firm (Davis, 2000). According to Davis, these touchpoints can be tangible; physical representations of the brand (i.e. products, packaging, print advertisement, store design and people) or intangible; these cannot be physically touched but are experiences created by the brand (i.e. services, atmosphere, attitude). They can be created by the brand owner, such as a store, or by the brand users, such as reviews (Abbing, 2010).

Digital touchpoints are all touchpoints where interaction happens digitally, in a digital environment. Just as in the case with non-digital touchpoints (Davis, 2000), these digital touchpoints influence customers, their purchase decisions and their experience with a brand as they represent the services. Well-orchestrated touchpoints provide a complete and satisfying user experience in the pre-purchase phase, the purchase and the post purchase phase, yet determining how to orchestrate these points might be challenging for brand owners (Abbing, 2010). According to Abbing, the communication between a brand and end-user transforms from physical to more technology-based digital, and from brand made to co-created. Therefore, he argues, there are fewer tangible interactions and more intangible touchpoints. Different end-users can evaluate especially intangible touchpoints differently, they can delight one customer and disappoint another customer (Davis, 2010). Thus it is difficult to assess whether a brand complies with the needs of most end-user's and wheter the brand satisfies these needs digitally on the more intangible, digital touchpoints. This is where a tool for digital hospitality quality possibly provides assistance, to indicate whether one has thought of all elements that provide a complete DH experience. In addition, the design of the interface and interaction that

is carefully considered by brand owners, possibly leads to loyal customers (de Oliveira, Silveira, & Luce, 2015).

Conclusion block 5: touchpoint orchestration

- Each time a person relates to, or interacts with, a touchpoint they have a service-encounter.
- Touchpoints can be tangible or intangible, created by brand owner or by brand user.
- Different end-user evaluate espesically digital, mostly intangible touchpoints differently.
- Well-orchestrated touchpoints provide a complete and satisfying user experience in all phases of product and service usage, from inititial purchase to end of use. Yet determining how to orchestrate these touchpoints might be challenging for brand owners (Abbing, 2010).

2.1.6 RRI principles

Privacy and security in a new paradigm

The potential for benefits, such as strengthened personal relationships by using mobile networks in always online presence (Schols, 2015) and increased cloud storage opportunities from larger data servers' capacity (KPN, 2016) appears to be intermingled with the potential risks of new Information and Communication Technologies opportunities such as privacy of individuals, data protection issues and exclusion of people in a potential new paradigm of an Internet of Things connected society (Atzori et al., 2010; Trequattrini, 2016). The topic of privacy and data protection emerges across various new technologies, such as information technology and security technology and in different sectors such as justice, the health sector (Schomberg, 2011) and new domains such as domotics and the connected car.

Accessibility of digital environment

As is being increasingly recognized, the question arises whether citizens have sufficient knowledge of what kind of personal information is stored for which purpose, who has access to it and for what period of time (European commission, 2011). Moreover, it is not evident that the user has always access to it, or is able to modify this information (Schomberg, 2011). Potentially left behind groups in this society that is transforming from physical to more digital (Abbing, 2010; IN10, 2016), such as the

emerging group of elderly (CBS, 2016) or disabled people, is an issue and area of focus in governance models (Responsible Industry, 2016). As a result, an increasing amount of researchers and voices in policy circles, have suggested that ICTs, such as (three dimensional) digital environments and apps, must be undertaken with consideration to societal and ethical concerns (European Union, 2011). In addition, Information and communication technology (ICT) is described as an ethnically problematic area by some responsible researchers (Von Schomberg, 2011).

Next to the urge for experiences and self-identity (Pine and Gilmore, 2009), people are more sensitive to the concerns of society (Kotler, 2011). In that sense, companies need new strategies that focus on the values derived from the new context and adapt to new technologies and trends. Transparency and consistency imposed by the new Web 3.0 practices on entrepreneurs and brands calls for a new environment of user interaction and digital transformations (Kotler, 2010).

Principles of Responsible Research and Innovation, hereafter referred to as RRI, could be used as concepts to undertake innovations in ICT related areas, in which digital agencies such as IN10 find themselves in. Following an RRI approach includes taking in account the societal and ethical concerns, such as inclusion of vulnerable groups like elderly, assuring deliberate design strategies such as embedding reflectivity activities and involvement of transparent communication of possible ethical impacts caused by ICT innovations and new technologies such as robotics (Wakunuma et al., 2011). The portfolio analysis that is shown in the appendix indicates that IN10 already has a large coverage of social relevant clients and projects. Due to this fact, the addition of RRI principles in both products and design processes is more convincing.

Key indicators of RRI of the European Commission

The field of RRI comprises research, society, equality and impact on life. According to the most recent document of the European Commission (2015) there are eight key indicators that describe RRI. These are: governance, public engagement, gender equality, science education, open access/open science, ethics, sustainability and social justice/inclusion. In the context of ICT, the indicators of

ethics and social justice/ inclusion are most applicable as they relate to implementation of new technologies in society. Ethics as RRI key is introduced by the European Commission (2012) in the following way:

"European society is based on shared values. In order to adequately respond to societal challenges, research and innovation must respect fundamental rights and the highest ethical standards. Beyond the mandatory legal aspects, this aims to ensure increased societal relevance and acceptability of research and innovation outcomes. Ethics should not be perceived as a constraint to research and innovation, but rather as a way of ensuring high quality results. " (european commission, 2015 p332)

Social justice can be defined according to the European Commission in the following way:

"Policies that focus on investing in achieving inclusion rather than compensating for exclusion. The effectiveness of such policies is measured by monitoring progress in six dimensions: poverty prevention, access to education, labour market inclusion, social cohesion and non discrimination, health and intergenerational justice " (european commission, 2015)

The European commision suggests monitoring the impact of the research on social justice/ inclusion by answering the following questions (non-exhaustive list, EC, 2015 p39):

- "Is the new technology/product accessible/affordable to wide variety of different social groups?"
- "Is the research problem addressing an access problem of a disadvantaged social group, such as disabled people, illiterate people, migrants, elderly people, etc.?"
- "Does the research have the potential to impact negatively on some social groups?"

An outcome that could be derived by following indicators for social justice and inclusion could be inclusion of users from a wider variety of social groups. In order to address broader perspectives and needs, limiting the amount of

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2   *http://ec.europa.eu/research/swafs/pdf/pub_rri/rri_indicators_final_version.pdf*

products that have negative impacts on social justice (e.g. digital products that have benefits only for a small amount of people of the general population) or projects that create additional barriers.

Relevant concepts of RRI for Digital Hospitality

The concepts of RRI are often described according to the model of Stilgoe (2013). He uses the following four dimensions in his model: anticipation, reflectivity, inclusion and responsiveness. There are three dimensions that fit technological transformations in ICT well and also relate to the dynamic DH vision of user-centred online designs. These are inclusion, responsiveness and anticipation. Reflexivity logically relates to reflective communication which is the goal of the RDH tool.

The process within RRI is supported through mechanisms of anticipation and by awareness of societal values, in order to link desired action outcome to deliberation and reflection. Within the framework of DH, if we add responsive digitalisation, we aim at no exclusion of users and strive to attach to values and relevant items in society by being fully context aware and adaptive to changes in the users' context. This might be in simple input as GPS and device identification or in more complex input as users' opinions and value statements. We therefore strive to include responsiveness in a broad sense, in the development of tool items where it touches upon digitalisation.

Firstly, the concept diversity & inclusion (read more in Stilgoe, 2013) attempts to include a wide variety of stakeholders and locus lays on continuity of engagement; the state of being involved, occupied, retained and intrinsically interested in something. The vision of DH has a similar focus as it attempts to provide a unique, long lasting experience that possibly leads to life time customer engagement. However, the attempt of Stilgoes concept, to include a wide variety of stakeholders is not yet fully operationalised in the DH vision or work Routine. Therefore, opportunities for reflective communication on inclusive design principles amongst team members, such as discussion between interaction designers and back-end developers, emerge.

Secondly responsiveness & adaptive change possibly matches DH since digital content will be interactive and responsive to all devices (multi- device) and next to that possibly adapt to current trends and values in society to stay relevant (IN10). Responsiveness is a concept that refers to different meanings. In the digital environment, it refers to quick response ability and availability of help to customers and the willingness and speed in which web support staff make the initial response to an enquiry (Pearson, Tadisina, & Griffin, 2012; Nath & Singh 2010). Furthermore, response time is a websites technical characteristic in relation to loading time, and time required to complete transactions. Next to these two meanings, responsiveness from a responsible research and innovation point of view, relates to the word respond: 'to react and to answer', therefore, responsiveness involves responding to new knowledge as this emerges and to emerging perspectives, views and norms (Stilgoe et al., 2013). Another meaning of responsiveness is related to responsive web design (RWD). This includes designing websites that provide an optimal viewing and interaction experience through easy reading and navigation with a minimum of resizing, panning, and scrolling, across a wide range of devices (from desktop computer monitors to mobile phones) (Marcotte, 2010). All of these meanings could possibly add value to the digital hospitality tool development.

Thirdly anticipation: The goal of anticipation is not to predict potential risks or unwanted impacts, but is to open up narratives of expectations, as well as other plausible pathways that may lead to other impact (Stilgoe, 2013). When we transform this goal to digitalisation, it may mean monitoring current states of being, translating technology to expectations and open a narrative for brand-owners, designers and developers to increase the possibility that they understand impact on future users, and that the underlying goal, and motivation lays in critical assessment of social and ethical issues in digitalisation. Such as the obsolete customer service personnel that is replaced by artificial intelligent smart robots. It could become a process of dialogue, engagement and debate, in which brand owners invite and listen even more to wider perspectives from publics and diverse stakeholders.

Conclusions block 6: RRI principles

- RRI principles could be used as concepts to
  undertake innovations in ICT related areas with
  considerations of societal and ethical concerns,
  such as inclusion of vulnerable groups like elderly,
  assuring deliberate design strategies such as
  embedding reflectivity activities and transparent
  communication of possible ethical impacts caused
  by ICT innovations and new technologies.
- The four dimensins of Stilgoe can be used in the
  tool design.
- Diversity and inclusion is not yet fully
  operationalized in a digital hospitality context.
- Anticipation opens up narratices in expectations,
  by means of monitoring current technology, and
  critical assessment of social and ethical issues
  related to digitalisation.
- The questions that are to be answered in the tool
  development phase are the following:

    - How can you make sure that the digital
      touchpoint is accessible to everyone, thus is
      diverse?
    - How can you make sure everyone is
      included thus inclusive design?
    - How can you ensure responsiveness?
    - How can you interest a public for your
      digital services?
    - How can you continuously involve context
      and social values?

2.1.7 **Conclusion**

There are six building blocks that could describe responsible digital hospitality. The main findings, that could be used for RDH tool development are concluded here.

Digital environments have changed over time and new technologies and the paradigms of Internet of Things / Everything are present, yet the goal remained the same: connecting people to information, products and services or connecting people to people. We use the web for utilitarian/pragmatic purposes (do-goals) or hedonic purposes (be-goals) (van der Heijden, 2004) and there are seven distinguishing purposes in web usage. These are: information, news, commercial transactions, leisure, social interactions, gaming and personal development (van Deursen, 2015). Retrieving information from the internet is still the most frequent use (Purcell, 2011).

Each time a person relates to, or interacts with, a digital touchpoint, they have a service-encounter (Clatworthy, 2011). Flow, a highly enjoyable state, perceived when using the web, has a positive relation to usage attitude. The electronic opponent of hospitality service quality, e-service quality, is crucial for success and is a continuous process of optimizing website design elements and in-depth information provision (Zeithaml, Parasuraman, & Malhotra, 2002). Key dimensions of electronic service quality are reliability/ fulfilment; responsiveness; ease of use / usability; privacy / security; web design and information quality / benefit (Ladhari, 2010). Website quality measurement (Cassidy, 2015) is a useful manner of quality measurement for RDH as it includes.

Concepts of RRI could give meaning to ethical questions related to new technologies such as cloud computing and artificial intelligence. Guest-host relationships are not only complex in real life, but also in the virtual world. Therefore, critical reflection is usefull on different layers such as the welcoming surface and the underlying regulated experience.

Marketing strategies have changed from outbound to inbound, in other words, from pushing information into the market to analytics-driven approaches on consumer

insights before presenting hyper relevant information to the market (Retail & King, 2015). Segmentation can be used to serve everyone in the best suitable manner and to enable a brand owner to provide personalised services and experiences. Individuals have a full range of motives to interact with a technology. Motives have been characterized in intrinsic: emphasising internal rewards such as satisfaction and pleasure from performing behaviour: how enjoyable the technology would be. Or extrinsic: focusing on external rewards including for instance incentives and bonuses. Usability is key factor of predicting intentions, the technology acceptance model describes this (Davis, Bagozzi, & Warshaw, 1992; Venkatesh & Bala, 2008). According to the expectancy confirmation theory (Oliver, 1980) one should deliver an outcome that matches expectation (conformation) or deliver more than was promised to exceed expectations (positive disconfirmation) (Kotler, 2001). Experiential Values, that consists of service excellence, croi, playfulness and aesthetics (Mathwick, Malhotra, & Rigdon, 2001) have a positive effect on customer satisfaction and online interaction (Keng and Ting, 2009). UX literature shows that web designs that include structure as navigation elements, enjoyable experiences as fun elements and aesthetics as visual elements are more satisfying (Vankentesch, 2008).

1. hospitality
2. digitalisaion
3. user interaction
4. customer satisfaction
5. digital touchponints
6. RRI principles

Figure 2.12 Responsible Digital Hospitality blocks

36

2.2 Operationalizing building blocks

In order to develop the RDH tool, the important theories in each building building blocks are derived and linked to each other. This is done in an overview, shown in figure 2.13, that includes the six blocks and theories. This framework consists of the following models. Layers of digital hospitality and customer satisfaction to include core, product and environment. Experiential Value Scale for the purpose of integrating experiences of users, the Technology Acceptance Model, that indicates intentional behaviour, user experience values to include motives as hedonic and utilitarian, the Expectancy Confirmation Theory as that links to customer satisfaction which is an important item of hospitality. Electronic service quality and Web quality are included as these items build up satisfaction when using an electronic service or digital touchpoints and build up the websites quality (website benchmark). Finally, suitable RRI principles are present to complete the overview.
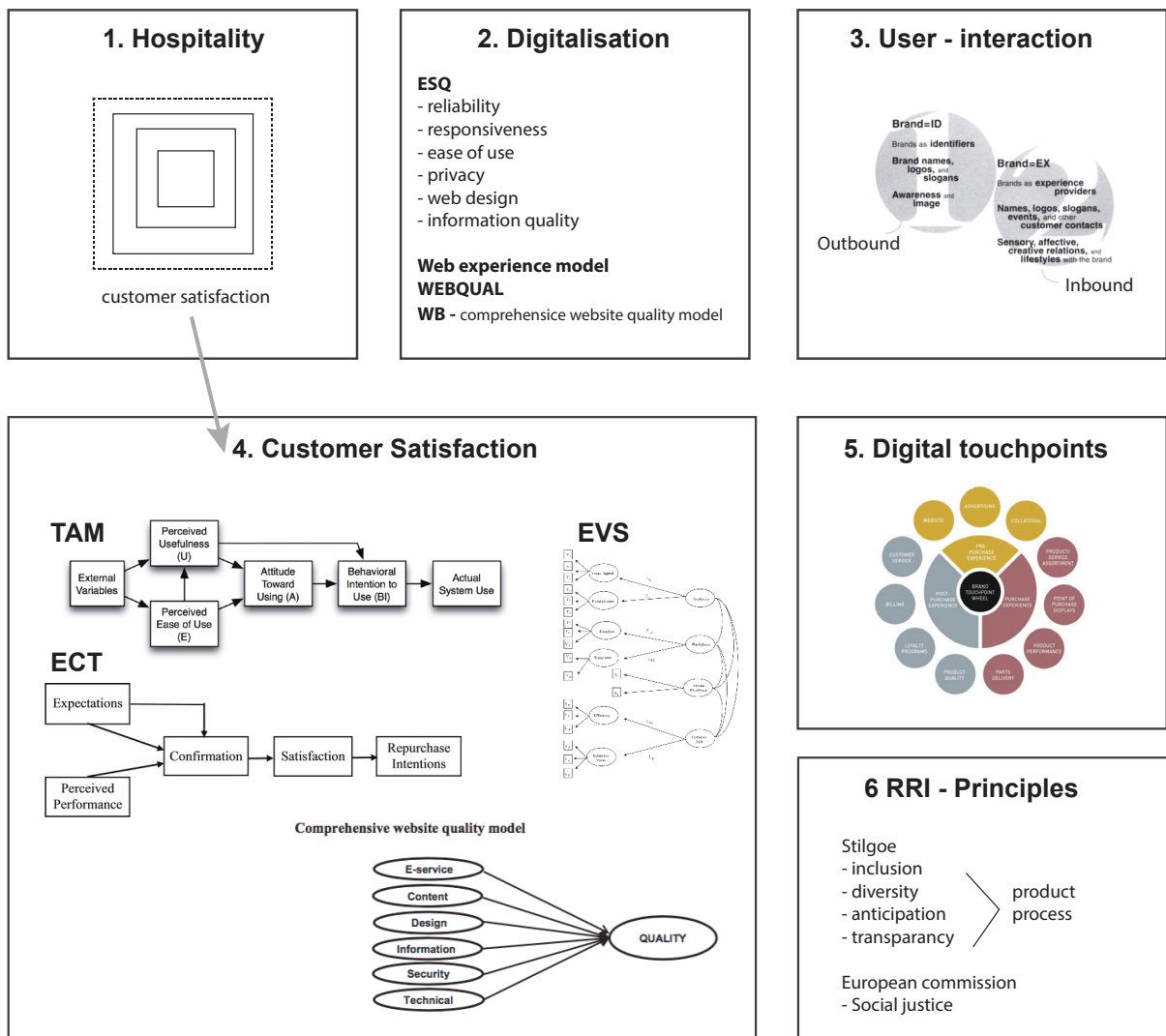
RESPONSIBLE DIGITAL HOSPITALITY QUALITY:

ESQ Electronic service quality	**TAM Technology assessment model**
ECT Expectancy confirmation theory	**EVS experiential value scale**
WB website benchmark	**UX user experience constructs**
Web Experience model	**RRI Concepts**

Figure 2.13: Theoretical framework of building blocks. This figure shows which theoretical models are most important in each building block and will Be used For further development of the RDH tool

2.3 Reflexivity in the tool

Techniques and approaches to enable critical reflection in a group process from RRI are presented in the following table x principles derived from Stilgoe (2013). The method of user centred design that is associated with inclusion, is corresponding with the DH vision. Multidisciplinary collaboration and training, that is a methods that is associated with reflexivity, suits the workstyle of IN10 (observation, IN10 office).

Reflexivity in responsible digital hospitality

One of the challenges of RRI is the involvement of the public within stages of research and innovation (Sutcliffe, 2011). The public mostly means ordinary people in general, the community, people from all layers of society. Developing an appropriate strategy to involve the different groups in useful ways might be challenging. More companies see the need to engage their stakeholders and have a consumer-oriented approach. However, in the digital era of providing the best user experience, technologies as eye tracking and interviews that involve the public are mainly used in the final stages of application and website development (IN10, Valsplat) and not in an RRI manner; within every step of the process. The RDH tool therefore aims to be used in a dynamic manner, and offers reflexivity in an earlier stage of the process.

Reflexive means "denoting a pronoun that refers back to the subject of the clause in which it is used, e.g. myself, themselves" (Oxford dictionary). Reflexivity refers to a bi-dimensional relationship between cause and effect.

In the social sciences it refers to taking account of itself, or to the effect of the personality or presence of the researcher on what is being investigated (Oxford dictionary).

Definition of reflexity

In this study reflexivity refers to an act of self-reference where the brand owner examines their current digital environment, their products and services in relation to the customers' needs and involvement of society. In other words, when the brand owner fulfils the action of using the RDH tool, the person is possibly affected by it and reflects on their own behaviour, process and product or service because of both the tools usage (filling in of questions and thinking about the answers) and because of the produced output (graphical representation of results). The tool therefore categorizes as a self-reflection initiative as it possibly motivates an individual to reflect on the impact of their work on others.

Self regulatory processes

The structure of self-regulatory processes are viewed by psychologists in terms of three cyclical phases. "The forethought phase refers to processes and beliefs that occur before efforts to learn; the performance phase refers to processes that occur during behavioral implementation, and self-reflection refers to processes that occur after each learning effort." (Zimmerman, 2002 p67). For this study we look into the self-reflection phase of processes, for example using a tool. There are two classes in self-reflection, these are self-judgment and self-reaction. Self-judgement refers to a comparison between the self-observed performances against a standard, such as another person's performance such as a benchmark, or a standard performance (Zimmerman, 2002).

Causal attribution is another form of self-judgement which refers to beliefs about the cause of one's errors or successes, such as a score on a test. When a poor score is obtained and this is attributed

Table 2.3 : Methods for group communication - source Stilgoe et al, 2013

anticipation	- Foresights - Real time technology assessments
reflexivity	- Multidiceplenary collaboration and training - advisory groups
inclusion	- User – centred design - Focus groups
responsiveness	- Open access and other mechanisms of transparency

to a controllable process that may lead to success, such as having another strategy of communication in digital touchpoints, motivation will sustain (Zimmerman, 2002). The contrary happens when a poor score is attributed to a non-changeable process, then there is loss of motivation.

Self-reactions take the form of adaptive and defensive responses (Zimmerman, 2002). Adaptive reactions are associated with adjustments designed to increase the effectiveness of one's method, such as modifying or deleting an ineffective strategy. In contrast, Defensive reactions refer to efforts to protect one's self-image by avoiding or pulling back from opportunities to learn and accomplish.

Mechanisms used for reflection

There are several methods one can use for reflection. There will be a few discussed now. An internal workshop, such as a co-creative session, a customer journey session or a Scrum-meeting, allow people to understand each other's point of view, language and ways of thinking. Directly RRI related topics that can be further discussed in such a workshop are for example open access and inclusion, relationship to the public and transparency of online data.

Another mechanism for reflection is an advisory board. There is integration of external stakeholders into a board that enables a soundboard function for researchers and developers. This board however just fulfils the role of feedback provision.

Definition of constructive communication

Constructive as an adjective means "serving to build or improve; positive: constructive criticism" it also means supportive (Collins English Dictionary, 2016). A supportive communication climate is characterized by accessibility of employees, open exchange of information, confirming and cooperative interactions and an overall company culture of sharing knowledge (van Hoofd and de Ridder, 2004). Constructive communication involves constructive criticism, which involves both positive and negative comments on the work of others, and thus focus lays on problems and solutions rather than on personal traits. Especially in collaborative work this type of criticism is valuable for development. Destructive communication is the opposite of constructive communication.

The aim of the study is to embed both self-reflexivity and constructive communication opportunities in the tool design. Constructive. (n.d.). Collins English Dictionary - Complete & Unabridged 10th Edition.

Self regulated processes

Forethought	Performance	Self-Reflection

Forethought
- Task Analysis
  - goal setting
  - strategic planning
- Self-Motivation benefits
  - self-efficacy
  - outcome expectations
  - intrinsic interest / value
  - learning goal orientation

Performance
- Self-Control
  - imagery
  - self-instruction
  - attention focusing
  - task strategies
- Self-Observation
  - self-recording
  - self-experimentation

Self-Reflection
- Self-Judgement
  - self-evaluation
  - causal attribution
- Self-Reaction
  - self-satisfaction
  - adaptive & defensive responses

Figure 2.14: Phases and sub processes of self-regulation. Adapted from Zimmerman (2002)

2.4 Current models in literature and online tools

Online one can find a large number of models and tools that offer insights in website benchmarking approaches (Cassidy, 2013) such as Technology Acceptance Model or Balanced Scorecard. Cassidy shows that website benchmarking can be performed without surveys and subjective measurements as she has developed the WAM. This Website assessment model uses all currently available constructs and items. Loiacono, et al. (2002) employ ease-of-use, usefulness, entertainment and complementary relationship in their Website Quality (WebQual). In 2007, Loiacono, Watson and Goodhue (2007) refined the WebQual for evaluating loyalty in e-business/commerce. Another website quality approach is WebQual4.0 of Barnes and Vidgen (2002). WebQual4.0 uses an on-line survey of 5 dimensions of usability, design, information, trust and empathy to measure and redesign a website's quality of online bookshops. eTailQ, developed by Wolfinbarger and Gilly (2003) tests for the relationship between satisfaction, loyalty, quality and user attitude towards a website in which they consider fulfilment/ reliability, website design, privacy/security, and customer service in a 7-point Likert scale. When researching the electronic service quality of e-business/commerce websites Parasuraman, Zeithaml, and Malhotra (2005) use a 22 measure of E-core Service Quality Scale (E-S-QUAL)

with four dimensions: efficiency, system availability, fulfilment and privacy. Yoo and Donthu (2001) developed SITEQUAL, for evaluating online retailers' Website quality with ease-of-use, aesthetic design, processing speed, and security. To measure quality functions (playfulness, navigability, playfulness, information quality, trust, personalisation, responsiveness) of six travel websites. Constantinides (2004) combines over 50 literature studies to design the Web Experience Model, that respectively consists of three main categorization of Functionality (usability and interactivity), psychological (trust) and content factors (Aesthetics and Marketing Mix). Gable et al. (2008) investigated the impact of new information systems (IS) on organisations and satisfaction of employees. These models for website benchmarking have a business or customer perspective and study focus vary between satisfaction, design, quality and loyalty in customer perspective studies and effectiveness, usability, strategy and performance in business perspective research (Cassidy et al., 2013). An overview of these studies, their context and the dimensions is shown in table 2.4.
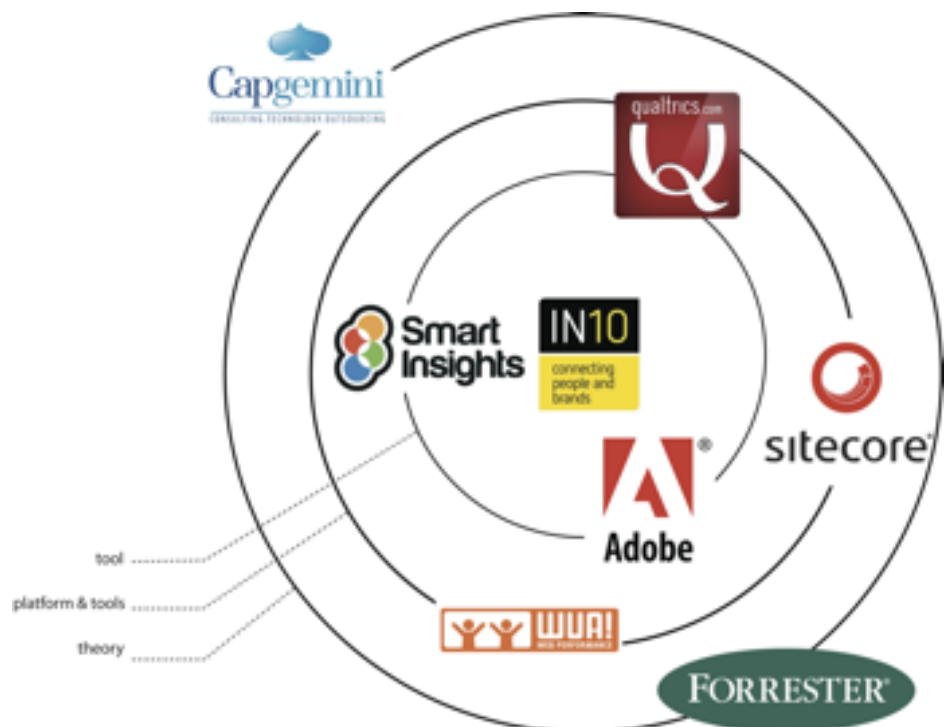
Figure 2.15: Comparison of competing models, tools and theories online. The closer to IN10 the more direct the competitor is - image by author

Next to models from literature there are also practical tools developed by companies such as: the Smart-Insights digital assessment tool, the Adobe digital maturity assessment and services provided by WUA (see WUA. com), the Webreep model and Sitecore. These online tools use surveys to indicate perception, experience and satisfaction of customers. There are also models that divide a brand along axes into a category such as the Forrester digital maturity model (made with Qualtrics) and the Capgemini digital maturity model. And in addition to these measurement tools, companies such as Qualtrics and Sitecore provide companies a broad aray of services and platforms.

Table 2.4: Overview of studies, context and dimensions in digital touchpoints

Study	measure domain	context	number of items	number of dimensions
Yoo and Donthu (2001)	online retailers' Web quality (SITEQUAL)	wide variety of brands in books, music, video, computers, department stores, accessories, travel and auto	9 items	4 dimensions: ease of use (2), aesthetic design (3) processing speed (2) and security (2)
Barnes and Vidgen (2002)	website quality (WebQual4.0)	internet bookshops	22 items	5 dimensions: usability (4), design (4), information (7), trust (4), empathy (3)
Loiacono et al. (2002)	Website Quality (WebQual)	selected websites	36 items	12 dimensions informational fit to task (3), interactivity (3), trust (3), response time (3), ease of understanding (3), intuitive operations (3), visual appeal (3), innovativeness (3), flow-emotional appeal (3) consistant image (3), online completeness (3), better than alternative channels (3)
Wolfinbarger and Gilly (2003)	eTail Quality	general online	14 items	4 dimensions: website design (5), fulfillment/reliability (3), security / privacy (3), customer service (3)
Constantinides (2004)	Web Experience Model	online consumer behaviour of controllable factors on online buying-decision-making process. Review of 50 studies	26 items	3 domain, 5 dimensions: Usability (7,) interactivity (4), trust (5), aesthetics (4), marketing mix (6)
Parasuraman et al. (2005)	Electronic Service Quality (E-S-QUAL)	websites for : apparel, electronics, flowers groceries and online stores (amazon.com and walmart.com)	22 items	4 dimensions: efficiency (8) system availability (4), fulfilment (7), privacy (3)
Gable et al. (2008)	Information System (IS) quality	organisational impact of IS, 27 australian government agencies	27 items	4 dimensions : systems quality (9), information quality (6), individual impact (4), organizational impact (8)
Van Schaik (2015)	news website evaluation	user experience in news sites	57 items	13 constructs : adecuacy of information (3), beauty (2) behavioural intention (2), goodness (2), hedonic quality (8), perceived aesthetics (8), perceived disorientation (7), perceived enjoyment (3), positive affect (10), pragmatic quality (6), satisfaction (3), trust (4), usefulness of content (3)
Cassidy et al. (2013) & Cassidy (2015)	website Analysis Model (WAM)	all available items in website benchmark literature (38) embedded in a digital model	97 items	6 functions: e-Service (27), content (12), design (14), information (16), security (11), technical (17)

3 METHODOLOGY

In this chapter, the methodology to answer the research questions is described. The research questions are answered again in two studies. Research questions A and B1 and B2 are answered in study 1 and research question C1 and C2 are answered in study 2.

Study 1

3.1	**Measurable aspects of DH**
3.2	**Designing a RDH framework**
3.3	**Co-creation session**

Study 2

3.4	**Evaluation of reflective communication**
3.5	**Flowchart overview**

-- Method study 1 --

3.1   Measurable aspects of DH

Aspects that can measurably describe digital hospitality were researched by means of a concise literature review of subjects that became evident from an interview with experts of IN10. These subjects were relevant and related to both digital and hospitality. Subjects were subdivided according six building blocks in the literature review. The criteria for identifying and including literature were that they had to belong to one of discourses of interest to the research (e.g. digital transformation, user experience, customer satisfaction, hospitality). They had to clearly discuss emerging digital technologies in relation to hospitality and digital trends and be sufficiently detailed to allow collection of relevant detail for setting up a first framework for digital hospitality. Topics ideally related to the digital hospitality vision, which is "to create a long lasting experience for the user, be attractive, entertain, take away worries and to exceed a person's expectations in a digital context".

Articles were retrieved by means of databases as Scopus and Web of Science. There has been made an effort in selecting recent articles. Next to a concise literature study, interviews with experts at IN10 were conducted. The Interviews were semi-structured. The portfolio of IN10 was analysed on client background and a trend analysis for

digital touchpoints was performed to expand our general knowledge in digitalisation and new technologies. (See appendix 1)

Data collection was stopped when theoretical saturation was reached, i.e. when the framework met the vision of experts. These experts were individuals who were knowledgeable in communication and transformation processes from physical means to digital means.

Inclusion of RRI elements

RRI related principles (building block 6) that could add value to the DH quality measuring were explored by two ways. A concise literature review of recent articles, published from 2010 and later and desktop research was performed. And by means of the exploration of the European RRI-tools website and documents. This website includes recently developed tools and insights that could be relevant when combining RRI with ICT. In addition, a review of governmental documents of the European Commission was performed. To translate social relevance from the responsible research sector to the digital sector questions were Formulated. RRI related concepts that are relevant for digital hospitality were researched in order to include the dynamic character of RRI processes. The formulated questions were answered in the tool design and included in the rubrics elements.
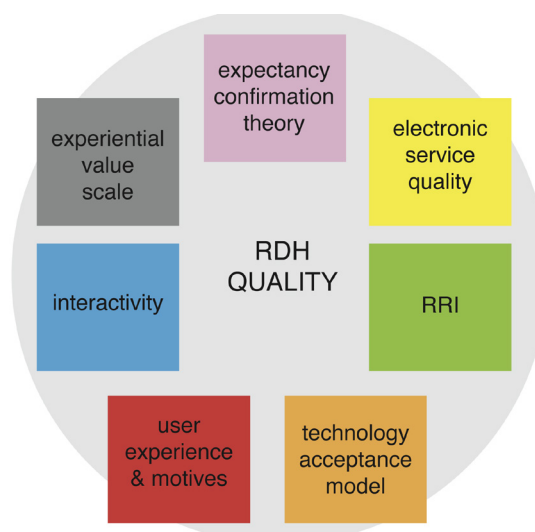
3.2 Designing a RDH framework

When designing the RDH tool, focus layed on the six building block of hospitality, digitalisation, user experience, customer satisfaction, digital touchpoints and RRI. The first step was the selection of relevant
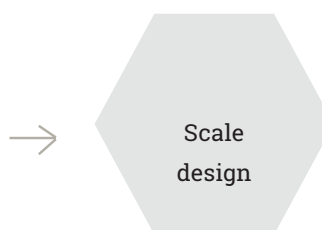
Figure 3.1: Overview of used theories. These seven theories and their belonging constructs and items will be used for further development of the tool scale design. A more extensive overview will Be shown in figure 16 where a RDH framework wheel is shown.

theories and constructs and presentation of these in a RDH blocks theory overview. The next step was to develop a theoretical framework that included a wide variety of reviewed theories, constructs and elements in order to grasp the broadness of responsible digitial hospitality. This resulted in the RDH theory wheel, that functioned as overview and start point for further development of the RDH tool.

The model of Aranyi and Schaik (2015) shown in table 3, could describe the vision of DH as this model combines the comprehensive model of user experience, (CUE of Thüring and Mahlke 2007), the Technology Acceptance Model (TAM of Davis, 1989) and uses UX values (Hassenzahl et al., 2003). This seems a useful combination of models and in-depth inclusion of constructs (such as usefulness, interaction characteristics, UX and system appraisal). Another model that can be used as a start point for tool development is the WAM model of (Cassidy and Hamilton, 2011, 2015). Measures of website quality benchmarking in previous literature are grouped and with a mathematical equation, that compares a standard group of components with present components, the human factor is eliminated. The digital WAM model evaluates digitally whether a measure is present (1) or not present (0).

For this study, as Responsible Digital Hospitality quality is to be made measurable, we have selected the model of Cassidy (2013) and corresponding website components. And therefore agree that E-SQ is part of website quality. Website components indicate a measurable feature and are divided by latter auteur in to three domains of marketing, aesthetics and technical. This is one of the broadest, most inclusive and relevant overviews available and therefore applicable for usage as input for the RDH measurement tool.

The RDH Quality framework wheel thus includes several constructs selected from a wide variety of studies. These
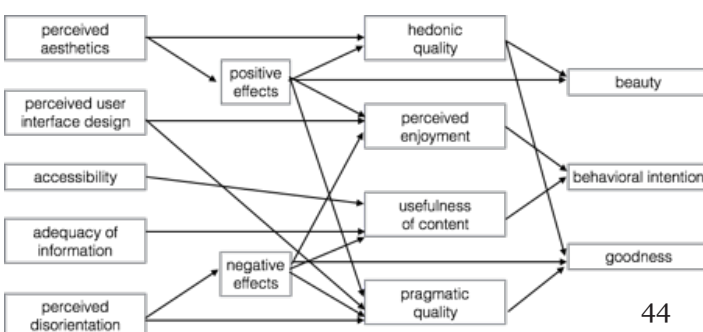
studies have in common that they research relationships between digital touchpoints and user experience or customer satisfaction. The research of Keng and Ting (2009) on blogging pages is based on the EVS and is extended with interactivity elements. They have found positive relationsips between these experiential values and attitude. Therefore, this model, that is shown in figure 11, was included in the RDH wheel of constructs. Next to the user experience model of Van Schaik (2015) and the experience model of Keng and Ting (2009), other models, such as the TAM (Davis, 1992), ECT (Oliver, 1980) and WEBQUAL of Loiacono (2002) and Web Experience Model of Constantinides (2004) and Gable (2008) were selected from the literature review. Relevant constructs were included in the Responsible Digital Hospitality theory wheel shown on the next page in figure 3.3. These constructs, consisting of items and corresponding user-survey elements and some in the form of questions were used as input and transformed (i.e. redesigned) into six RDH domains and corresponding items in a co-creative session with experts of digital strategy and myself.

3.3 Co-creative expert session

The aim of the co-creative session was to translate the components that can be dimensions, elements and survey-items (RDH theory framework wheel) from a user perspective into a brand owner perspective and questions for brand owners, to invoke reflective thoughts. These new items and questions were scaled on a 7-point Likert scale. A rubrics format with a descriptive value at 1, 4 and 7 was designed to minimize subjectivity during the sessions and in the final tool (Pro and cons are shown in table 4.4). The rubrics is evaluated multiple times by IN10 experts in order to optimize understandability and text. The following criteria were applied for the questionnaire concept tool:

- logical order, increasing scale
- exhaustively: all possible answers are availble or there is another category of "else"
- exclusive, there is no overlay, users can give one answer
- measurable, the questions are numeric

Figure 3.2 - Van Schaik's model (2015)

44

Figure 3.3: RDH theoretical framework wheel of models and constructs. Different layers show abstraction levels from construct to measurable items. For example electronic service quality has the construct information quality, and information quality consists of the items accuracy and availability etc.

3.4 Evaluation of reflective communication

Mechanisms that are used to reflect on a communication process, such as advisory groups, or focus groups (Stilgoe, 2013) were reviewed and the most suitable mechanism for the framework was selected. For further development of the digital hospitality quality tool, a focus group was chosen in combination with self-reflection by comparing scores of yourself against others' score (Zimmerman, 2002).

Communication-based tools that are suitable to support constructive dialogue about quality of DH, were explored by two routes: by an online research on currently available commercial tools to asses digital maturity (e.g. the extent of implementation of newest available technology) of web environments and by means of a literature study on E-Service Quality measures in which E-services are all services delivered via an electronic medium, usually the internet, in which control largely lays at the users hands (Colby & Parasuraman, 2007).

3.4.1 Testing on reflective communication
The developed tool concept of study 1 was evaluated with experts of the field of design, ICT and marketing communication. Participants used the concept tool on a laptop. Hereafter the participants filled in a short questionnaire to evaluate comprehensibility and usability and they ranked the domains. After a break of approximately 15 minutes they were shown their results. This break was necessary for developing real-time results in Adobe InDesign. A semi structured interview followed.

3.4.2 Workgroup population
Brand owners, company designers and marketers in the domain of digital oriented brands belong to the main target group for the RDH tool, therefore, the following criteria were followed for population of the evaluation test:

- Participants have completed a study in a field related to either design, multimedia, communication, marketing or ICT.

- The brand which they work for is active in a digital environment.
- The brand which they work for offers digital products and/or digital services.
- The brand has at least one digital touchpoint.

Participant selection was next to these criteria based on availability as the study was held during the vacation period of the company IN10.

3.4.3 Stimuli
The tool consisted of 23 items in an online survey format. Every domain was explained with a concise introduction. The domains, and items were in English, the questions and rubrics texts were in Dutch as all participants were native Dutch speakers. The order of questions was equal for all participants. The follow-up questionnaire consisted of questions on usability and understand ability of the text and a ranking task of the domains. The results in the form of a RDH score of the participant and the other participants were presented in a visual representation on A4 paper. An empty visualisation that was used during the test is shown below in figure 3.4.
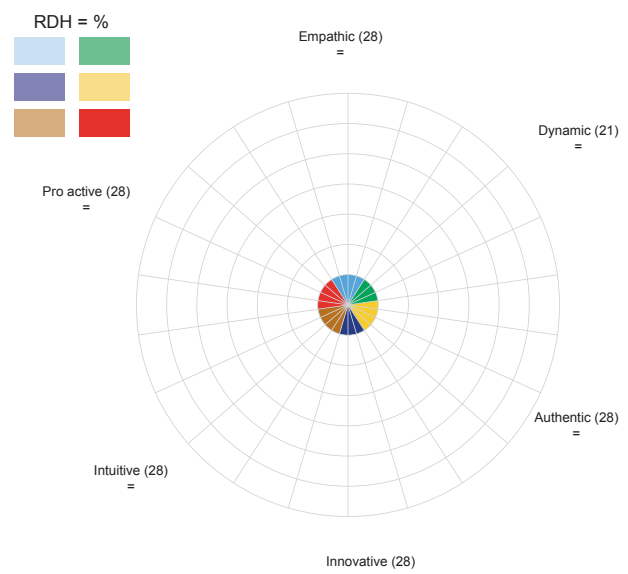
Figure 3.4: Scoring sheet of the RDH Quality tool showing the six domains with their specific colors and 23 item with 7 boxes.

3.5 Flowchart overview

3.4.4 **Analysis method**

To evaluate the tool, and also to show whether participants have become more reflective, a semi structured interview, including a topics list, was conducted with a focus group of 3 persons. The test panel consisted of a small group of people and there was an interest in their opinion, motives and experience, a semi structured interview therefore suited best (Verhoeven, 2003).

The main goal was not to provide a quantitative measure of user satisfaction or website quality (Cassidy, 2015), but to provide a basis for reflective communication on Responsible Digital Hospitality Quality. Design criteria for a new tool design, such as improvement of the visual, other than a questionnaire format were derived and are presented in the Discussion Chapter.

The following flowchart shows the sequence of events that were followed to answer the research questions. The chart is divided in four different activity categories. And the division of study 1 and study 2 is made clear.

Design & iterations

Literature & Books

desktop research - interviews

Reflection

Research Questions

A   which aspects can measurably describe digital hospitality?   A = (1 + 2) = 3

B1   How could RRI-related concepts add value to DH quality measuring?

B2   How can rri related concepts add value to quality of DH communication? (discussion on RRi)   B = (6a + 4) = 5

C1   Which communication-based tools are suitable to support constructive dialogue about the quality of digital hospitality   C = (7 + 8 + 9) = 10

C2   To what extent does the RDH tool enable reflective communication amongst users?
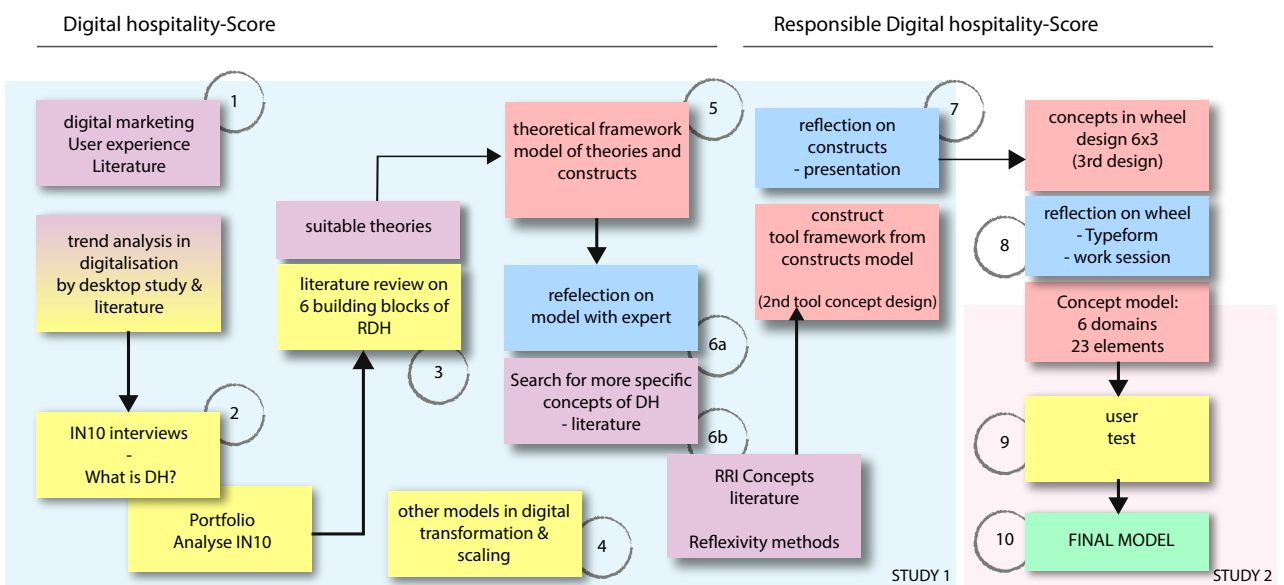
Figure 17: Process flowchart

4 RESULTS

In this chapter the results are set out in a similar manner as in the other chapters. First results of study 1 are discussed and next the results of study 2 are discussed.

Study 1

4.1	**Responsible digital hospitality vision**
4.2	**Key domains of RDH**
4.5	**The tool elements and rubrics**
4.4	**Measuring RDH**

Study 2

4.5	**KPI tool**
4.6	**Visual presentation**
4.7	**User test - focus group**

-- Results study 1 --

4.1 RDH Vision

Responsible Digital Hospitality (RDH) is a yet to be defined definition. However, this study indicated that it is an interactive process by which societal actors (i.e. the end-users) and the innovators (i.e. the brand owners) become mutually responsive to each other, and societal desirable digital products and features are brought to market in an inclusive manner that affects society positively and emphasis on human aspects in human-machine interactions and communication. (In order to allow embedding of user centred approaches and inclusive design in digitalisation and digitalisation strategies). The aim of responsible digital hospitality is generating satisfying results through digital touchpoint optimization for both user and brand owner. Brand owners on one hand should be open towards adaption and change of current strategies and product marketing manners using anticipatory models that include user voices and are based on designing the right customer journeys. Users on the other hand should take responsibility in their digital environment usage and protect their privacy sensitive data.

The Responsible Digital Hospitality Quality Tool can be seen as a method that encourages brand owners to adopt responsible digitalisation with focus on creative innovation and humanized touchpoints however, without losing the brand's authenticity and proving benefits towards competition, since emphasis lays next to user inclusion, as well on unique brand propositions.

4.1.1 The definition of RDH

During this study we have developed the following definition for RDH: "The excellent performance and quality of service encounters through digital touchpoints and the related hyper relevant interactions between a digital innovative brand and a user in a welcoming, human centred, pro-active approach".

4.2 Key domains of RDH

The final six key domain dimensions of Responsible Digital Hospitality will be introduced here. The

constructs are designed based on literature review, practical experience and designer instinct. Within the RDH-scale we have combined six conceptual elements to construct a framework, stressing the need to maintain a humanised and user centred approach in digital innovations and digital environments. However individually these elements are hardly new, they build on existing methodology concepts as RRI, humanised design, inclusive design, UX, E-Service quality and context mapping.

It might be argued that the combination and their integration represents a certain degree of novelty. Because no scale yet includes all of these elements in one framework and RDH goes further than benchmarking of websites. Many approaches are used to develop and evaluate websites and there is no consensus on measures that should be utilised as some focus on experiences (Mathwick et al, 2001) and others more on technical specifications (Vankentesch, 2008). However other measurement methods within the field of digitalisation and IT-transformation touch upon some (Adobe digital maturity measure). Including a user-centred approach in a measurement model is yet evident in other available measurement tool designs, such as the Smart-Insights benchmark for digital marketing (which aims at indicating in which out of 5 stages a digital brand is, from initial; a digital laggard to optimized; best in class digital marketing). The latter however has a strong focus on digital marketing strategy, whereas the RDH scoring emphasis on the integration of a broader array of elements besides digital marketing (i.e. innovation resources and engagement-elements).

4.2.1 Criteria for domain development

Every domain has several scale items (i.e. elements) that are based upon literature studies and adapted by renaming them to the vision of RDH. The items per domain will be explained in the table 5 and are written hereafter.
- based upon literature research (tables 1 and 4).
- relevant for RDH vision
- approved by company experts (co-creation)

The following questions derived from RRI principles must be answered:

- How can you make sure that the digital touchpoint is accessible to everyone, thus is diverse?
- How can you make sure everyone is included thus inclusive design?
- How can you ensure responsiveness?
- How can you interest a public for your digital services?
- How can you continuously involve context and social values?

The domains are numbered according to importance based on experience of IN10 strategists. The domains consist of three levels, the domain and its description, the element and its description and the rubrics scores of 1, 4 and 7 with descriptive text. The elements are based on literature to increase scale validity (Verhoeven, 2003).

Table 4.1: Domain specification

domain	description
element	statement / question
rubrics	3 statements

4.2.2 Domain and element descriptions

Development of scoring elements

This image that represents the complete tool was developed during the co-creation sessions of reflection on the domain and item (i.e. element) names. In this session the aim was to have a similar number of items per domain. Several items were developed and rewritten. In the appendix the early compositions of the framework are shown. In the follow-up sessions with the company expert, the decision was made to include more items in the survey and tool, depending on completeness of the domain. This resulted in a total of 23 items for the RDH scoring tool shown in table 4.2.

Concluding, several iteration steps led to development of a final concept model of domains, items and rubrics. The domains and descriptions are shown next.

1. Empathic

The first construct is named Empathic: 'The brand is people-centred and serviceable. This is reflected in relevant digital solutions, personalized content and innovative and relevant ways to connect'. The components that are present here are partly derived from the e-service function of WAM (Cassidy, 2013).

2. Dynamic

The second construct is labelled Dynamic: 'Digital services and associated content adapt depending on contextual items such as news, trends, new user needs and change to factors that are affecting customers' needs and perceptions such as demographics'. The information function is partly related to dynamic.

3. Authentic

The third construct is in unlike the previous constructs related to the brand instead of the end-user, it is named Authentic: 'The digital environment reflects the brand, the style distinguishes one from competition and content is presented in an original manner that is made with dedication'. Content and design components (Cassidy, 2013) are grouped under this concept.

4. Innovative

The fourth construct is Innovative: 'The brand is committed to innovation and progress. The current services and products are regularly scanned to be developed by relevance, new services, improved sub elements and features.

5. Intuitive

The fifth construct of the Framework has the title Intuitive and like the first construct has its roots in the end-user side. 'Users are enabled to experience optimized flows and they are pleased by aesthetics. Functional elements are well organised and increase performance; the environment always feels reliable. Components of technical and design are present here.

6. Pro-active

The last construct is described as Pro-active: 'The brand is inquisitive, has a change-oriented attitude and self-initiated behaviour in different situations'. The function of security and the concept of RRI (Stilgoe, 2013) are present here.

Table 4.2 Domains, RDH scale items and theory

Domain	RDH scale item	based upon study
Empathic	*welcoming*	empathy (barnes and vidgen, 2002) ease of understanding (Loiacono et al, 2002)
	personalisation	personalisation (ibrahim et al, 2006) personalisation (barnes and Vidgen, 2003; Cao and Zang, 2005;
	human-centered	flow - emotional appeal (Loiacono et al 2002) friendly / responsive customer service (Ibrahim et al, 2006) customer service (Wolfinbarger and gilly, 2003 {EtailQ})
	relevant	informational fit-to-task (Loiacono et al, 2002 {Webqual}) information quality: relevance
Dynamic	*social setting*	anticipation, responsiveness, inclusion (Stilgoe, 2013) creates a sense of community (barnes and vidgen, 2003; Cao and Zang, 2005)
	context awareness	accurate information (Aladwani, 2006; Barnes and vidgen 2002; chang and chen, 2008)
	omni channel	response time (loiacono et al, 2002) Responsive web design
Authentic	*unique proposition*	service exellence: expertise, true promised service (EVS, matwick et al, 2001)
	digital identity	consistant image (Loiacono et al, 2002) unique / innovative
	style elements	Content: usefull, clarity, complete, content quality etc. (all items in Cassidy et al., -overview, 2013, 2015) proper use of colours, fonts, multimedia (Aladwani, 2006; Chang and Chen, 2008; Kim et al, 2012)
	communication strategy	online completeness (loiacono et al, 2002), marketing mix (Constantinides, 2004)
Innovative	*proving benefits*	better than alternative channels (Loiacono et al, 2002) fulfilment (Parasuraman et al., 2005; Wolfinbarger & Gilly, 2003) service excellence (Mathwick et.al 2001 ; Keng and Ting 2009)
	technological change	innovativeness (loiacono et al, 2002) Systems quality (Gable et al., 2008)
	inclusive features	different languages, accessibility (Aladwani, 2008; chang & chen, 2006)
	company resources	RDH vision, sFlipse tool, 2015)
Intuitive	*pleasing aesthetics*	aesthetic design (Yoo and Donthy, 2001) visual appeal (loiacono et al, 2002) perceived enjoyment, aesthetics (schaik, 2015) playfullness : escapism, enjoyment (EVS, Matwick, 2001) Design components: layout and graphics, attractiveness, design quality (Cassidy, 2013)
	performance	navigation, speed, search facilities (Aladwani, 2006, Cao and Zang, 2005) navigation convenience (Park & Kim, 2002) perceived user interface design (PUID) usefullness of content, adequacy of information, accessibility (Van Schaik, 2015)
	interactivity	intuitive operations (Loiacono et al, 2002) machine interaction - personal interaction (Ken and Lin, 2006) autonomy, competence, relatedness, popularity, stimulation, pragmatic quality (Van Schaik, 2015) E-store interaction, C2C interaction (Park, 2012), interactivity (Constantinides, 2004)
	trust	trust (Loiacono et al, 2002) perceived risk, privacy, security, feeling of safety, information is secure, communication is secure, transactions are secure (Cassidy - overview table, 2013)
Pro-active	*element of surprise*	hedonic quality (Schaik, 2015), perceived enjoyment (Van schaik, 2015)
	anticipation	co-creation, customer journey development (Abbing, 2010)
	loyal engangement	purchase intentions, behavioural intentions/ intention to re-use (Davis, 1992; Schaik, 2015) game elements (Vakentesh 1999) retail preference, future patronage intent (Mathwick et al, 2001)
	transparency	RRI principles (Stilgoe, 2013), privacy (Parasuraman et al., 2005)

4.3 The tool elements and rubrics

In the following tables, the tool is shown in its final conceptual format that is available Online in a Typeform questionnaire on the following link:

https://kimstolk.typeform.com/to/ekqeSD

4.3.1 Empathic

| | 1. Empathic | 2. Dynamic | 3. Authentic | 4. Innovative | 5. Intuitive | 6. Pro-active |
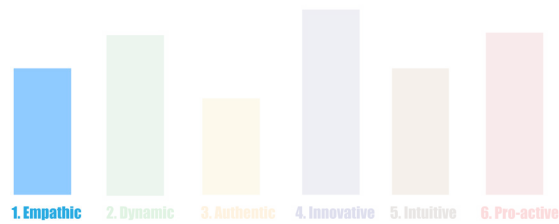
De volgende vragen gaan over het domein EMPATHIC

Het merk voelt menselijk en dienstbaar aan. Dat uit zich in relevante digitale oplossingen, gepersonaliseerde content en innovatieve, relevante manieren om contact te leggen.

item	vraag	1	4	7
	Denk bijvoorbeeld aan hoe de customer journey is onderzocht en ingericht			
1	Geef een score aan Welcoming — **De digitale touchpoints zijn gastvrij en makkelijk te begrijpen voor gebruikers.**	Helemaal oneens. Communicatie in de touch points is vooral gebaseerd op de eigen producten en processen (outbound marketing)	neutraal	Helemaal eens. Alle content, services en communicatie wordt continu ontwikkeld op basis van rijke inzichten in de klantreizen van alle gebruikers (inbound marketing)
2	Geef een score aan Perso-nalisation — **Bestaat de mogelijkheid voor klanten om content en diensten op maat aangeboden te krijgen?**	Nee, er zijn geen op maat aangeboden diensten en of producten. Alles is generiek aangeboden	Ja, dit wordt gedaan per doelgroep of per klant segment. Dat wil zeggen dat er per segment is bepaald welke content getoond wordt	Ja, dit is mogelijk per specifieke gebruiker. Getoonde content en diensten passen zich continue aan op basis van persoonlijk opgeslagen data zoals woonplaats, interesse voorkeuren en aan real-time data zoals gebruik gedrag
3	Geef een score aan Human centred service — **De gebruiker staat centraal en uw service en klanten contact is op een menselijke manier ingevuld.**	Nee, er is helemaal geen klantenservice ingericht.	We bieden de ruimte makkelijk vragen te stellen en opmerkingen te plaatsen door middel van onze contact kanalen. Reactie vindt meestal plaats binnen een aantal werkdagen.	Onze klantenservice is zo ingevuld dat vragen real-time worden opgelost en behandeld, het is persoonlijke klantenservice - personal assistant gevoel.
4	Geef een score aan Relevant — **Sluiten uw services, applicaties, content en producten aan op de huidige klantbehoefte?**	Nee. Informatie, producten en services zijn niet onderhevig aan relevantie	Ja. Nieuws, trends en technologische ontwikkelingen worden in het innovatie process opgenomen en zijn terug te zien in services, content en producten	Ja, als 4 en er zijn terugkerende momenten waarin we met de doelgroep samen de relevantie toetsen van huidige services, applicaties, content en producten
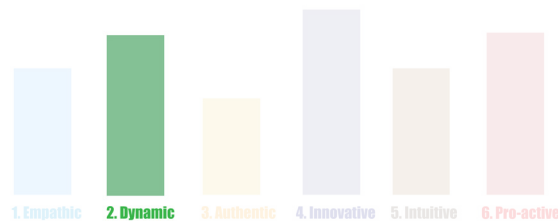
4.3.2 **Dynamic**

De volgende vragen gaan over het domein Dynamic

De digitale diensten en de bijbehorende content passen zich aan op nieuws, trends, nieuwe behoeften en op factoren die de behoefte en beleving beinvloeden.

	item	vraag	1	4	7
5	Geef een score aan Social Setting	**Wordt er ingespeeld en geanticipeerd op relevante maatschappelijke zaken en technologische trends? (bijvoorbeeld op macro niveau, op duurzaamheid of op lokale zaken)**	Nee, doen hier niks mee: Er wordt niet of nauwelijks ingespeeld op nieuws en trends, er wordt helemaal geen link gelegd met de maatschappij	Ja, services en producten spelen in op generieke interesses vanuit de maatschappij (philantropy, social, health, education, culture, science)	Ja, onze digitale strategie staat open voor verbetering door middel van anticiperen op relevante maatschappelijke input, we spelen in op relevante zaken, passend bij een unieke gebruiker
6	Geef een score aan Context Aware	**Wordt content relevant voor specifieke gebruikers en gebruiks momenten door middel van real-time data?**	Nee, er wordt geen gebruik gemaakt van real-time data	Ja, content wordt specifiek aangeleverd per klant aan de hand van real-time data als GPS	Ja, we maken gebruik van realtime data EN voorspellings technieken om zo hyper relevante content gepast aan te bieden
	Probeer nu de website of app te laden op een andere device. Als deze zich aanpast is het responsive web design				
7	Geef een score aan Omni Channel	**Worden de digitale diensten op maat aangeboden afhankelijk van het gebruikte apparaat?**	Nee, digitale touchpoints worden niet goed ondersteund door Responsive Web Design (RWD	Ja, sommige digitale touchpoints zijn gebouwd met RWD	Ja, alle digitale touchpoints zijn vanzelfsprekend RWD

53

1. Empathic 2. Dynamic **3. Authentic** 4. Innovative 5. Intuitive 6. Pro-active
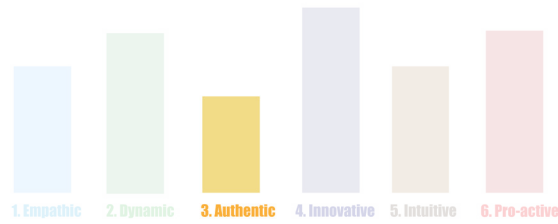
4.3.3 Authentic

De volgende vragen gaan over het domein AUTHENTIC

De digitale omgeving weerspeigelt het merk, een eigen stijl onderscheidt het merk van de concurrentie. Content is op een originele manier gecommuniceerd en het is gemaakt met toewijding.

item	vraag	1	4	7
8 Geef een score aan Unique Proposition	**Er is een unieke merk propositie. Het merk biedt iets vooruitstrevends, er wordt echt iets anders aangeboden ten opzichte van de concurrent en dit wordt duidelijk gecommuniceerd in de touch points**	Helemaal niet waar, het is herhaling van het bekende, geen unieke propositie	Neutraal, we hebben een unieke propositie ten opzichte van de concurrenten en we vermelden dit op de touch points	Helemaal waar, we weten aan de hand van gebruikers inzicht dat we een unieke propositie hebben en vermelden dit duidelijk
9 Geef een score aan Digital Identity	**De digitale uitstraling en identiteit passen bij het beeld wat gebruikers hebben van het merk en deze is duidelijk herkenbaar?**	Helemaal oneens, het is onherkenbaar, de samenhang ontbreekt tussen de touchpoints en eventueel tussen offline en online	Neutraal, digitale touchponts passen bij elkaar, het is statisch. Er is duidelijk een slag gemaakt van offline naar online als dit van toepassing is	Helemaal eens, de digitale omgeving van het merk is duidelijk herkenbaar aan stijl elementen, tone of voice, muziek etc. Het is eenduidig, ontwikkeld dynamisch en ook zonder logo goed herkenbaar online
10 Geef een score aan Style Elements	**Heeft het merk een eigen, unieke stijl die terug komt in de verschillende digitale touchpoints**	Helemaal oneens, er wordt gebruik gemaakt van standaard elementen	Neutraal	Helemaal eens, alle touchpoints zijn in een zelfde stijl ontworpen. De stijl is kenmerkend voor het merk
11 Geef een score aan Communication strategy	**Content is strategisch geplaatst in verschillende communicatie lagen en contact kanalen. Principes als "tease, tell, sell" en gebruikers profielen spelen hierbij een rol**	Helemaal oneens, er is geen digitale communicatie strategie	Neutraal, digitale touchpoints zijn ingericht aan de hand van een strategie en op een enkele laag of enkel klant contact moment geplaatst	Helemaal eens, zorgvuldig is bepaald wanneer, hoe en waar content wordt gecommuniceerd. Content is strategisch geplaatst in communicatie lagen (eerste bezoek, vaste klant, …) en contact kanalen (nieuwsbrief, website, …)

1. Empathic   2. Dynamic   3. Authentic   **4. Innovative**   5. Intuitive   6. Pro-active
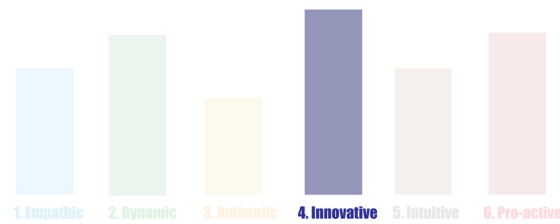
4.3.4 Innovative

De volgende vragen gaan over het domein INNOVATIVE

Het merk streeft naar vernieuwing en vooruitgang in product en proces. De huidige services en producten worden regelmatig gescand op relevantie. Nieuwe services en features worden doorontwikkeld en verbeteringen worden toegepast.

item	vraag	1	4	7
12 In hoeverre wordt voldaan aan Proving Benefits?	**Loopt het merk voor op de concurrentie? Er wordt constant vernieuwd met extra services en slimme apps. De voordelen van deze service(s) worden helder gecommuniceerd.**	Nee, geen vernieuwing en geen voordelen ten op zichte van concurrentie	Ja, maar voornamelijk door proven innovations en proven technology toe te passen	Ja, het merk is trendzetter en vaak de eerste met een slimme service. In de communicatie strategie wordt een voorbeeldrol aangenomen
13 Geef een score aan Technological Change Management	**Het merk monitort hoe ICT veranderd en hoe nieuwe technologie gebruikers beinvloed en daarmee de voorwaarden van de maatschappij en communicatie manieren vernieuwd.** *Denk bijvoorbeeld aan ouderen, laag geletterden en allochtonen*	Niet van toepassing	Er wordt gemonitort op nieuwe technologie en trends, deze krijgen nog geen duidelijke invulling	Er wordt gemonitort en ingespeeld op relevante tech-trends. Deze worden zorgvuldig ingezet in service designs of product designs
14 Geef een score aan Inclusive Features	**Is de digitale omgeving bruikbaar voor verschillende unieke klanten en wordt hier rekening mee gehouden in (re)design?**	Nee, er worden gebruikers uitgesloten	Ja neutraal, er worden aantrekkelijke features aangeboden voor klant segmenten (klanten zijn ingedeeld in groepen)	Ja, ontwerp richtlijnen zorgen ervoor dat ALLE unieke gebruikers uit de merk doelgroep gebruik kunnen maken van nieuwe features (laag inkomen, taal, expertise, senioren, gehandicapten, geslacht...)
15 Geef een score aan Company Resources	**Onze productie middelen, kennis en expertise zijn meer dan adequate om te voldoen aan digitale gastvrijheid.**	We hebben zelf geen resources en skills, er zijn geen kwaliteits richtlijnen voor interne ontwerpers, of externe partners	We hebben resources in huis en maken gebruik van richtlijnen zodat elk digitaal ontwerp en touchpoint aan dezelfde kwaliteitseisen voldoet	Kwaliteitseisen en controle zijn vanzelfsprekend. Hiernaast zorgen we ervoor dat personeel altijd op de hoogte is met de laatste trends en trainingen

1. Empathic   2. Dynamic   3. Authentic   4. Innovative   **5. Intuitive**   6. Pro-active
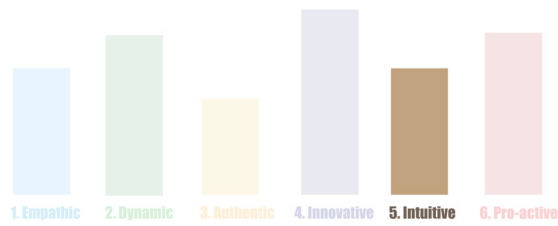
4.3.5 Intuïtive

De volgende vragen gaan over het domein INTUITIVE

Gebruikers zijn in staat gesteld om een optimale flow te ervaren en worden blij met de esthetiek. Functionele elementen zijn goed georganiseerd en verhogen de prestatie, het voelt bovendien betrouwbaar aan

	item	vraag	1	4	7
16	Geef een score aan Pleasing Aesthetics	**Straalt de digitale omgeving een prettige sfeer uit? Gebruik is prettig, er zijn mooie features, het is visueel aantrekkelijk en men wordt er blij van.**	Helemaal oneens, er is weinig aandacht besteed aan esthetiek en sfeer	Neutraal, er is gemiddeld aandacht aan esthetiek en sfeer	Helemaal eens, er is veel aandacht aan esthetiek en sfeer
	zet nu de pet van de gebruiker op				
17	In hoeverre wordt Performance ge-optimalisserd?	**Is de informatie in alle touchpoints goed georganiseerd, efficient in gebruik en up to date?**	Helemaal oneens, er is geen flow, geen interactie ontwerp, veel touchpoints zijn zeer inefficient in gebruik	Neutraal, er is nagedacht over een interactie ontwerp, er zijn zoek mechanismes ingesteld, informatie is up to date met korte laad tijden. Er is niet getest met eind gebruikers	Helemaal eens, de informatie is zeer goed georganiseerd en efficient te gebruiken, door slimme interactie ontwerpen, up to date en heeft korte laadtijd, er is wel getest met en door eind gebruikers
18	Geef een score aan Interactivity	**Gebruikers hebben alle controle over de flow en kunnen de digitale omgevingen naar hun behoefte aanpassen?**	Helemaal oneens: Het is lastig de omgevingen te begrijpen, niet mogelijk om deze aan te passen. Er zijn verplichtte onderdelen die de flow kunnen onderbreken	Neutraal: het is gemakkelijk de web omgeving te begrijpen en deze te gebruiken zonder ongewilde onderbrekingen	Helemaal eens: De web omgeving is makkelijk te begrijpen en gebruiksvriendelijk zonder onderbrekingen, de omgeving kan bovendien aangepast worden aan de behoefte: d.m.v. kleuren, lettergrootte, contrast en taal opties
	Denk bijvoorbeeld aan navigatie elementen, contrast en lettergrootte				
19	Geef een score aan Trust	**Zijn de digitale touchpoints betrouwbaar en werkt het zoals verwacht wordt door de klant?**	Helemaal oneens. Het voelt onbetrouwbaar aan volgens klanten, er is geen transparant inzicht	Neutraal: Het voelt betrouwbaar. Er wordt gebruik gemaakt van beveiligingssystemen, wachtwoorden en of certificaten	Helemaal eens. Het voelt erg betrouwbaar aan. Er is transparant inzicht in beveiliging van klant data en persoonlijk data management met wachtwoorden, certificaten
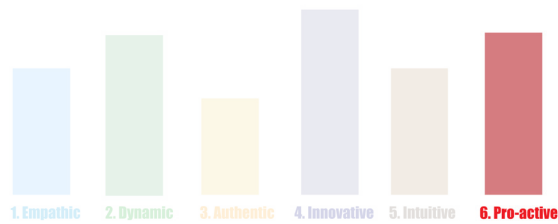
4.3.6 Pro-active

	De volgende vragen gaan over het domein PRO-ACTIVE		Het hebben van een anticiperende, verandering gerichte houding en zelf geïnitieerd gedrag in allerlei situaties		
item	vraag	**1**	**4**	**7**	
20	Geef een score aan Element of Suprise	**De gebruiker wordt verrast door spannende content, door informatie of door interacties. De website is naast informatief ook creatief en inspirerend.**	Helemaal oneens, er is geen verrassing, weinig inspiratie en geen vernieuwing	Neutraal, gebruikers worden soms getriggerd door verrassende elementen, hier wordt niet al te veel aandacht aan besteed	Helemaal eens, op basis van eerdere bezoeken, opgeslagen data of locatie input worden gebruikers vaak geïnspireerd en aangezet tot actie. First time experiences verrassen!
21	Geef een score aan Anticipation	**Input van gebruikers wordt actief verzameld en gebruikt om producten, content, services en interne processen te verbeteren.**	Helemaal oneens, er wordt nooit interactie geinitieerd	Neutraal, er wordt zorgvuldig omgegaan met input vanuit klanten. Het merk is re-actief	Helemaal eens, er wordt zelf pro-actief input verkregen. Er is ruimte voor co-creatie en input wordt zo snel mogelijk verwerkt.
22	geef een score aan Loyal Engagement	**Unieke reward programma's met spaarprogramma's, services, of gamification zorgen voor een verbindend platform voor gebruikers en ons merk**	Helemaal oneens, er zijn geen reward programma's of community elementen	Er zijn unieke reward programma's, spaar programma's of communities, gebruik is gemiddeld	Helemaal eens, er zijn veel leden in de community van dit bedrijf, de unieke reward programmas worden veelvuldig gebruikt
23	Geef een score aan Transparancy	**Wordt er transparent gecommuniceerd aan gebruikers over wat er gebeurt met hun data en input? Zijn bijvoorbeeld voorwaarden makkelijk in te zien?**	Er wordt gebruik gemaakt van het minimale: de cookiewetgeving	Duidelijke voorwaarden, communiceren welke data gebruikt wordt en wanneer deze gebruikt wordt. De voorwaarden zijn makkelijk vindbaar	De gebruikers stellen, als daar behoefte toe is, zelf in hoe, wanneer en door wie hun data gebruikt wordt. De gebruiker heeft transparant inzicht in beveiliging van zijn data en persoonlijk data management

4.4 Measuring Responsible Digital Hospitality

To enable measuring, the items have measurable rubrics statements. The scoring of a total RDH is explained here.

4.4.1 Scoring RDH

The RDH total score is the sum of all domain scores (Ds) divided by the maximum possible score which is the total amount of elements times the maximum element score. The domain score consists of elements (items), that can vary between numeric scores of 1 and 7. The Maximum score (MaxS) is the total amount of elements times the highest input, which in this study is seven. Thus:

$$RDH = \frac{\sum_{i=1}^{m} Ds}{MaxS}$$

RDH is the total score of the sum of all domain scores (Ds) with m as the maximum amount of domains. In this study there are 6 domains.

$$Ds = \frac{\sum_{j=1}^{n} Es}{n \times maxEs} \times 100$$

The domain score, Ds, is the sum of all element scores (Es) in that domain, with n as the maximum number of elements divided by n times MaxEs. MaxEs is the maximum value of Es.

As the RDH score is dynamic, the amount of domains, items and scoring can vary in future usage, therefore the scoring uses variables instead of numbers. The elements are scored on a rubrics format. Every item has a score of 1 to 7.

$$Es = input\ from\ 1 - 7$$

The decision to use a rubrics format is based on a comparison of scales shown in table 4 and a conversation with a communication expert of the SEC department.

Type scale		Pro	Con
Rubrics (ordinal)	Indicate per value what it must fulfill to get a belonging score, for example as is done with learning goals	• Clear order • Few interpertation differences	• Long development • Slow in usage • Less overview for user
Ordinal	Indicate the measure by means of numbers, for example a 5-point likert scale.	• Clear order • variation options • comparing	• Difference not interpretable
Nominal	Naming the measure, for example, male, female, or member or not a member A binari scale has to points	• Ordered by alphabet	• No score at individual measure, only total

Table 4.4 : Pros and cons of a rubrics format

4.5 Key performance indicator tool
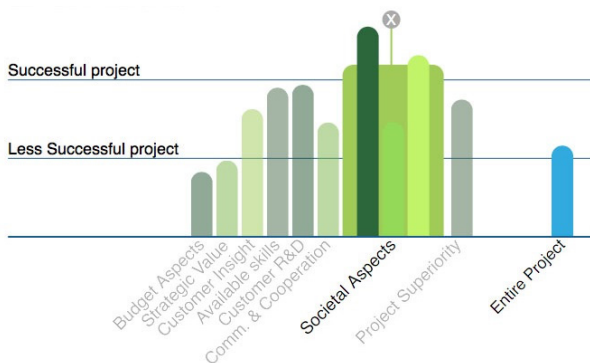
For study 2, the RDH quality tool was used as input to research whether it triggers communication amongst team members. In order to develop a tool that enables reflective communication there were criteria set that the tool design, the physical presentation of RDH must fulfil. These criteria were based on a recent study of tool development in which a tool is designed that enables reflection on an innovation process in a team (Flipse et al., 2015). That study uses a combination of visual representation and reflective communication between a consultant and client. Therefore, the sFlipse tool was taken as example and the following criteria were derived:

- Possibility of comparison between outcomes
- Physical representation of different domains
- Representation of elements as single components
- Scales or numbers as indicators
- Survey based input
- Benchmark possibilities
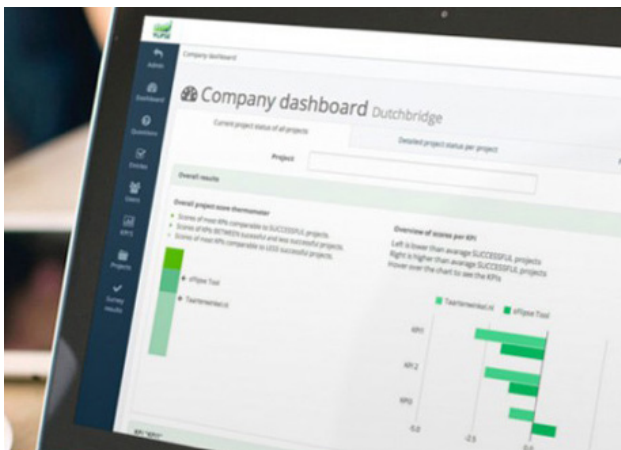
The tool was designed in a wheel format first. In which each domain has its own corresponding colour. In addition, there is a bar-chart format designed. Thus there are two representations of the tool, the wheel format and the bar format.
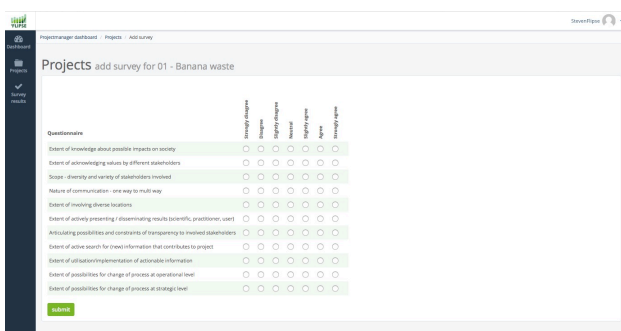
Figure 4.1: Visual representation of sFlipsetool - This tool is used in a setting of discussion between an consultant and client figure a. The different key performance indicators and the elements that build an indicator are shown in an interactive , clickable representation. Societal Aspects is expanded in this figure 19b and consists of three elements. Source: Flipse et al., (2015) - © Copyright Dr. ir. S.M. Flipse

59

4.6 Visual presentation of results

The results scores were presented in a visual concept, in which one could view his own score and a general score of a competing brand.

The figures here are made to explain the calculation and visualisation and therefore represent the score of one individual user only and there is no competing brand score. In this example a user gives the following hypothetical scores to the domains: 21, 16, 21, 11, 18 and 5. These scores are normed for 100%. The scores are now 75%, 76%, 75%, 52% 64%, 18%. The total score of RDH is 55% meaning that there is improvement possible in 45% of the digital strategy. In the bar-chart the similar division is present. The other bar charts on the next page shows the score of another user of 80%, 80%, 50%, 70%, 70% and 40% with a total score of 65% in a design study to compare representation.

The figure on the next page represents the **final model of the Responsible Digital Hospitality Quality Tool**. In this figure, the domains and corresponding items with descriptions are shown. The inner plot represents the score and a potential benchmark score of others.
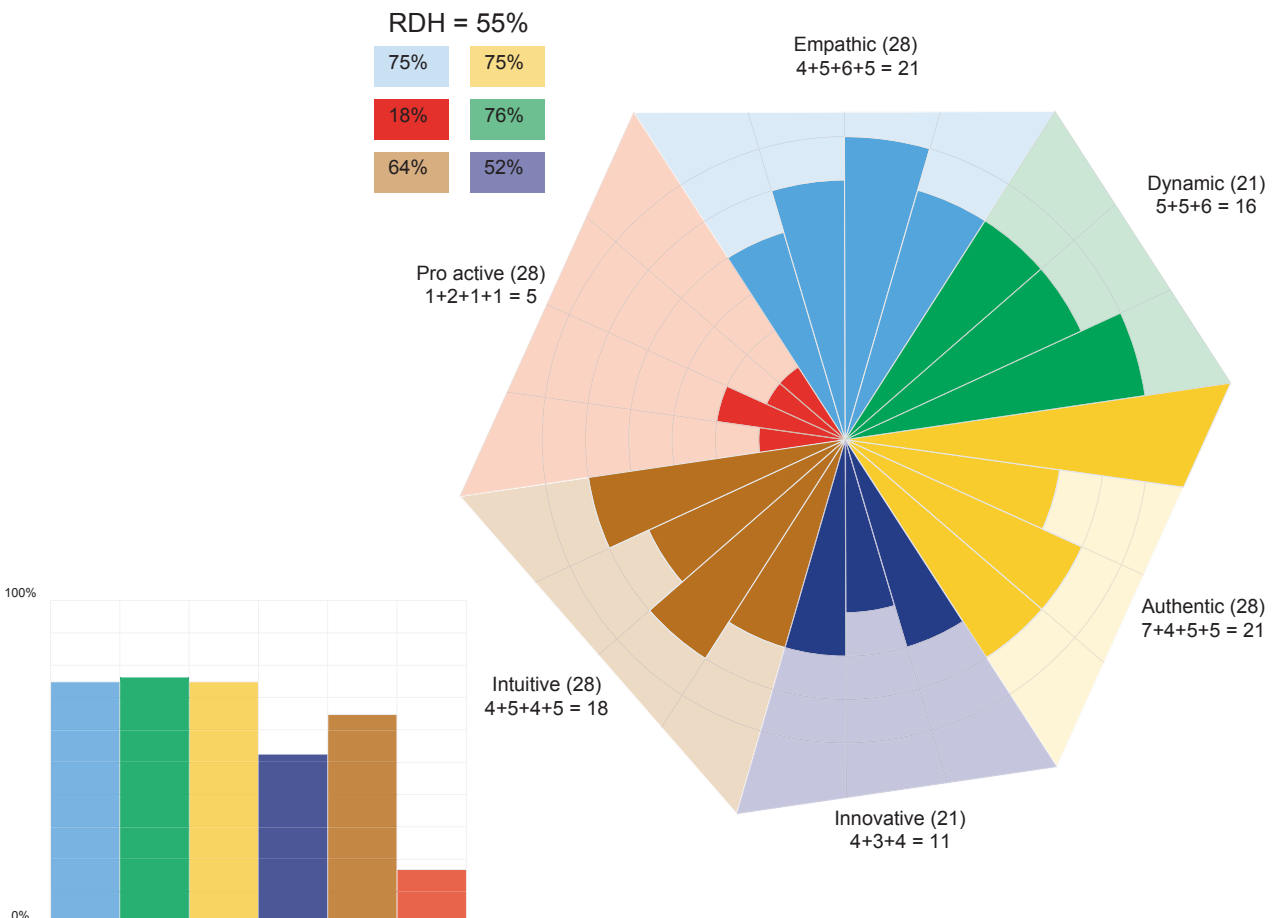
Image 4.2: Wheel chart and bar chart representations

60

Responsible Digital Hospitality Score Tool

4. Personalisation
It is possible to provide customized content and services for unique customers

5. Social Setting
Responding to relevant social issues and technological trends (e.g. on macro level, sustainability, local politics)

6. Context Aware
Real-time data applications make content relevant for targeted users and specific moments of usage

7. Omni Channel
Customized services and products are offered responsively depending on the device used

8. Unique Proposition
There is a unique brand proposition. Advanced products or services are offered in comparison to competition. This proposition is communicated in every touchpoint

9. Digital Identity
The digital identity is clearly identifiable and matches the brand image customers have

10. Style Elements
The own character and the unique style of the brand are visible in the various touchpoints

11. Communication Strategy
Content is strategically placed in the various communication layers and touchpoints. Principles as ease, tell, sell and user profiles are evident

3. Relevant
Services, applications, content and products fit perfectly to the current customers' needs

2. Human Centred Service
There is a customer-oriented view in which service contact is completed in a human friendly fashion

1. Welcoming
The digital touchpoints are hospitable and easy to understand and easy to access for users

12. Proving benefits
Continuous renewal of smart services and products enables being ahead of competition. The advantages of this services are clearly communicated

13. Technological Change Management
The brand monitors changes in ICT and technologal impact on society and their users

14. Inclusive Features
The digital touchpoints are (re)designed to be used by ALL types users. Expertise, age and gender do not have any influence

23. Transparancy
Communication on personal data usage, privacy and conditions is transparant

22. Loyal Engagement
Unique reward and savings programms, services and gamification enable customers to engage with our brand and with others

21. Anticipation
Actively retrieving user input in order to modify and enhance products, services and internal processes

20. Element of Surprise
Users are surprised by exciting content, information or interactions. The touchpoints are both informative and creatively inspiring

19. Trust
The digital touchpoints are safe and are functioning as expected

18. Interactivity
Users are in complete control on flow and the touchpoints are adaptable to needs and wishes

17. Performance
Information in touchpoints is well organised, efficient in usage, of high quality and up to date

16. Pleasing Aesthetics
Visual attractive images and features make that the digital touchpoints have a pleasant atmosphere

15. Company Resources
Production resources, specialist knowledge and expertise are more than adequate to meet digital hospitality

Legenda:

1. Empathic   1-4
2. Dynamic   5-7
3. Authentic   8-11
4. Innovative   12-15
5. Intuitive   16-19
6. Pro-active   20-23

My RDH score
Competition

Figure 4.3 Final model of RDH Quality Tool

61

4.6.1 Study on representation

The criteria that were derived from the tool design of sFlipse, indicated that the bar charts had to be easy to compare. A small design study was performed in order to evaluate the best presentation formats. The visuals are shown in the following figures 4.4.
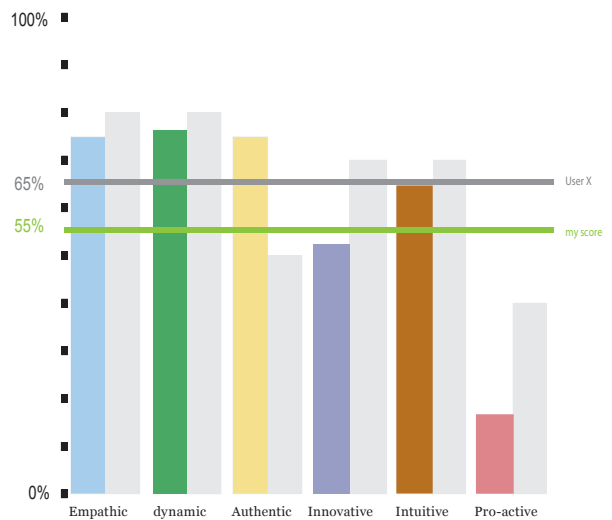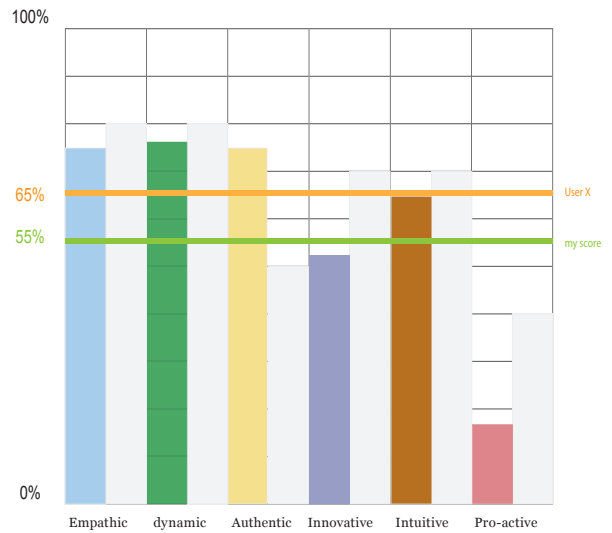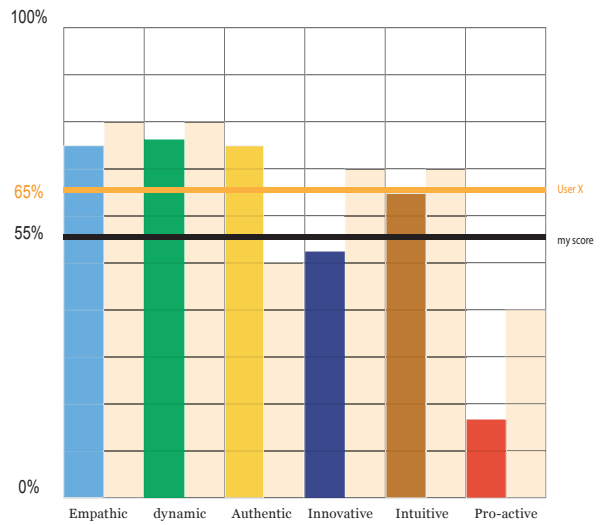
Figure 4.4: Different representations of bar charts

4.7 User test - focus group

A user test was performed with a focus group that consisted of three employees of the company IN10. The participants, two males and one female were a strategic brand manager, a digital copywriter and a digital strategist. The session took approximately two hours. All three participants have worked on projects for the brand that was used in the test. During the test they pretended to work with the brand and were considered brand experts. This brand is currently cooperating with SMEs in the fuel and parking industry.

4.7.1 RDH Quality Tool visuals

The participants filled in the online survey on their personal laptops. The average duration of filling in the concept test was 19 minutes. After performing the concept test, the participants answered questions about usability in another online questionnaire. In this questionnaire they ranked the main RDH domains in order of preference as well. The results of this mini-survey are shown in figure 4.5. During the main questionnaire session participants were not allowed to discuss with each other. One participant was more familiar with the test as she was involved during the development phase, this participant was twice as fast as the other participants. When all participants were finished, there was a fifteen-minute break in which a graphic presentation of their individual results was made in InDesign. The results were printed on three A4 papers and given to the participants. The graphic representations are shown in figure 4.6. In addition to these prints, participants received the questions in a hand-out. The rubrics elements were not present in the hand-outs.

Figure 4.6 User test results - These images show the results of the three users in the focus group study. These images were printed on A4 paper.

Overall Rank	Item	Rank Distribution	Score
1	Empathic		15
2	Intuitive		13
3	Pro-active		11
4	Authentic		10
5	Dynamic		7
6	Innovative		7

Lowest Rank   Highest Rank

Figure 4.5: Survey results of scoring domains

63

The results indicate differences in scoring between participants. The largest differences are visible in the domains pro-active and intuitive. The brand experts scored similar in the domain dynamic.

4.7.2 Semi structured interview

A semi structured interview was held based on the figures. After showing the results to the participants, a discussion directly followed. In this interview the participants were asked whether they would rethink their design process and product after using the concept tool and in addition they were asked about the likeliness of talking with colleagues about the tool and their scores. Moreover, they were asked what they thought had caused the differences between the scores and why these differences were present since they evaluated the same brand. Topics of this discussion were the scores and the differences, (e.g. "P1: maybe that is why I have an outlier here") text that was used in the rubrics for (e.g. "P3: there are too many adjectives in the answers"), the meaning of digital hospitality and future usage of a similar tool ("P2: I definitely think such a tool is useful to communicate with brand owners").

From the discussion became clear that participant two had more knowledge about the brands' customer service, and therefore scored higher on intuitive. Participant one had been "involved in identity building and content optimisation" and therefore scored the highest score of 7 points on an item of content in the domain authentic. Participant three indicated that he 'had reviewed the website extensively prior to the test' and therefore was confused with questions as these were about RDH and the total number of digital touchpoints and not solely about website design. "The usage of the word digital

environment" caused this problem. The discussion revealed that the rubrics format pointed participants into a certain direction (P3: "the answer pushed you in a certain direction") and complicated formulation of own ideas and opinions. Participants indicated that sometimes "the answers were not satisfying" and not agreed upon, however selected as there was no other choice. In addition, participant 3 stated that "the larger and more extensive the answer to choose from, the less room there is for own interpretation"

The discussion revealed that domains differ in importance for brand experts with different background. The second online survey confirmed that the brand experts indeed had different preferences in importance of domains as they had different rankings. The discussion revealed that all participants agreed upon the idea of brand owners ranking the six domains prior to filling in the tool, in order to "get familiar with the term digital hospitality and its broad meaning". Moreover, participants agreed upon possible benchmark opportunities if the tool would be filled in by brand owners from different fields.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Not Applicable
Easy to understand	0 0.0%	0 0.0%	2 66.7%	0 0.0%	1 33.3%	0 0.0%
Clearly formulated text	0 0.0%	1 33.3%	2 66.7%	0 0.0%	0 0.0%	0 0.0%
Relevant content	0 0.0%	0 0.0%	1 33.3%	2 66.7%	0 0.0%	0 0.0%
Comprehensive context	0 0.0%	1 33.3%	2 66.7%	0 0.0%	0 0.0%	0 0.0%
Sufficient explenation	0 0.0%	0 0.0%	0 0.0%	2 66.7%	1 33.3%	0 0.0%

Figure 4.7: Survey results After the RDH tool usage

5   CONCLUSION & DISCUSSION

Responsible digital hospitality is a new vision that combines elements of digitalisation trends, hospitality, RRI, customer satisfaction, branding and user experience. It might be argued that the combination and their integration represents a certain degree of novelty. Because no scale yet includes all of these elements in one framework, RDH goes further than benchmarking of websites.

During the search of defining digital hospitality, the vision has changed from a vision of DH to a vision of Responsible Digital Hospitality (RDH), because no current measurement tools of online brand satisfaction or website benchmark methods include responsibility principles yet. In addition, RRI principles match a human-centred design approach in an ICT context very well as ethical issues are present in new digital technologies and interactions (Wahkuma en Stahl, 2013).

The main research question, '**To what extent can IN10 be supported to improve digital hospitality of their customers, based on reflective communication using a tool to measure digital hospitality quality that includes RRI principles?'** is answered in the form of a survey based questionnaire tool that assesses digital touchpoints in a certain point of time. This tool can be used in an orientation session with a brand owner, in which the RDH question set is filled in and results are shown in a spiderplot score figure and discussed. Moreover the hospitality measure reveals development opportunities for digital touchpoints that could be further discussed.

The start point of tool development in this study are six building blocks that are brought together in a theoretical framework, the RDH theory wheel. A co-creation session with digital strategy led to development of six key domains and corresponding elements of RDH. The six key domains of RDH are subdivided in 23 elements that are based on existing survey elements or items from literature. They measurably describe digital hospitality and include RRI principles.

For every element we have designed three rubrics scores corresponding to 1 to 4 and to 7 on a 7 point likert-scale with the purpose of minimizing subjectivity. The current concept tool is survey based. The survey is yet to be re-designed in a more exciting format, however the survey format does enable practical usage by brand owners already.

There are six key domains with a variety of items in each domain that can describe responsible digital hospitality. (**RQ-A**). The key domains are:

1.   Empathic
2.   Dynamic
3.   Authentic
4.   Innovative
5.   Intuitive
6.   Pro-active.

The elements corresponding to the domains are in logical order:
 1: welcoming, personalisation, human centred service, relevant, 2: social setting; context awareness, omni-channel, 3: unique proposition, digital identity, style elements, communication strategy, 4: proving benefits, technological change, inclusive features, company resources, 5: pleasing aesthetics, performance, interactivity, trust, 6: element of surprise, anticipation, loyal engagement, transparancy.

In order to answer **RQ-B** "How could RRI-related concepts add value to DH quality measuring?" we came to the following conclusions. The RRI related concepts of individual impact, organizational impact as terms of reflexivity and responsiveness, inclusion and anticipation of Stilgoe (2013) could add value to the measure of DH quality by including them in the concept RDH quality tool.

An example of a communication-based tool that is suitable to support constructive dialogue about the quality of digital hospitality (**RQ-C**) is the sFlipse tool, this tool is

used as an example to design the visualisation and the survey based set-up of gathering data. A communication based tool that demonstrates the difference between team members in a visual way (as is tested in the case-study with experts of IN10) is suitable to support constructive dialogue on the quality of responsible digital hospitality. The RDH score is currently presented in two visuals, a wheel design (also known as spider plot) and a bar chart. The 23 elements, are scorable on a Likert scale and can be compared by two or more users by element score, by domain score and by total score. The focus group study shows that such comparison enables constructive discussion amongst the users as they explain why they have filled in a certain score and what the specific element means to them.

User test on reflexivity

Within the RDH tool, we want users to learn from their tool results and have self-judgement in the form of causal attribution of a poor score to controllable processes. These controllable processes ideally are processes that can be dealt with together, i.e. with an IN10 expert and the client. That is one of the reasons that the tool is made in a measureable format in which 1 is representing a lot room for improvement and 7 the optimal score of RHD. In addition, we want users (i.e. clients) to have adaptive reactions as this enables them to modify ineffective strategies and current used processes to more effective strategies and processes (Zimmerman, 2002).

Filling in the tool for reflective purposes, which is the main goal of this tool, appeared to positively affect the discussion of responsible digital hospitality elements between users. The usage of a graphic representation to indicate differences in domains and questions helped participants to compare scores and discuss the differences. One of the participants circled the differences of both other participants on his scoring sheet to indicate which items differed most. The visualisation thus encourages comparison and functions as start point for discussion, however did not give an overview of all scores in one image as the participant had to point it out himself. An overview figure with scores of all participants could overcome this difficult comparing.

The individual element scores were not linked to their corresponding item names in the same figure (for example the element of welcoming scored 6 and personalisation scored 4). The items were presented on another hand-out. When using this method of separate hand-outs, it is plausible that participants did not remember correctly which question belonged to which score. During the interview participants asked "are we talking about this question? Or..." and "I think that is written in the element...". These questions underline the lack of clearness between outcome and question. The scores and the questions were shown nevertheless in the same sequence, however there were no corresponding symbols in the figure and hand-out. Therefore, the observed discussion was not clearly structured as participants were searching which question belonged to which score. Showing individual item names in the figure, as is done with the first four scores in the top figure 24, might lead to a better structured discussion. A similar observation is made for the rubrics elements. These elements were not present in the hand-out. Participant 2 remembered rubrics texts, wanted to discuss the particular question, but was unable to adequately link it to a score or question. The other participants and the researcher therefore had difficulties understanding.

Some elements were scored differently at first, however the discussion revealed that participants had a similar opinion about for example content and style ("P3: we scored different but we actually think the same thing").

As the study shows, the tool resulted in discussion and reflexivity on scoring elements. However, the figure is just a representation of a moment in time. To maintain a dynamic character that suits with RRI principles, the visual could be extended with a display of scores in time to indicate how a brand evolves as is done in the sFlipse tool (Flipse, Van Dam, Stragier, Oude Vrielink, & Van der Sanden, 2015). The brand experts also stated that they would like to use it in the beginning of a process and then again after the digital transformation indicate what has changed.

Domain order and weighing

The domains were presented in a random sequence and were equally measured. Some domains include more elements then others as some have three elements and others four. This means that the total score of each domain can vary between 21 and 28. Being able to indicate whether a domain needs more attention in further development of the process or product, it might be useful to have comparable outcomes and a similar number of items. In the current concept the scores are transformed into percentages to enable comparison. Another option could be assignment of weight factors that relate to importance of each domain.

As is discussed earlier, brand owners could indicate which domain is most important in their professional field. In this study unfortunately there were few resources available for evaluating importance and assigning weight factors for example in a case-study with brand owners from different fields. However, this latter is still recommended to improve the tool and create benchmark opportunities.

Presentation of results.

The RDH scores can be presented in several visualisation formats. In the study of Flipse (2015), the choice is made to have vertical bars that represent a domain and are expandable to view elements. He argues that these bar charts provide better overview then a spider plot when comparing two or more users. The RDH concept tool uses mainly a wheel chart. Our current visualisation was useful in the focus group, however, could be tested with brand owners to gain more insights in presentation format. More extensive research in visual design could provide insights in which type of figure is suited best for comparing complex figures that consist of more levels (such as element, domain and total) as well. In addition, benchmark data could be embedded in the figure and a suitable manner to include such data could be added in a future version.

Format of Likert scales and design

The tool is currently designed in Typeform. This is not very exciting to use by brand owners and moreover, it is time consuming (average of 15 minutes). That might be a reason for the participants to not fill it in. To prevent that, the tool should ideally be made more attractive in

Figure 5.1 : Capgemini uses the four terms of Beginners, Conservatives, Fashionistas and Digirati as impression of a company management and the skills of employees and the web environment. - source: digital transformation: a roadmap for billion-dollar organizations, MIT center for digital business and Capgemini Consulting, 2011
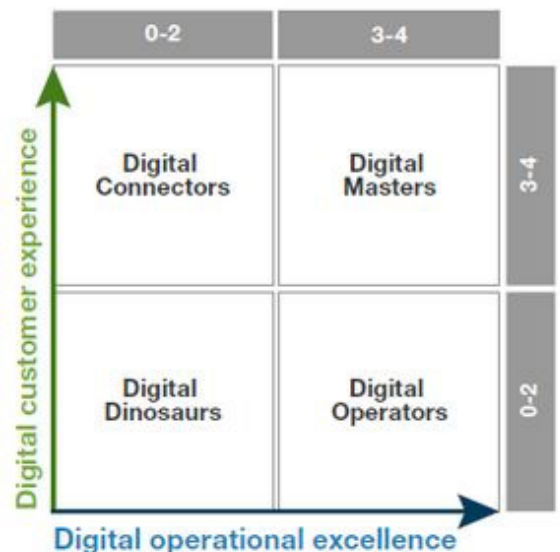
Figure 5.1 : Forrester uses metaphors as reprentation of a brands digital maturity and the scales of user experience that involves the user and operational excellence that involves the brand.

Forrester tool - see appendix

67

an online setting using the criteria and gamification of scoring design. Other models mainly use metaphors. For example, Forrester uses Dinosaur, Operator, Connector and Master 5.2 and Capgemini uses Fashionistas, Beginner, Digirati and Conservatives. The tool is partly made as differentiator for the IN10 brand, yet not designed according to their digital image and identity. Recognizably as an IN10 product might enhance the tool's trustworthiness and could build positive image for IN10.

The current format is a Likert-questionnaire. Likert questionnaires and rubrics however are slow to design, and only offer delayed-responses to present-time situations (Cassidy, 2013). Moreover, questionnaires have weaknesses of the position or question - order, rating-scale-range and survey-verbiage that can affect the user's answer. If the items are randomized shown to users, without knowing to which domain they belong, users might give different answers (REF).

In addition, the more lenghtier the questionnaire becomes the more information is gained but also the more fatigue the user will become (Cassidy et al., 2013). Some users may have the tendency to answer all questions with an average score, or might lack proper knowledge on digitalisation to fill in the tool questions correctly.

Cassidy (2013) concludes that expert teams when confronted with many assessable components of a digital environment begin to exhibit interpretation differences (against the computer WAM-ranked websites). And that they have personal preferences, or preconceived preferences, or website structural preferences. These differences in opinion and preference however are vital when constructing a reflective communication.

Empathy in literature versus in practice

A literature review in which 26 case studies on e-service tool development where compared (Ladhardi, 2010), shows that the factor empathy works well as construct for physical service models, but not so well as construct for digital service models. This is because in digital service models the emphasis is more on ease-of-use, security and enjoyable experiences (Ladhari, 2010). The WebQual4.0 (Barnes & Vidgen, 2002) uses empathy in a digital touchpoint as one of the few. IN10 however, puts

more emphasis on empathy to express the human factor in digital services. One of the main themes of the last model is called empathy, because the IN10 strategist explicitly insisted on naming it like that. This is a good example of how theoretical (literature) studies differ from practice. Our study is therefore largely design based and exploratory. Validation tests with brand owners and users will have to prove whether the concept of empathy really works in practice.

Consultancy like projects

This model is initially made to be used in the design phase or transition phase towards a new digital strategy or digital touchpoints that are more responsible and human-centred. While filling in the questionnaire the brand owner could wonder why he/she is not yet using certain methods or strategies. This idea is based on the Key indicator model from Flipse (2015) and reflexivity from RRI principles (Stilgoe, 2013). Next the steps necessary to fulfil the requirement of responsible digital environments have to be defined and then a creative agency or consultancy might be involved. The question however raises whether a consultant or an agency is really necessary, since the tool might give enough insights on its own? Another question raises whether the talkative tool design is actually necessary for measuring digital hospitality. If digital hospitality is measured by filling in the tool, and then a result is shown as sum of 6 themes, thus a total score of RDH in comparison to other brands in the same field or industry might be enough. In that situation only one person has to fill in the tool instead of a team of people that compares their scores and talks about it.

Practical level of co-creation session

During the work-sessions with the IN10 subject matter experts, the emphasis was mainly on a practical level, or, on textual design of the lowest abstractive level: the items in text in rubrics format. Discussions were mainly on textual issues, like how did the text look, what words were used, rather than focusing on the theories behind RRI, adaption of processes and Brandig. These items were adjusted and moved within the 6 main themes. From a certain moment on, in the IN10's point of view, the 6 main themes were rather solid. In many other studies (Ladhari, 2010, Cassidy, 2015) the items are first being tested separately on overlap and cohesiveness. Next they are

categorized in main themes or constructs. The approach in this study was to first study literature and based on that make the first model. Based on IN10 strategist vision, main themes were formulated and the matching constructs were searched for and found in literature. These constructs were then tested by means of discussion within the agency. Next step was to change the order and improve the names of the constructs.

Is RRI the right concept for digital hospitality?

An attempt is done to translate RRI concepts (Stilgoe, 2013) from a research and innovation background to a digital innovation environment. One can argue that RRI was not the right concept to do this with, since it was developed for a very technical research environment (EU-RRI tools). However, from personal experience with RRI studies, the concept is in practice implemented in a very broad sense, and not every project that is RRI is technically very complex (i.e. Citizen projects in Brussel) moreover, in my opinion, the idea behind RRI is anticipating on needs from society, and being open to adapting one's strategy based on new insights gained from different voices. Within digitalization, often personas are made based on desk research and demographics, moreover only enthusiastic consumers, and participants are utilized, if effort is done and a broader audience is included, like minorities as elderly and disabled, the design might become more responsible, and we can say that RRI does fit with ICT contexts well.

Context of theories in the RDH wheel

For this study we have used several models that are combined in a theory framework wheel. These theories have in common that they relate to usage attitude and customer satisfaction in digital touchpoints, however are not all based in the same context or touchpoints. The research model of Van Schaik (2015) limits to the context of news websites whereas the vision of digital hospitality relates to other aspects of internet usage (such as transaction based and retail based environments) and brand performance as well. Next to that, in Van Schaiks model there are no RRI principles included yet. The model of Keng and Ting (2009) on the other hand is based on the EVS model in context of blogging pages. This context is very different then news websites and they find other

results, namely that economic value, which is a utilitarian value, is not very important in a more social related context of personal blogging. The context of Gable et al. (2008) is based in more technical background and focus lays on information systems within a company instead of interaction between a user and a company. This therefore touches not upon website quality or a single touchpoint, but on the broader aspect of RDH, the innovation and internal companies processes, such as 'individual impact', one of the dimensions fo Gable et al (2008), is described as: "II is concerned with how the IS has influenced your individual capabilities and effectiveness on behalf of the organization". Their dimension of 'Information quality' includes similar items, that are present in the other models as well, such as, 'easy to understand' and 'readable, clear and well formatted'. Inclusion of the IS model of Gable (2008) therefore makes the tool more advanced. The model of Constantinides, that researches web experience, is based on more than 50 literature studies in different contexts and can therefore be seen as a generalization and the same is true for the study of Cassidy (2013, 2015).

6   LIMITATIONS

Validation of constructs

The constructs are firstly based upon existing literature and then adapted to the vision of DH by a panel that evaluated the survey instrument, and reviewed the questionnaire. In the co-creation session, each item was assest on how well it represents the corresponding domain. This implies a practical and a partly subjective nature of the remaining scale items. As the purpose is not to provide a qualitative measure, but to make one self-reflect on the current situation, the subjective nature might not be worrisome as many tools have an element of subjectivity when working with experts (Cassidy, 2015). However Factor analysis or confirmatory analysis was not performed, and therefore there is no statistical validation of the indicators and thereby we are not yet taking into account their interrelationships.

The case studies that IN10 delivered did not include one real brand owner to test the tool concept with. The constructs are thus only judged and interpreted for development by IN10 employees that adopt the role of the brand owner.

Theory wheel as talkative tool

The image that combines al the theories behind RDH that is presented in figure 3.3 might as well be used as a **talkative tool** to make brand owners more aware of their position and make them self-reflect. This image might be enough to construct a communication session amongst people, and a survey and representation figure of scores then become obsolete. The figure 16 however is designed as input for tool development, and if it is to be used as talkative tool, elaborate testing and reflection on this other usage is recommended.

General tool design

The tool design is general, and not industry specific, besides the criteria that the brand must be operationalized on digital touchpoints and thus have digital services.

However this criteria does not exclude any industry because every brand has a website today. Other researchers argue that industry specific tools are more valuable (ladhari,2010).

Benchmark

Different online tools (wua.com) and literature (Cassidy, 2015; Constinides, 2004) indicate that an indicator tool, such as the RDH tool, can only be used correctly if comparison with other brands is possible. This perspective is based on a customer point of view. Even though a user survey indicates a very high score, that does not neccesarily mean that the customer will actually buy the product or use the services. Another brand can score even higher without knowing. The same might be true for brand owners. If they score very high, it does not necessarily give an accurate picture of reality. This means that there should be benchmark possibilities in the tool to prevent false claims by relatively high scores. From the interview became clear that IN10 subject experts are favorable to benchmark opportunities as well. There are two reasons that the RDH tool has no benchmark options yet. Firstly, there is no database with tool outcome data, as it has not been used by real brand owners. Secondly, the RDH tool was initially not designed for benchmarking but as a communication starter and reflection method.

Possibility to enlarge the scope of RRI in tool design

The focus of the RDH tool currently lays on the digital divide of social imbalance created by the inability to use an online touchpoint by insufficient skills such as experience, and by disability such as bad sight. This is only a small selection of reflections on impact of ICT on society as only the reflection is based on inclusion and usage. More publicity of RRI principles and processes could lead to more insights for brand owners and adaption of current digtial strategies and company processes.

70

7   REFERENCES

Abbing, E. R. (2010). Brand driven innovations: Strategies for development and design: Ava Publisher.

Addis, M., & Holbrook, M. B. (2001). On the conceptual link between mass customisation and experiential consumption: an explosion of subjectivity. *Journal of consumer behaviour*, 1(1), 50 - 66.

Atzori, L., Iera, A., & Morabito, G. (2010). The internet of things: A survey. *Computer networks*, 54(15), 2787-2805.

Bai, B., Law, R., & Wen, I. (2008). The impact of website quality on customer satisfaction and purchase intentions: Evidence from Chinese online visitors. *International Journal of Hospitality Management,* 27(3), 391-402.

Bailey, C., Baines, P. R., Wilson, H., & Clark, M. (2009). Segmentation and customer insight in contemporary services marketing practice: why grouping customers is no longer enough. *Journal of Marketing Management,* 25(3-4), 227-252.

Barnes, S. J., & Vidgen, R. T. (2002). An integrative approach to the assessment of e-commerce quality. *J. Electron. Commerce Res.*, 3(3), 114-127.

Bell, D. (2007). The hospitable city: social relations in commercial spaces. Progress in Human Geography, 31(1), 7-22.

Benyon, D., & Höök, K. (1997). Navigation in Information Spaces: supporting the individual. Paper presented at the *Human-Computer Interaction* INTERACT'97.

Brakus, J. J., Schmitt, B. H., & Zarantonello, L. (2009). Brand experience: what is it? How is it measured? Does it affect loyalty? *Journal of marketing*, 73(3), 52-68.

Brotherton, B., & Wood, R. (2007). Key themes in hospitality management. The Sage Handbook of Hospitality Management, London: Sage, 35-61.

Cassidy, L. J., & Hamilton, J. R. (2013). A comprehensive approach to capturing website quality measures.

Cassidy, L., Hamilton, J., & Tee, S. (2015). Generating first time visiting conusmer website traffic: A live case study. CAUTHE 2015: Rising Tides and Sea Changes: Adaptation and Innovation in Tourism and Hospitality, 88.

Cassidy, L. J., Hamilton, J., & Gunasekaran, A. (2016). A design science research approach to website benchmarking. Benchmarking: *An International Journal,* 23(5).

Cho, V., Cheng, T. E., & Lai, W. J. (2009). The role of perceived user-interface design in continued usage intention of self-paced e-learning tools. *Computers & Education*, 53(2), 216-227.

Ciborra, C. (2004). Encountering information systems as a phenomenon. The social study of information and communication technology: Innovation, actors, and contexts, 17-37.

Clatworthy, S. (2011). Service innovation through touch-points: Development of an innovation toolkit for the first stages of new service development. *International Journal of Design*, 5(2).

Colby, C. L., & Parasuraman, A. (2003). Technology still matters. *Marketing Management*, 12(4), 28-33.

Constantinides, E. (2004). Influencing the online consumer's behavior: the Web experience. Internet research, 14(2), 111-126.

Cyr, D., Head, M., & Ivanov, A. (2006). Design aesthetics leading to m-loyalty in mobile commerce. *Information & Management*, 43(8), 950-963.

Davis, B., & Stone, S. (1985). Food and Beverage Management. Oxford: Butterworth-Heinemann.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace1. *Journal of applied social psychology*, 22(14), 1111-1132.

Dikeç, M. (2002). Pera peras poros longings for spaces of hospitality. *Theory, Culture & Society,* 19(1-2), 227-247.

Dillon, A. (2000). Spatial semantics: How users derive shape from information space. *Journal of the American Society for Information Science*, 51(6), 521-528.

European-Commission, E. (2015). Indicators for promoting and monitoring Responsible Research and Innovation. Publications Office of the European Union.

Flavián, C., Guinalíu, M., & Gurrea, R. (2006). The role played by perceived usability, satisfaction and consumer trust on website loyalty. *Information & Management*. doi:10.1016/j.im.2005.01.002

Flipse, S., Van Dam, K., Stragier, J., Oude Vrielink, T., & Van der Sanden, M. (2015). Operationalizing responsible research

& innovation in industry through decision support in innovation practice. *Journal on Chain and Network Science,* 15(2), 135-146.

Germann-Molz, j. (2014). Toward a network hospitality. First Monday, 19(3). doi:10.5210/fm.v19i3.4824

Hassenzahl, M. (2003). The thing and I: understanding the relationship between user and product Funology (pp. 31-42): Springer.

Hassenzahl, M. (2004). The interplay of beauty, goodness, and usability in interactive products. *Human-computer interaction*, 19(4), 319-349.

Holbrook, M. B., & Hirschman, E. C. (1982). The experiential aspects of consumption: Consumer fantasies, feelings, and fun. *Journal of consumer research*, 9(2), 132-140.

Hu, Y.-C. (2009). Fuzzy multiple-criteria decision making in the determination of critical criteria for assessing service quality of travel websites. Expert Syst. Appl., 36(3), 6439-6445. doi:10.1016/j.eswa.2008.07.046

Iliachenko, E. Y. (2006). Electronic service quality (e-SQ) in tourism: development of a scale for the assessment of e-SQ of tourism websites.

Keng, C.-J., & Ting, H.-Y. (2009). The acceptance of blogs: using a customer experiential value perspective. *Internet research,* 19(5), 479-495.

Kotler, P. (2011). Marketing insights from A to Z: 80 concepts every manager needs to know: John Wiley & Sons.

Kotler, P., Kartajaya, H., & Setiawan, I. (2010). Marketing 3.0: from products to customers to the human spirit: John Wiley & Sons.

Koufaris, M. (2002). Applying the technology acceptance model and flow theory to online consumer behavior. *Information systems research,* 13(2), 205-223.

Ladhari, R. (2010). Developing e-service quality scales: A literature review. Journal of Retailing and Consumer Services, 17(6), 464-477.

Langerak, F., Hultink, E. J., & Robben, H. S. (2004). The impact of market orientation, product advantage, and launch proficiency on new product performance and organizational performance. Journal of product innovation management, 21(2), 79-94.

Lashley, C., Robinson, M. G., & Lynch, P. A. (2007). Hospitality through poetry: control, fake solidarity, and breakdown. International Journal of Culture, Tourism and Hospitality Research, 1(3), 237-246.

Lavie, T., & Tractinsky, N. (2004). Assessing dimensions of perceived visual aesthetics of web sites. International journal of human-computer studies, 60(3), 269-298.

Lee, S. M., & Chen, L. (2010). The impact of flow on online consumer behavior. *Journal of Computer Information Systems*, 50(4), 1-10.

Leiner, B. M., Cerf, V. G., Clark, D. D., Kahn, R. E., Kleinrock, L., Lynch, D. C., . . . Wolff, S. (2009). A brief history of the Internet. ACM SIGCOMM Computer Communication Review, 39(5), 22-31.

Lewis, C. T., & Kingery, H. M. (1915). An elementary Latin dictionary: American Book Company.

Loiacono, E. T., Watson, R. T., & Goodhue, D. L. (2002). WebQual: A measure of website quality. Marketing theory and applications, 13(3), 432-438.

Loiacono, E. T., Watson, R. T., & Goodhue, D. L. (2007). WebQual: An instrument for consumer evaluation of web sites. *International Journal of Electronic Commerce*, 11(3), 51-87.

Lorentzen, A. (2009). Cities in the experience economy. European Planning Studies, 17(6), 829-845.

Lynch, P., Molz, J. G., Mcintosh, A., Lugosi, P., & Lashley, C. (2011). Theorizing hospitality. Hospitality & Society, 1(1), 3-24.

Macnaghten, P., & Stilgoe, J. (2012). Responsible research and innovation: From science in society to science for society, with society. *Science and Public* doi:10.1093/scipol/scs093

Marcotte, E. (2014). Responsive web design, 2010. URL http://alistapart/. com/article/responsive-web-design.

Mathwick, C., Malhotra, N., & Rigdon, E. (2001). Experiential value: conceptualization, measurement and application in the catalog and Internet shopping environment . Journal of retailing, 77(1), 39-56.

McMullan, R., & O'Neill, M. (2010). Towards a valid and reliable measure of visitor satisfaction. Journal of Vacation

Marketing, 16(1), 29-44.

Miorandi, D., Sicari, S., De Pellegrini, F., & Chlamtac, I. (2012). Internet of things: Vision, applications and research challenges. Ad Hoc Networks, 10(7), 1497-1516.

Nah, F. F.-H., Eschenbrenner, B., & DeWester, D. (2011). Enhancing brand equity through flow and telepresence: A comparison of 2D and 3D virtual worlds. MIS quarterly, 35(3), 731-747.

Napoli, P. M., & Obar, J. A. (2013). Mobile Leapfrogging and Digital Divide Policy: assessing the limitations of mobile Internet access. Fordham University Schools of Business research paper(2263800).

Nath, A. K., & Singh, R. (2010). Evaluating the performance and quality of web services in electronic marketplaces. e-Service Journal, 7(1), 43-59.

Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. Journal of marketing research. doi:3150499

Park, S. R. (2012). The Role of Interactivity in Interent Business on Customer Experiential Values and Behavioral Intentions.

Pearsall, J., & Hanks, P. (1998). The new Oxford dictionary of English: Clarendon Press.

Pearson, A., Tadisina, S., & Griffin, C. (2012). The role of e-service quality and information quality in creating perceived value: antecedents to web site loyalty. *Information Systems Management*, 29(3), 201-215.

Peter, J., & Olson, J. C. (1987). Consumer Behavior: Marketing Strategy Perspectives. Irwin, Homewood.

Piccoli, G., Brohman, M. K., Watson, R. T., & Parasuraman, A. (2004). Net based customer service systems: evolution and revolution in web site functionalities. *Decision Sciences*, 35(3), 423-455.

Pine, B. J., & Gilmore, J. H. (2011). The experience economy: Harvard Business Press.

Purcell, K. (2011). Search and email still top the list of most popular online activities. Pew Internet & American Life Project, 9.

Rahman, M. S., Khan, A. H., & Haque, M. M. (2012). A conceptual study on the relationship between service quality towards customer satisfaction: Servqual and gronroos's service quality model perspective. *Asian Social Science*, 8(13), 201.

Retail, I., & King, C. I. (2015). Winning the New Digital Consumer with Hyper-Relevance.

Sánchez-Franco, M. J., & Roldán, J. L. (2005). Web acceptance and usage model: A comparison between goal-directed and experiential web users. Internet research, 15(1), 21-48. doi:10.1108/10662240510577059

Sarkar, A. (2011). Impact of utilitarian and hedonic shopping values on individual's perceived benefits and risks in online shopping. *International management review*, 7(1), 58.

Schmitt, B. H. (2000). Experiential marketing: How to get customers to sense, feel, think, act, relate: Simon and Schuster.

Selwyn, T. (2000). an antrhopology of hospitality. Oxford: Butterworth-Heinemann.

Sharma, G., & Baoku, L. (2013). Customer satisfaction in Web 2.0 and information technology development. *Information Technology & People*, 26(4), 347-367.

Slater, S. F., & Narver, J. C. (1995). Market orientation and the learning organization. The Journal of marketing, 63-74.

Stahl, B. C. (2013). Responsible research and innovation: The role of privacy in an emerging framework. *Science and Public Policy*, sct067.

Stilgoe, J., Owen, R., & Macnaghten, P. (2013). Developing a framework for responsible innovation. Research Policy.

Sutcliffe, H., & Director, M. (2011). A report on Responsible Research and Innovation. MATTER and the European Commission.

Tractinsky, N., Katz, A. S., & Ikar, D. (2000). What is beautiful is usable. Interacting with computers, 13(2), 127-145.

Van der Heijden, H. (2003). Factors influencing the usage of websites: the case of a generic portal in The Netherlands. Information & Management, 40(6), 541-549.

Van der Heijden, H. (2004). User acceptance of hedonic information systems. MIS quarterly, 695-704.

Van Deursen, A. J., van Dijk, J. A., & Peter, M. (2015). Increasing inequalities in what we do online: A longitudinal cross sectional analysis of Internet activities among the Dutch population (2010 to 2013) over gender, age, education,

73

and income. *Telematics and informatics*, 32(2), 259-272.

van Schaik, P., & Ling, J. (2009). The role of context in perceptions of the aesthetics of web pages over time. *International journal of human-computer studies*, 67(1), 79-89.

Vavra, T. G. (2002). Customer satisfaction measurement simplified: a step-by-step guide for ISO 9001: 2000 certification: ASQ Quality Press.

Venkatesh, V. (1999). Creation of favorable user perceptions: Exploring the role of intrinsic motivation. MIS quarterly, 239-260.

Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. Decision Sciences, 39(2), 273-315.

Verhoeven, N. (2007). Wat is onderzoek. Praktijkboek methoden en technieken voor het hoger.

Von Schomberg, R. (2011). Towards responsible research and innovation in the information and communication technologies and security technologies fields. Available at SSRN 2436399.

Wakunuma, K., & Carsten Stahl, B. (2011). IT for a better future: how to integrate ethics, politics and innovation. *Journal of Information, Communication and Ethics in Society*, 9(3), 140-156.

Wigfield, A., Tonks, S., & Klauda, S. L. (2009). Expectancy-value theory. Handbook of motivation at school, 55-75.

Wildner, R., Kittinger-Rosanelli, C., & Bosenik, T. (2015). How Good is Your User Experience? Measuring and Designing Interactions. GfK *Marketing Intelligence Review*, 7(2), 52-57. doi:10.1515/gfkmir-2015-0019

Wolfinbarger, M., & Gilly, M. C. (2003). eTailQ: dimensionalizing, measuring and predicting etail quality. *Journal of retailing*, 79(3), 183-198.

Zahir Irani, P., Mohamed Fadel Bukhari, S., Ghoneim, A., Dennis, C., & Jamjoom, B. (2013). The antecedents of travellers'e-satisfaction and intention to buy airline tickets online: A conceptual model. *Journal of Enterprise Information Management,* 26(6), 624-641.

Zeithaml, V. A., Parasuraman, A., & Malhotra, A. (2002). Service quality delivery through web sites: a critical review of extant knowledge. Journal of the academy of marketing science, 30(4), 362-375.

Zhou, H., & Fu, X. (2007). Understanding, measuring, and designing user experience: The causal relationship between the aesthetic quality of products and user affect. Paper presented at the International Conference on Human-Computer Interaction.

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. Theory into practice, 41(2), 64-70.

Internet references

IN10 company information - (2016, Juli 13). Retrieved from http://www.IN10.nl

Inbound and outbound marketing - (2016, May 20) Retrieved from http://charisestevens.com/5-inbound-marketing-strategies/

European Commission on RRI - (2016, June, 23) Retrieved from https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation

European Commission government document (2016, June, 23) Retrieved from https://ec.europa.eu/research/swafs/pdf/pub_public_engagement/responsible-research-and-innovation-leaflet_en.pdf

RRI-tools information - (2016, Juli 20) - Retrieved from www.rri-tools.eu/

TOON smart thermostate - (2016, August 1). Retrieverd from https://www.eneco.nl/toon-thermostaat/

8   APPENDIX

8.1   Company information IN10

IN10 is a creative digital agency founded in 1999. Since september 2015, the agency Quest, that is founded in 2003, is merged into IN10. The current team includes 41 employees. This team of specialists consists of strategists, concept creators, designers, developers, content managers and project managers and partners. The agency's name reflects the DNA of Rotterdam (010) and a binary digital DNA (1 and 0). IN10 is currently located at the Kratonkade at Rotterdam, in a modern designed office.

What IN10 says about itself: Marlies de Gooijer states:

> *"We operate in the tension field between automation (data, monitoring, predictive insights), innovation (technology) empathy (psychology, sociology) design (designing), true creativity (new visions and ideas) and storytelling (thinking and working as a publisher). All of that within an age in which current business models are subject of discussion because of digital transformations"*

Portfolio Analysis

A portfolio overview is made to gain insights in type of clients that IN10 works with and whether there might be an overall perspective and vision according to this overview.

The clients of IN10 can be divided in several categories. We made nine categories to fit the current partners of the agency. We see that IN10 basically works in the society & health sector, the retail sector and the art & culture sector. These three combined cover half of their portfolio. Clients in the society & health sector vary from

municipality related brands such as Rotterdampas and Gemeente Rotterdam, and healthcare such as Erasmus MC to a research company as KPMG. Within the retail sector there is a division in B2B, the top three brands (i.e. Tom, Dom, The Greenery) and B2C (Duvel, Fujifilm, La chouffe and Verse Oogst). Remarkable to notice are the two beer brands as well as two agriculture brands. There is no fashion-retail and household present. The follow up sector, art and culture, includes companies such as theatres and museums (Kunsthal, Boymans&Beuningen), which actually as well relate to the society sector since they have a public purpose. Next to that, this sector includes festivals, like the yearly International Film Festival of Rotterdam. The other half of IN10's portfolio is made-up the categories leisure & travel, insurance, automotive & maritime, energy, banks and telecom & TV.

Conclusion portfolio

Overall we can conclude that most of the brands provide services for large communities within the Dutch society, such as the Bovag which provides service for every car owner and automotive-shop, Monuta that provides funeral services for half of the population and TOM. for every entrepreneur. We can also conclude that 33% of the clients are locally based, in the area of Rotterdam. And next to that, the category of leisure and travel, from which the hospitality vision originates, is not the largest. We must note that the categorisations goal was to make a generic overview, therefore, this review is based on type of service and products the client provides, and not on revenue streams or magnitude of the project in relation to IN10.

society & health

rotterdampas

MARKT HAL

Gemeente Rotterdam

KPMG

HOU JE HUIS HEEL

Erasmus MC

Dieren bescherming

retail

Tom.

DOM

the greenery

Duvel

FUJIFILM

LA CHOUFFE

Verse Oogst

arts & Culture

Ro

ROTTERDAMSE SCHOUWBURG

INTERNATIONAL FILM FESTIVAL ROTTERDAM

KUNSTHAL

B

leisure / Travel

Wereld haven dagen

nhow

nH HOTELS

EindhovenAirport

insurance

ROBECO

Monuta

automotive & maritime

Port of Rotterdam

BOVAG

energy

HORTILUX SCHRÉDER

banks

VRIENDEN LOTERIJ

telecom & TV

Ster

33% Local - B2B and B2C - Community services & products

Figure 8.1 Portfolio Overview IN10.

8.2 Interviews

Since I encountered some difficulties in grasping the vision of DH, because in my opinion it is yet very vague and unclear described, the decision was made to conducts mini-interviews (i.e. two-question format) with 12 employees at IN10 in order to clarify the vision. Employees are chosen because they are working according this DH vision. Interviewees have different backgrounds (i.e. communication and media design, industrial design, media entertainment, management) and functions (i.e. strategy manager, office manager, interaction designer). The two questions asked are: Q1: What is digital hospitality? Q2: How is DH visible in your work? Some interviewees gave multiple answers.

• **Q1 What is Digital Hospitality**

Digital hospitality according to employees of IN10 is described as providing service, taking care and a total solution. Being helpful, careful and creative. Moreover, functionalities of website are described. An overview is presented in the table.

• **Q2 How is DH visible in you work?**

The outcome of this question is remarkable and not in line with my expectations. There are yet no guidelines or roadmaps to implement the DH vision in the actual work. The digital designers, interaction designers and the back-end designers have absolute freedom and can decide for themselves what they like and make. This is a plus since creativity is maintained, however it might make the statement that IN10 always operates with Digital Hospitality vulnerable, if the actual designers are not working congruent.

Employees of IN10 (i.e. designers) can grasp the vision of

DH from their own perspective. Roadmaps, guidelines and further development are yet to be implemented and designed by the strategy and management department.

• Expert case studies

#1: Another interview is held with one of the strategist that have been working on the International Film Festival of Rotterdam. This case study is selected For an interview because this client is seen as a perfect example of how the vision of digital hospitality is brought in to practice.

#2: Next to the IFFR case the case of Bovag is reviewed on possible digital hospitality factors OR aspects that communicate DH. This interview is held with an experienced interaction designer that also worked on other example cases of the digital hospitality vision, such as the Eindhoven airport case.

Insights

The interviews showed several overlapping insights. In both cases, focus was put on the end-user and on optimizing their experiences, this was established by personalisation of content according To segments and persona's. The IFFR case used 3 types of persona's and the Bovag cases uses profile data as location and interests.

Marlies and Bjorn provided their insights on what digital hospitality means and includes in their vision.

functionalities	characteristics	other
remembering the customer (2x)	exceeding expectations (2x)	pictures of people
responsive (1x)	smart thinking along (2x)	password with coffee
easy accessible (3x).	unburdening ("ontzorgen") (2x)	creativity
usability / flow	own language	hospitable
customized	live chat	
short process (2x)	take over work	

8.3 Literature study on digital hospitality aspects: the method

The concise literature review is broken down in several sub questions to answer the research question A: Which elements can measurably describe digital hospitality. Here is an overview of the questions and search word that I have used. The search was initiated by the following questions and search words:

1. Hospitality
   Which elements of traditional hospitality can be used for digital hospitality?
   - o   Hospitality theory
   - o   Leisure and tourism industry
   - o   Mobile hospitality
   - o   Service quality
     - §   E-service quality

2. Digitalisation
   What describes a digital environment and what are main elements?
   - o   Digital environment
   - o   IT innovation
   - o   Phygital

3. User interaction
   What is known about changes in user – brand interaction due to digitalisation?

Studies were to contain words on brand development, user experience and digitalisation. An iterative search strategy was applied. After initial search, relevant articles were scanned. The set of words was extended with the words hyper-relevance and IoT.
   - o   Digital marketing : Inbound versus outbound
   - o   Digital consumer
     - §   Hyper relevance
     - §   IoT / IoE

4. Customer satisfaction
   What is the role of interfaces in digital designs when customer satisfaction is to be reached in usage?

Studies were to contain words on customer satisfaction, usefulness and IT. An iterative search strategy was applied. After initial search, relevant articles were scanned. Important articles which include fundamental research on Information Technologies in relationship to customer satisfaction, the Technology Acceptance Model (TAM) of Davis happened to be published in 1989 and 1992. These studies are included, even though they are not all published the last decade. An effort is made to involve more recent studies that are reinforcing the TAM or re-design the model in relation to relevant studies of usage of IT and the set of words is extended with intrinsic motives.

   - o   Interface design
   - o   Customer satisfaction
     - §   Technology Acceptance Model
     - §   Intrinsic motives
     - §   UX

5. Touchpoint orchestration
   What is the role of touchpoints and customer journey in digitalisation strategies?
   - o   Brand driven innovation (book)
   - o   Touchpoints
   - o   Customer journey

6. 6. RRI
   What means RRI,
   - o   RRI concepts
   - o   reflexivity

Traditional hospitality

Customer satisfaction

HUMAN CENTERED

customer journeys | persona's | personalisation

HUMAN CENTERED

| PERSONA'S | PERSONALIZATION |
| CUSTOMER JOURNEYS | hangt samen met inclusion |

AWARENESS/ RESPONSIVE

CONTEXT AWARENESS	FLEXIBILITY TO CHANGE
EXPECTATIONS OF USERS	SOCIAL VALUES
	VARIOUS DEVICES

USER EXPERIENCE

| FLOW EXPERIENCE | WEB USAGE |
| EXPERIENTIAL VALUES | MOTIVATION |

BRAND

ENGAGEMENT	NPS
INSPIRATION	UNDERSTANDABLE
RELEVANCE	AUTHENTIC

CONTINUITY

| PROCESS | PEOPLE |
| INNOVATION | REFLECTIE OP PRODUCTS |

INCLUSION

| ACCESSIBILITY | DIVERSITY |
| INCLUDE DISABLED | |

From constructs to slider scale

1

Describe the kind of content that presents your product/ brand

authentic

3 — Use of real data, image, content made by real users

2

Use of data, content and commercial campaigns designed by own company

1

made

2

What kind of experience get customers?

active participation

much Involvement of customers

no Involvement of customers

passive participation

3

What type of communication is present between the brand and user?

3D communication

transformation of the process

2-way dialogue
One-to-one sharable interaction with brand

informing / sending soleley

one-way communication

4

How consumer centered are you?

segmentation

content tailored to specific target groups

same content for every customer

no focus

5

To what extent do you use customer journeys?

journeys

customer journey created with end-users

buyer profiles
customer journey Made with Brand owner

no journey

6

Indicate the level of Community involvement

High Social Share rate

3 — customer are very stimulated to share

2

Limited possiblity to share — 1

Low social sharing

From slider scale to spider plot chart

1. Personal

6. Pro - active

Loyal Engagement
Overhalen van gebruikers om te verbinden, door middel van gamificatie of unieke reward programma's

Dedicated relationship
Uitstralen dat je alles doet voor je klanten of wil doen. Service gericht, het "gevoel van thuis" wordt benadrukt

Personalisation
Zijn er persoonlijke accounts. In hoeverre wordt de content gepersonaliseerd en gebaseerd op relevante data?

Perfect Fit
Worden de behoeften en verwachtingen in kaart gebracht dmv. markt onderzoek. Ken ik mijn gebruikers goed en speel je in op wensen en behoeften

Inspiring Activations
Inspireren om gebruikers aan te zetten tot activiteiten, specifiek en gebaseerd op eerdere communicatie en opgeslagen data

Unique Proposition
Doen wat er beloofd wordt op een unieke manier. De propositie past bij het merk en merk identiteit, dit is duidelijk herkenbaar voor gebruikers

2. Authentic

Element of Surprise
Word je als gebruiker verrrast door content? Door informatie of de interactie(s)?

Digital Identity
Past de digitale uitstraling bij het merk? Is het herkenbaar in vorm, geluid, beeld. Het merk is nauwelijks onderhevig aan verandering, identiteit is constant

Interactivity
Handelingen worden uitgevoerd met de verwachte uitkomst. Aanpassen aan de gebruikers flow, geen opstoppingen? Alle controle ligt bij de gebruiker

layered Content
Content is strategisch geplaatst in verschillende communicatie lagen en contact momenten. De content heeft kwaliteit en is aantrekkelijk gepresenteerd

5. Intuitive (UX/UI)

Performance
Gemakkelijk vinden wat je zoekt en zonodig is er hulp. De digitale touchpoints zijn technisch betrouwbaar en werken efficiënt

DIGITAL HOSPITALITY SCORE

Dynamic Service
Content wordt dynamisch door in te spelen op relevant nieuws, trends en bijvoorbeeld seizoenen. Er wordt een link gelegd met de maatschappij. Doorontwikkelen op wat er NU speelt

Emotional Aesthetics
Mooie beelden beïnvloeden de gebruiker positief, de omgeving straalt een gastvrije sfeer uit, men wordt blij van gebruik en wilt terug komen

3. Context aware

Context Specific
Informatie wordt aangepast aan metrische data zoals GPS, weer en tijd waardoor het relevant wordt voor specifieke gebruikers

Future Ready Features
Wordt er gebruik gemaakt van aantrekkelijk features die gebruik van experts en beginners bevorderen?

Customer Journey Strategy
Vanuit helikopter-view bepalen welke kanalen en services voldoen aan de huidige klantvraag. Stratgisch besluiten aan de hand van (nieuwe) customer journey

4. Innovative

Proving benefits
Loopt het merk vooruit? blijft vernieuwen met extra services en apps ten opzichte van de concurrenten?

Responsiveness
Support level vanuit het merk op input van gebruikers + de mate van aanpasbaarheid en beschik-baarheid op alle devices

legenda
My score
— Competition

---

1. Empathic

6. Pro - active

Loyal Engagement
Overhalen van gebruikers om te verbinden, door middel van gamifica-tie of unieke reward programma's

Dedicated relationship
Uitstralen dat je alles doet voor je klanten of wil doen. Service gericht, het "gevoel van thuis" wordt benadrukt

Personalisation
Zijn er persoonlijke accounts. In hoeverre wordt de content gepersonaliseerd en gebaseerd op relevante data?

Perfect Fit
Worden de behoeften en verwachtingen in kaart gebracht dmv. markt onderzoek. Ken ik mijn gebruikers goed en speel je in op wensen en behoeften

Anticipation
Aan de hand van co-creatie worden digitale diensten verbeterd. Er wordt actief gezocht naar input en suggesties vanuit de doelgroep

Unique Proposition
Doen wat er beloofd wordt op een unieke manier. De propositie past bij het merk en merk identiteit, dit is duidelijk herkenbaar voor gebruikers

2. Authentic

Element of Surprise
Word je als gebruiker verrrast door content? Door informatie of de interactie(s)?

Digital Identity
Past de digitale uitstraling bij het merk? Is het herkenbaar in vorm, geluid, beeld. Het merk is nauwelijks onderhevig aan verandering, identiteit is constant

Transparancy
Er wordt transparant gecommuniceerd aan gebruikers wat er met hun data gebeurd

layered Content
Content is strategisch geplaatst in verschillende communicatie lagen en contact momenten. De content heeft kwaliteit en is aantrekkelijk gepresenteerd

Interactivity
Handelingen worden uitgevoerd met de verwachte uitkomst. Aanpassen aan de gebruikers flow, geen opstoppingen? Alle controle ligt bij de gebruiker

5. Intuitive

Performance
Gemakkelijk vinden wat je zoekt en zonodig is er hulp. De digitale touchpoints zijn technisch betrouwbaar en werken efficiënt

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Dynamic Service
Content wordt dynamisch door in te spelen op relevant nieuws, trends en bijvoorbeeld seizoenen. Er wordt een link gelegd met de maatschappij. Doorontwikkelen op wat er NU speelt

3. Dynamic

Emotional Aesthetics
Mooie beelden beïnvloeden de gebruiker positief, de omgeving straalt een gastvrije sfeer uit, men wordt blij van gebruik en wilt terug komen

Context Specific
Informatie wordt aangepast aan metrische data zoals GPS, weer en tijd waardoor het relevant wordt voor specifieke gebruikers

Future Ready Features
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Proving benefits
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legenda
My score
— Competition

This last model is transformed into a Typeform format. For every item a rubrics is designed. A study was performed To test the items. It became clear that the items were NOT satisfying and understandable For employees of IN10. Another iterations was done that resulted in a final conept model, present in the main report.

EMPATHIC

H	Welcoming
H	Human centered
Rri H	Relevant
cs	personalisation

DYNAMIC

cs	Social Setting
Rri	Context aware
ux	Omni-channel

AUTHENTIC

B	Unique proposition
B	Digital identity
B	Style & content marketin
B	Communication strategy

INNOVATIVE

B	Proving benefits
Rri	Inclusive features
Rri	Technological change

INTUITIVE

ux	Pleasing aesthetics
cs H	Performance
Rri	Trust
ux cs	Interactivity

PRO-ACTIVE

ux	Loyal engagement
Rri	Anticipation
H ux	Element of surprise
Rri	Transparency

H= hospitality B=Brand UX=User experience RRI=responsible research CS=customer satisfaction - how the final items are relating To the aspects of the literature review.

1. Human centered

Customer oriented
customer satisfaction

personalisation
zijn er persoonlijke accounts, in hoeverre wordt de content gepersonaliseerd?

security & trust

Responsiveness
support level & mate van aanpassen en beschikbaar-heid op alle devices

6. Pro - active

Engagement
...

Element of surprise
wordt je verrrast door content? door informatie of gebruik?

5. Intuitive (UX)

Flows - usability - interactivity
aanpassen aan de gebruikers flow, geen reclame of opstop-pingen?

Efficiency
je kan makkelijk vinden wat je zoekt, er is hulp voor zoeken?

DIGITAL HOSPITALITY SCORE

2. Context awareness

News values & Trends
Speelt in op huidige trends en nieuws, denk aan seizoenen, tijdelijke acties, locaal en streek producten

Social Values
er is een sterke link met sociale communities, het merk vervult een maatschappelike rol, waarde toevoegen aan de wereld

Consistant imago
Past de uitstraling bij het merk? is het herkenbaar en doet het wat het beloofd? merkwaarde en propositie

4. Innovativeness

Future readiness
wordt er gebruik gemaakt van aantrekkelijk features die gebruik van experts en beginners bevorderen?

Proving benefits
Loopt het merk vooruit? blijft vernieuwen met extra services en apps ten opzichte van de concurrenten?

Informational content
heeft de content kwaliteit, is het geschikt en op een antrekkelijke manier gepre-senteerd?

3. Authenticity

The first model of constructs is translated into a wheel model, with slightly different names. Human centered is the only name similar. Responsive changed to context aware, brand to authenticity, continuity to innovativeness, inclusion is dissappeard and included in the others, user experience transformed into Intuitive and Pro-active

is added. A similar effort is performed three times, according to insights from worksessions with the IN10 experts. human centered changed to personal, and from personal to empathic. Context aware changed to dynamic, authenticity to authentic and innovativeness to innovative. The items changed a lot as well in the session.

1. Personal

Loyal Engagement
overhalen van gebruikers om te verbinden, door middel van gamificatie of unieke reward programma's

Dedicated relationship
Uitstralen dat je alles doet voor je klanten of wil doen, service gericht, het "gevoel van thuis" wordt benadrukt

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worden de behoeften en verwachtingen in kaart gebracht dmv markt onderzoek. ken ik mijn gebruikers goed en speel je in op wensen en behoeften

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Inspiring Activations
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Element of Surprise
Wordt je verrrast door content? door informatie of de interactie?

5. Intuitive (UX/UI)

Interactivity
Handelingen worden uitgevoerd met de verwachte uitkomst. Aanpassen aan de gebruikers flow, geen opstoppingen? Alle controle ligt bij de gebruiker

Performance
je kan makkelijk vinden wat je zoekt, er is hulp voor zoeken? De digitale touchpoint zijn betrouwbaar en werken efficient

Emotional Aesthetics
Mooie beelden beinvloeden de gebruiker positief, de omgeving straalt een gastvrije sfeer uit, je wordt blij van gebruik en wilt terug komen

Future Ready Features
wordt er gebruik gemaakt van aantrekkelijk features die gebruik van experts en beginners bevorderen?

DIGITAL HOSPITALITY SCORE

2. Context aware

Responsiveness
support level & mate van aanpassen en beschikbaar-heid op alle devices

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Content wordt dynamisch door in te spelen op relevant nieuws, trends en bijvoorbeeld seizoe-nen. Er wordt een link gelegd met de maatschappij, dooront-wikkelen op wat er speelt

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4. Innovative

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Vanuit helikopter-view bepalen welke kanalen en services voldoen aan de huidige klantvraag. Stratgisch besluiten aan de hand van customer journey

Proving benefits
Loopt het merk vooruit? blijft vernieuwen met extra services en apps ten opzichte van de concurrenten?

legenda
My score
— Competition

Interactivity

Experiential Value Scales

Expectancy confirmation theory

Electronic Service Quality (Lodhari, 2010)

Aesthetics
- visual appeal
- entertainment

mathwick et. al, 2001

playfulness
- enjoyment
- escapism

service excellence
- promised service
- excellence

CROI
- economic value
- efficiency

interpersonal interaction
keng & Ting, 2009

machine interaction

equal status of participants

dynamic communication process

control of information

mutual understanding

Ken & Lin 2006

expectation

performance

confirmation

satisfaction

RDH Quality

perceived ease of use

perceived usefulness

perceived enjoyment

Davis, 1992, venkatesch 2008

Technology Acceptance Model

hedonic quality

pragmatic quality

perceived disorientation

Hassenzahl, 2003,2004

customer experience UX

navigation convenience

Park & Kim, 2000

RRI concepts

accessibility

inclusion

responsiveness

reliability

responsiveness

ease of use/ usability

privacy / security

web design

information quality / benefit

system quality

individual Impact

organizational Impact

perceived user-interface design : (Schaik, 2015)

accuracy	availability
conciseness	format
relevance	understandability
timeliness	uniqueness (Gable et al. 2008)

Access	Customization
Data accuracy	Efficiency
Reliability	Sophistication
System features	(Gable et al. 2008)

awareness	decision effectiveness
individual productivity	Learning (Gable et al. 2008)

Job effectiveness, perofrmance, simplification (Davis, 1989)

business process change	improved outcome
overall productivity	(Gable et al. 2008)
competitive advantage	cost reduction
enhancement of reputation	improved decision making
	(almutairi and subramanian, 2005)

A first design of the theoretical framework model, before i made the decision to make a wheel design, in order to have a clearer presentation and a better overview of the constructs and the different layers in hierarchy

8.6 TOOL typeform & Rubrics Statements

Beste deelnemer, welkom bij de Responsible Digital Hospitality Score tool.

Deze tool probeert je inzicht te bieden in de huidige status van alle digitale touch points van het merk. Ga naar de website van je bedrijf. Surf door de website en bekijk de onderdelen goed. Je mag overal naar toe scrollen, op alle links en features klikken. Beredeneer vervolgens welke digitale contact punten er zijn voor het merk, denk bijvoorbeeld aan applicaties en services.

Beantwoord onderstaande vragen nadat je de web omgeving goed hebt bekeken en inzicht hebt in je digitale contact punten. Gebaseerd op jouw review en professionele kennis geef je vervolgens een score van 1 tot 7, welke het beste de volgende attributen beschrijft.

Is de vraag niet van toepassing, vul dan een 1 in en meldt dit bij opmerkingen.

Denk eraan, alle antwoorden zijn goed. Het invullen van de tool vragen zal tussen de 10 en 15 minuten duren, afhankelijk van je snelheid.

-

Aan de hand van de volgende vragen wordt uw "Responsible Digital Hospitality Score" bepaald. Hiervoor gebruiken we zes hoofdthema's die zijn opgedeeld in zorgvuldig geselecteerde sub vragen.

De hoofdthema's zijn
1. Empathic
2. Dynamic
3. Authentic
4. Innovative
5. Intuitive
6. Pro active

Elke vraag heeft een beschreven waarde bij 1, bij 4 en bij 7. Kies het cijfer dat het beste past bij de huidige situatie van uw bedrijf. Alle cijfers tussen 1 en 7 kunnen gebruikt worden.

Een eerlijk antwoord werkt het best. Het heeft dus geen zin oneerlijk hoog of laag in te vullen.

-

Hier begint de officiële vragenlijst.

De volgende vragen gaan over het
thema EMPATHIC

"Het merk voelt menselijk en dienstbaar aan.
Dat uit zich in relevante digitale oplossingen,
gepersonaliseerde content en innovatieve,
relevante manieren om contact te leggen."

1. Geef een score aan welcoming:

De webomgeving is heel gastvrij, Er is een
gastvrije customer journey ingericht.

*De customer journey is een methode waarbij
je de ervaringen van je klanten met je
product of dienst over een bepaalde periode
visualiseert.*

> 1= Helemaal oneens: communicatie is vooral
> gebaseerd op eigen producten en processen
> (outbound)
> 4=De customer journey is in kaart gebracht en
> op basis hiervan zijn verbeteringen toegepast
> 7= Helemaal eens: alle content, services en
> communicatie wordt continu ontwikkeld
> op basis van rijke inzichten in de customer
> journey. Waarbij communicatie gebaseerd is
> op de klantbeleving ervaring (inbound)

2. Geef een score aan Personalisation:

Bestaat de mogelijkheid om content en
diensten op maat aangeboden te krijgen?

> 1 = Nee, er is geen op maat aangeboden dienst
> / product, alles is generiek
> 4 = Ja, dit wordt gedaan per doelgroep / klant
> segment. Per segment is bepaald welke content
> getoond wordt
> 7 = Ja, dit wordt gedaan per specifieke
> gebruiker, getoonde content past zich continue
> aan, op basis van persoonlijk opgeslagen data
> zoals woonplaats, interesse voorkeuren en
> gedrag

3. Geef een score aan Human-centerd:

De web omgeving is heel mensgericht. Is
service en contact op een menselijke manier
ingevuld?

*In veel gevallen is dit een combinatie van
het inrichten van goede contact kanalen,
aanbieden van gerichte content dmv
artificiële intelligentie en de letterlijke
menselijke factor.*

> 1 = Geen klantenservice / geen gevoel van
> thuis
> 4 = Er is klantenservice: We bieden de ruimte
> makkelijk vragen te stellen en opmerkingen
> te plaatsen door middel van contact kanalen.
> Reactie vindt meestal plaats binnen een aantal
> werkdagen.
> 7 = Onze klantenservice is zo ingevuld
> dat vragen real-time worden opgelost en
> behandeld, persoonlijke klantenservice
> -personal assistant gevoel

4. Geef een score aan Relevant:

Sluiten uw services, apps en content aan op
de huidige klantbehoefte?

> 1 = Misschien, ik denk het wel, maar nooit
> gemeten
> 4 = Ja, ik denk het wel, we monitoren
> continu, gaan in op relevant nieuws en trends,
> we optimaliseren
> 7 = Ja, zeker, onderzoek met professionele
> methodes en of bureaus tonen dat aan

De volgende vragen gaan over het thema
DYNAMIC

"De digitale diensten en de bijbehorende
content passen zich aan naar gelang nieuws,
trends, nieuwe behoeften en op factoren die
de behoefte en beleving beinvloeden."

5. Geef een score aan Social Setting:

Wordt er ingespeeld en geanticipeerd
op relevante maatschappelijke zaken en
technologische trends? (bijvoorbeeld op
macro niveau, op duurzaamheid of op lokale
zaken)

    1 = Nee, doen hier niks mee: Er wordt niet
    of nauwelijks ingespeeld op nieuws en trends,
    er wordt helemaal geen link gelegd met de
    maatschappij
    4 = Ja, services en producten spelen in op
    generieke interesses vanuit de maatschappij
    (philantropy, social, health, education, culture,
    science)
    7 = Ja, onze digitale strategie staat open voor
    verbetering door middel van anticiperen op
    relevante maatschappelijke input, we spelen
    in op relevante zaken passend bij een unieke
    gebruiker

6. Geef een score aan Context Aware:

Wordt content relevant voor specifieke
gebruikers en gebruiks momenten door
middel van real-time data?

    1 = Nee, er wordt geen gebruik gemaakt van
    real-time data
    4 = Ja, content wordt specifiek aangeleverd
    per klant aan de hand van real-time data als
    GPS
    7 = Ja, we maken gebruik van realtime data
    EN voorspellings technieken om zo hyper
    relevante content gepast aan te bieden

7. Geef een score aan Omni-channel:

Worden de digitale diensten op maat
aangeboden en verandert de content
afhankelijk van het gebruikte device?

*Probeer nu de web omgeving te laden op een
andere device. Als deze zich aanpast is het
responsive web design.*

    1 = Nee, digitale touchpoints worden niet
    goed ondersteund door Responsive Web
    Design (RWD)
    4 = Ja, sommige digitale touchpoints zijn
    gebouwd met RWD
    7 = Ja, alle digitale touchpoints zijn
    vanzelfsprekend RWD

De volgende vragen gaan over AUTHENTIC

"De digitale omgeving weerspeigelt het merk, een eigen stijl onderscheidt het merk van de concurrentie. Content is op een originele manier gecommuniceerd en het is gemaakt met toewijding."

8. Geef een score aan Unique Proposition:

Er is een unieke merk propositie. Het merk biedt iets vooruitstrevends, er wordt echt iets anders aangeboden ten opzichte van de concurrent en dit wordt duidelijk gecommuniceerd op de web omgeving.

1 = Helemaal niet waar, het is herhaling van het bekende, geen unieke propositie
4 = Neutraal, we denken zelf dat we een unieke propositie hebben ten opzichte van de concurrenten en we vermelden dit op de webomgeving
7 = Helemaal waar, we weten aan de hand van gebruikers inzicht dat we een unieke propositie hebben en vermelden dit duidelijk

9. Geef een score aan Digital Identity:

Past de digitale uitstraling en identiteit bij het beeld wat gebruikers hebben van het merk en is deze duidelijk herkenbaar?

1 = Helemaal oneens, het is onherkenbaar, de samenhang ontbreekt tussen offline en online
4 = Neutraal, er is duidelijk een slag gemaakt van offline naar online, maar het is nog statisch
7 = Helemaal eens, de digitale omgeving van het merk is duidelijk herkenbaar aan stijl elementen, tone of voice, muziek etc. Het is eenduidig, ontwikkeld dynamisch en ook zonder logo goed herkenbaar online.

10. Geef een score aan Style & Content Marketing:

Heeft het merk een eigen, unieke, verfrissende stijl en wordt content op een aantrekkelijke manier gepresenteerd?

1 = Helemaal oneens, content is onaantrekkelijk. Er wordt gebruik gemaakt van een basis database aan content
4 = Neutraal, er wordt gemiddeld veel tijd aan content ontwerpen en uploaden besteed.
7 = Helemaal eens, content is speerpunt in de digitale strategie, dynamische presentatie, daarnaast is de stijl is kenmerkend voor het merk, er zijn eventueel content experts

11. Geef een score aan Communication strategy:

Content is strategisch geplaatst in verschillende communicatie lagen en contact kanalen. Principes als "tease, tell, sell" en gebruikers profielen spelen hierbij een rol.

1 = Helemaal oneens, er is geen digitale communicatie strategie
4 = Neutraal, digitale touchpoints zijn ingericht aan de hand van een strategie en op een enkele laag of enkel klant contact moment geplaatst
7 = Helemaal eens, zorgvuldig is bepaald wanneer, hoe en waar content wordt gecommuniceerd. Content is strategisch geplaatst in communicatie lagen (eerste bezoek, vaste klant, ...) en contact kanalen (nieuwsbrief, website, ...)

De volgende vragen gaan over het thema
INNOVATIVE

"Het merk streeft naar vernieuwing en
vooruitgang. De huidige services en
producten worden regelmatig gescand op
relevantie. Nieuwe services en features
worden doorontwikkeld en verbeteringen
worden toegepast."

12. In hoeverre wordt voldaan aan Proving
Benefits?

Loopt het merk voor op de concurrentie? Er
wordt constant vernieuwd met extra services
en slimme apps. De voordelen van deze
service(s) worden helder gecommuniceerd.

    1 = Nee, geen vernieuwing en geen voordelen
ten op zichte van concurrentie
    4 = Ja, maar voornamelijk door proven
innovations en proven technology toe te
passen
    7 = Ja, het merk is trendzetter in het veld en
vaak de eerste met een slimme service, in de
communicatie strategie positioneren in een
voorbeeldrol

13. Geef een score aan Technological Change
Management:

Het merk monitort hoe ICT veranderd
en hoe nieuwe technologie gebruikers
beinvloed en daarmee de voorwaarden van
de maatschappij en communicatie manieren
vernieuwd.

    1 = Niet van toepassing
    4 = Er wordt gemonitord op nieuwe
technologie en trends, deze krijgen nog geen
duidelijke invulling
    7 = Er wordt ingespeeld op relevante tech-
trends en deze worden zorgvuldig ingezet in
service designs of product designs

14. Geef een score aan Inclusive Features:

Is de digitale omgeving vernieuwend en blijft
deze bruikbaar voor verschillende unieke
klanten?

    1 = Nee, er worden gebruikers uitgesloten
    4 = Ja neutraal, er worden aantrekkelijke
features aangeboden voor klant segmenten
(klanten zijn ingedeeld in groepen)
    7 = Ja, ontwerp richtlijnen zorgen ervoor
dat ALLE unieke gebruikers uit de merk
doelgroep gebruik kunnen maken van
nieuwe features (laag inkomen, taal, expertise,
senioren, gehandicapten, geslacht...)

15. Geef een score aan Resources:

Onze productie resources / skills zijn meer
dan adequate om te voldoen aan digitale
gastvrijheid.

    1= We hebben zelf geen resources en skills,
er zijn geen kwaliteits richtlijnen voor interne
ontwerpers, of externe partners
    4= We hebben resources in huis en maken
gebruik van richtlijnen zodat elk digitaal
ontwerp en touchpoint aan dezelfde
kwaliteitseisen voldoet
    7 = Kwaliteitseisen en controle zijn
vanzelfsprekend. Hiernaast zorgen we ervoor
dat personeel altijd op de hoogte is met de
laatste trends en trainingen.

De volgende vragen gaan over INTUITIVE

"Gebruikers zijn in staat gesteld om een optimale flow te ervaren en worden blij met de esthetiek. Functionele elementen zijn goed georganiseerd en verhogen de prestatie, het voelt bovendien betrouwbaar aan."

16. Geef een score aan Pleasing Aesthetics:

Straalt de digitale omgeving een gastvrije sfeer uit? Gebruik is leuk, er zijn mooie features en je word er blij van.

"Zet nu de pet van de gebruiker op"

1 = Helemaal oneens: gebruikers blijven kort - "Ik heb de neiging meteen weer weg te klikken" (zichtbaar in veel onafgemaakte aankopen, korte bezoektijden)
4 = Neutraal: gebruikers blijven gemiddeld op de omgeving, beelden, video en geluid worden als positief ervaren
7 = Helemaal eens: Helemaal eens: gebruikers blijven lang in de omgeving, het is interessant (zichtbaar aan lange bezoektijden, veel clicks)

17. In hoeverre wordt Performance geoptimalisserd?

Is de informatie goed georganiseerd, efficient in gebruik en up to date?

1 = Helemaal oneens, er is geen flow, geen interactie ontwerp, de web omgeving werkt zeer inefficient
4 = Neutraal, er is nagedacht over een interactie ontwerp, er zijn zoek mechanismes ingesteld, informatie is up to date met korte laad tijden. Er is niet getest met eind gebruikers
7 = De informatie is zeer goed georganiseerd en efficient te gebruiken, door slimme interactie ontwerpen, up to date en heeft korte laadtijd, er is wel getest met en door eind gebruikers.

18. Geef een score aan Interactivity

Gebruikers hebben alle controle over de flow en kunnen de digitale omgeving naar hun behoefte aanpassen?

1 = Helemaal oneens: er zijn verplichtte onderdelen zoals reclame blokken die de flow kunnen onderbreken
4 = Neutraal: het is gemakkelijk de web omgeving te snappen en deze te gebruiken zonder ongewilde onderbrekingen
7 = Helemaal eens: De web omgeving is makkelijk te begrijpen en gebruiksvriendelijk, de omgeving kan aangepast worden aan de behoefte: d.m.v. kleuren, lettergrootte, contrast en taal opties

19. Geef een score aan Trust

Zijn de digitale touchpoints betrouwbaar en werkt het zoals verwacht?

1 = Helemaal oneens: Het voelt niet betrouwbaar aan, geen transparant inzicht
4 = Neutraal: het is inzichtelijk, er wordt gebruik gemaakt van betrouwbare beveiligings systemen en wachtwoord, er zijn back-ups
7 = Helemaal eens: inzichtelijk en voelt erg betrouwbaar aan, transparant inzicht in beveiliging van klant data en persoonlijk data management, er zijn back-ups

De volgende vragen gaan over
PRO-ACTIVE

"Het hebben van een anticiperende, verandering gerichte houding en zelf geïnitieerd gedrag in allerlei situaties"

20. Geef een score aan Element of Suprise

De gebruiker wordt verrast door spannende content, door informatie of door interacties. De website is naast informatief ook creatief en inspirerend.

1 = Helemaal oneens: Er is geen verrassing, weinig inspiratieen geen vernieuwing.
4 = Neutraal: Gebruikers worden soms getriggerd door verrassende elementen, hier wordt niet al te veel aandacht aan besteed
7 = Helemaal eens: Op basis van eerdere bezoeken, opgeslagen data of locatie input worden gebruikers vaak geïnspireerd en aangezet tot actie. First time experiences verrassen!

21. Geef een score aan Anticipation

De digitale diensten verbeteren we aan de hand van gebruikers inzichten. Input van gebruikers wordt bovendien actief verzameld en gebruikt om content en services te verbeteren

1= Helemaal oneens, er wordt nooit interactie geinitieerd
4 = Neutraal, er wordt zorgvuldig omgegaan met input vanuit klanten, en we verbeteren de web omgeving
7 = Helemaal eens, er wordt zelf actief input verkregen. Er is ruimte voor co-creatie en input wordt altijd verwerkt.

22. Geef een score aan Loyal Engagement

Unieke reward programma's met spaarprogramma's, services, of gamification zorgen voor een verbindend platform voor gebruikers en ons merk.

1 = Helemaal oneens: Er zijn geen reward programma's of community elementen
4 = Neutraal: Er zijn unieke reward programma's, spaar programma's of communities, gebruik is gemiddeld
7 = Helemaal eens: Er zijn veel leden in de community van dit bedrijf, de unieke reward programmas worden veelvuldig gebruikt

23. Geef een score aan Transparancy

Wordt er transparent gecommuniceerd aan gebruikers over wat er gebeurt met hun data en input? Zijn bijvoorbeeld voorwaarden makkelijk in te zien?

1 = Er wordt gebruik gemaakt van de cookie wetgeving
4 = Duidelijke voorwaarden, communiceren welke data gebruikt wordt en wanneer deze gebruikt wordt
7 = De gebruikers stellen, als daar behoefte toe is, zelf in hoe, wanneer en door wie hun data gebruikt wordt. De gebruiker heeft transparent inzicht in beveiliging van zijn data en persoonlijk data management

8.7   Rubrics format to gamify the tool design

3. Authentic

Unique Proposition

De product / service aanbieder doet wat er wordt beloofd en doet dit op een unieke manier, er is een unieke propositie. De propositie past bij het merk en de identiteit en is slimmer en innovatiever dan de concurrent. De belofte is duidelijk en herkenbaar voor gebruikers en past bij de doelgroep.

De propositie past bij het merk en is herkenbaar

1 ★

De propositie past bij het merk, is herkaanbaar en slimmer dan de concurrent

2 ★★

De propositie is uniek, slimmer en innovatiever dan de concurrent en past bij de doelgroep. Er wordt gedaan wat wordt beloofd

3 ★★★

1. Personal

Personalisation

Er zijn bijvoobeeld persoonlijke accounts aan te maken, de getoonde content veranderd op basis van persoonlijk opgeslagen data zoals woonplaats of interesse voorkeuren.

Er wordt geen of weinig gebruik gemaakt van persoonlijke acounts.

1 ★

Er wordt gebruik gemaakt van persoonlijke gebruikers acounts

2 ★★

Er wordt gebruik gemaakt van persoonlijke acounts & persoon specifieke informatie wordt opgeslagen en gebruikt om content te personaliseren

3 ★★★

2. Context Aware

Dynamic Service

Content wordt dynamisch door in te spelen op relevant nieuws, op trends en bijvoorbeeld door gebruik te maken van seizoenen. Daarnaast hebben sociale zaken een rol. Er wordt een link gelegd met de maatschappij en verschillende doelgroepen. Verder wordt er door ontwikkeld aan de hand van deze input.

Er wordt ingespeeld op nieuws en trends

1 ★

Er wordt in gespeeld op nieuws en trends en voor specifieke gebruikers relevant gemaakt

2 ★★

Nieuw en trends maken de omgeving relevant, er wordt ook een link gelegd met de maatschappij en verschillende doelgroepen

3 ★★★

rubrics idea: indicate with stars For every item, 1 star, 2 stars or 3 stars.

Question	Less RDH	Very RDH	KPIs	Less RDH	Very RDH	Score	Real		Real KPI Scores	Lower part (points to be distributed)	Middle part	High part	Calculated Score
1	2,0	7,0	Empathic	2,0	7,0	1	7	Empathic	4,7	1,0	5,0	3,0	50,6
2	2,0	7,0	Dynamic	2,0	7,0	2	6	Dynamic	4,0	1,0	5,0	3,0	46,2
3	2,0	7,0	Authentic	2,0	7,0	3	6	Authentic	5,0	1,0	5,0	3,0	52,8
4	2,0	7,0	Innovative	2,0	7,0	4	5	Innovative	4,0	1,0	5,0	3,0	46,2
			intuitive	2,0	7,0	0	0	intuitive	2,8	1,0	5,0	3,0	38,0
5	2,0	7,0	Pro-active	2,0	7,0	5	4	Pro-active	3,0	1,0	5,0	3,0	39,6
6	2,0	7,0				6	4						
7	2,0	7,0				7	4						
						0	0						
			1-6,7-11,12-15,16-19,20-21,22-24,25-27,28-30			0	0						
						0	0						
8	2,0	7,0				8	3						
9	2,0	7,0				9	6						
10	2,0	7,0				10	6						
11	2,0	7,0				11	5						
12	2,0	7,0				12	5						
13	2,0	7,0				13	4						
14	2,0	7,0				14	3						
15	2,0	7,0				15	4						
						0	0						
16	2,0	7,0				16	1						
17	2,0	7,0				17	3						
18	2,0	7,0				18	4						
19	2,0	7,0				19	3						
						0	0						
20	2,0	7,0				20	4						
21	2,0	7,0				21	3						
22	2,0	7,0				22	3						
23	2,0	7,0				23	2						
						0	0						

Legend: Current Project Scores — Gemiddelde RDH

Question #	Question description	SCORE (1-7)
1	The web environment is very welcoming: there is a hospitable customer journey	7
2	The web environment is very human centered: service and contact are fulfilled realtime	6
3	The web environment is very relevant: service and content matches current customer needs perfectly	6
4	We offer service and content tailored for each customer in a personalized manner	5
5	we anticipate to social relevant issues and make it relevant for each customer	4
6	We are context aware and use real-time data as gps to make content hyper relevant	4
7	Our strategy is omni-channel and responsive: content is adapted to various devices	4
8	We have good insight our unique proposition and have validated it with customer research	3
9	The digital identity perfectly matches the brand, is recognizable and transforms dynamically	6
10	Our content is authentic, unique and refreshing and presented in a very catchy manner	6
11	Content is placed strategically in both comminication layers (from first visit to engaged customer) and in digital touchpoints (i.e. mail, web)	5
12	Compared to competing brands, our services and products offer unique features, we are trendsetters and position ourselves as rolemodel of our field	5
13	Our digital environments are innovatory and every user (i.e. disabled, seniors) is served	4
14	Our production resources / skills are more than adequate for digital hospitality	3
15	Our company is very aware of technologically changes and impact on society, we anticipate on relevant tech trends in our services	4
16	Customers visit my digital environment long, because of my pleasing aesthetics and nice features	1
17	Information is very well organized, and usage is very efficient due to smart interaction-designs that I have evaluated with my endusers	3
18	Touchpoint are very transparent and trustworthy designed to users, there are back-ups	4
19	Our environment is very interactive, users have maximum controle on their flow and usage	3
20	We surprise users by relevant content, new information and exciting interactions	4
21	Our environment is community based and we offer unique reward programss to our loyal customers	3
22	Our services are activelty optimized using consumer input derrived from co-creation and research	3
23	Compared to competing brands, we are very transparant about data usage and privacy	2

8.9 TRANSCRIPT of user test

P1=M P2=Ma P3=P light grey is used in text of the main report

14:45 – Scores worden uitgedeeld.

M: Voelt als score op mij als persoon. Als mij persoon

P: Wie is er nu uiteindelijk het meest verantwoordelijk voor online omgevingen van ons drieën

M: Er staat dan ook de naam van de persoon boven. Empatisch Mwa, Dynamisch Mwa, Authentiek nou zeker niet, Innovatief.

P: Nou we moeten ze eigenlijk een beetje bij elkaar leggen?!

K: Ja

Worden in het midden van de tafel gelegd.

K: in het model straks is het inderdaad de bedoeling dat alles in 1 figuur komt, maar dat kon ik nu moeilijk doen
Laat een ander voorbeeld afbeelding zien:
Dat het dan op zon manier wordt weergegeven dat je ziet wat je scoort, en wat het gemiddelde is lijn is.

Ma: dus dit is niet echt?

K: nee deze niet.

P: maar we zijn nu met zijn drieën dus dan kunnen we wel een soort van vergelijken, het gemiddelde eruit halen en kijken waar dat dan verschilt enzo.

K: Ja, Ma heeft het laagste met 50, M zit op 58 en jij zit op 64.

P: Ik ben het meest coulant?

Ma: ja

K: ja

J: en ik zie ook al gelijk waar dat zit. Ja, ik heb geprobeerd

zo min zuur mogelijk te zijn, zie je dat?

M: nou ik vind uberhaubt wel dat we redelijk dezelfde inschatting maken, toch?

Ma: ja, alleen het is net welke, uhm hoe je het op de schaal zeg maar zet.

M: ja en ik heb ook in de toelichtingsvragen af en toe geprobeerd te duiden, ik vind het af en toe wel lastig te antwoorden, want je bent geneigd alleen de website mee te nemen in je beoordeling, want dat is waar we uiteindelijk het meeste invloed op hebben gehad, maar ik weet ook van het bestaan van een klant portaal bijvoorbeeld en een aanmeld formulier en apps, er zijn apps inderdaad

J: Ja Dat was ook een opmerking die ik een beetje tussen door heb gezegd, ik heb tussen de vragen door feedback op de soort van vragen als op vragen, dat de vraagstelling zelf ook een beetjeheen en weer zwabberd tussen praten over web omgeving en je digitale, nouja alles, waar je vragen gaan over DH in het algemeen, en dat dan bij je onderwerpen (lees rubrics) staat dan weer, we hebben rekening gehouden met de web omgeving, dus daarmee zwalkt je perspectief een beetje tussen die dingen

M & M; ja

K: okee, en hoe zou je dat dan anders kunnen doen?

P: Nou ja goed, ik probeer het, even kijken welke vraag het was?, nou dat inderdaad het was letterlijk door het woord webomgeving, door niet dat woord te gebruiken

K: Ok

P: maar rekening richting onze..

Ma: (heeft de vraag terug gezocht) 'de webomgeving is heel gastvrij, er is een gastvrije customer journey ingericht'
Maar inderdaad customer journey is dan breder dan webomgeving natuurlijk

P: ja

K: Ja want het doel is wel om DH, Responsible digital hospitality als geheel te meten endus dat is veel breder

dan een webomgeving. De webomgeving is natuurlijk een onderdeel als touchpoint.

P: ja

Ma; jahmm

P: Ja, goed, ja de eerste deel is natuurlijk "bekijk de website", maar de website is natuurlijk niet de hele DH

K: nee
Ma: nee

En dat is prima om het heel gericht te hebben over de website en de web omgeving, maar daar kun je niet de gehele digital hospitality op beoordelen.

K: nee dat klopt.

P:hmm en dat is fine op het gericht daar op te houden, maar dan moet je het ook gericht daar op houden. Of de gehele DH. Maar als je de gehele DH wilt, dan moet de vraag in het begin ook zijn, bekijk de website, apps, en alle andere digitale middelen die jullie gebruiken, en ga het daar over hebben.

K: Oke, dus het was dan niet helemaal duidelijk dat het over het merk ging?

P: Ja, jawel, dat was wel duidelijk omdat er in het begin werd gezegd van denk,over alles na, maar vervolgens gingen de vragen, en ook de antwoorden, wordt ik soms geforceerd om op die schaal, is het een schaal die dan slaat op web omgeving, omdat daar in de beschrijving ook staat.

Ma: ja

P: Dus vervolgens wil ik misschien wel zeggen, ja de webomgeving is leuk, maar het fantasticshe zit hem in de apps, maar dat kan ik dan niet beantwoorden omdat er op de schaal staat de web omgeving is goed.

K: okee, ja. Dus zou je dan..uhm

M: ja het is bijvoorbeeld in de antwoorden gaat het bijvoorbeeld ook een keer over responsible, dat is sowieso

iets wat meer op de webomgeving slaat, maar dan zou je toch nog steeds in de antwoorden kunnen zeggen voor al onze touchpoints is er rekening gehouden met de verschillende devices bijvoorbeeld

K: mm

Ma: ja dan kun je net zo goed bij webomgeving ook rekening mee houden
, bekijkt u het op mobiel, raak je het verticaal,

M: verschillende gebruiks momenten.

K: dus omdat het niet in de vraag zit, ben je er nu wel over aan het discussieren? Het achterliggende idee is dat je binnen je bedrijf inderdaad bediscussieerd, wat hebben we nu wel, en wat hebben we nu niet, wat werkt goed of minder goed. In dat opzicht zou je het er misschien niet in zetten om de discussie op gang te houden?

P: nee ik denk niet dat je vaagheid in vraag en antwoord moet zien als kans om discussie los te maken, want dan gaat de discussie over verkeerde dingen.

K: Ja oke, Dus het was echt gewoon vaag voor jou?
Ma; hmmm
P: Ja, nouja dit is mijn vak, dus uit de inleiding begreep ik ook wel hoe de soort beoordeling, maar stel ik ben de huis tuin en keuken marketing manager, die daar niet perse in ziet, dan is dat sturend, want dan geef je zelf aan dat je ook niet verder kijkt dan webomgeving. Terwijl, Jij bent de expert op het gebied van DH, en de vraag is juist kijk verder dan de website, en dan is het vervolgens heel erg raar dat je forceert om te denken de website te meten

K: ja, oke, dat is duidelijk

M: nog iets over de vraagstelling als ik daar nog verder op mag gaan, er werd gesproken over we, wij vullen dit in vanuit ons perspectief, als bureau zijnde, dat klanten bediend, uhm, de vraag ging meer over hoe je volgens mij als organisatie bent ingericht en hoe je bepaalde behoeftes bij eindklanten inspringt.

K: ja, kun je aangeven welke vraag dat was?

96

Ma: jaamaar,

M: tussen ons en het bureau

Ma: ja maar wij waren met invullen, waren wij natuurlijk bedrijf X.

P: Ja ik heb mezelf nu gezien als bedrijf X, uhm ja geprobeerd zo te beschouwen

M: het ging over standaarden en richtlijnen volgens mij

K: opzoeken van de betreffende vraag

Ma; was het niet bij 'innovatie'.

K: ja, ik denk bij 'resources', de rubrics staat er niet onder.

M: nou dat er meerdere bedoelingen zijn bij standaarden, een andere bedrijf zijn standaarden hoeven niet gelijk te zijn aan onze standaarden. Er is niet perse 1 set van regels die we daarvoor hanteren. Nou even kijken waar het staat.

K: ja ik kan het nu ook niet zien

M: zou het hier niet tussen moeten staan?

Ma: het staat waarschijnlijk in de antwoorden.

K: ja!, ja ik denk hier

Ma; ennne, nou ik vind, ik weet niet of je er nog per onderdeel er door wil ?

K; ja,

Ma; Oh, okay ik zet anders een kruisje bij "resources" inderdaad, want die vond ik er een beetje buiten vallen

K: ja want dan gaat dan echt buiten de website en de touchpoints om. Gaat dan echt over het bedrijf, van is er zijn er de resources van het bedrijf zelf.

Ma: ja precies. Dat is meer een ja en nee ofzo

K: Ja dit is precies die vraag die jij ook bedoelt.

M: Ohjaa, "onze productie middelen zijn meer dan adequate om te voldoen aan digitale gastvrijheid" en dan de uitleg bij waarde vier is dan we hebben resources in his en maken gebruik van richtlijnen zodat elk ontwerp aan bepaalde eisen voldoet"

M: Ja wij als in10 hebben wel bepaalde eisen en richtlijnen voor touchpoints die we ontwerpen maar dat zijn niet per se de richtlijnen die bedrijf X hanteert.

K: Het gaat hier wel echt over het merk, dat ze dat in huis hebben, uitbesteden, of hoe ze het onderhouden om digitale gastvrijheid te kunnen geven aan hun eindgebruiker

M: Ja oké

K: maar is dat dan niet helemaal duidelijk?

M: nou misschien heb ik me niet genoeg ingeleefd in het invullen als bedrijf X medewerker.

K; Okay. En de algemene indruk van deze test. Wat vonden jullie van het invullen.

M:

P: ja nou goed, in principe is dat vrij duidelijk, zo'n vorm van vragen invullen is gewoon niet moeilijk. Uhm ik had af en toe wel een klein beetje het gevoel dat er in de antwoorden mij een beetje woorden in mijn mond werden gelegd, dat er teveel uitgewerkt werd in kleine dingetjes, voor mij in het design of iets dergelijks, "ja wij hebben een verfrissende stijl etc etc", terwijl verfrissend wel helemaal niet is wat ze willen, teveel bijvoeglijke naamwoorden

Ma: te veel inhoudelijk

P: ja bij het antwoord te veel een bepaalde richting opduwt terwijl ik zelf een andere richting op denk, en daarbij is het mijn antwoord dus niet meer.

Ma; ja, verfrissend is daar uitgesproken, kun je alleen eigen zetten

P: Nou even heel globaal gezegd is het, hoe langer en uitgebreider het antwoord is waar uit je kan kiezen, hoe

minder ruimte er is voor je eigen interpretatie er van. En hoe groter de kans is dat dat antwoord dus niet helemaal aansluit met wat jij zelf vind.

K Ja dat begrijp ik.

P En daardoor wordt het dus moeilijker, misschien vindt iemand dan wel vanuit zijn perspectief van: sluiten content en services aan op de behoefte van de klant, en als daar gewoon ja staat bij 7, dan kun je daar 7 in vullen.

K: het idee van de rubrics vorm is inderdaad dat er zo min mogelijk interpretatie verschillen te hebben omdat je de antwoorden al redelijk vast legt. Maar het bepalen van de antwoorden is dus heel lastig omdat je iets generieks en algemeeen wil maken.

P; Ja juist dat is het, ik begrijp dat daar een balans tussen moet zitten maar soms had ik het gevoel dat dat antwoord dan net te lang is.

Kleine discussie over DH komen de scores overeen met wat IN10 bedoelt. M vraagt zich dit af.

__

K: De verschillen, hoe jullie het hebben ingevuld, hoe zou dit komen volgens jullie?

Ma: Marlies wijst naar haar 7
Deze is wel opvallend – authenticiteit

M: ik heb hier ene uitschieter (Intuitive)

Ma: Ik weet niet uhm, want hier staan niet de onderdelen bij,

M: omcirkelt de verschillen

P: er zou bijvoorbeeld

K: ja want dynamisch is wel hetzelfde.

P: ja absoluut niet context aware.

M: is het 1 -2 – 3 vraag? En dan zo rond zo?

K: ja, ja

K: empethic, vraag 3 die verschilt_ herhaalt de vraag

P: ja dat vind M van wel!

K: herhaalt de rubrics

M: we hebben het over deze? Toch
volgens mijn hebben ze een klanten service die continu klaar zit om vragen te beantwoorden!

Ma: ja maar ik vind niet dat de service en contact op een menselijke manier is ingevuld. Het is meer de vraag en antwoorden die niet helemaal matchen.

M: ik las uiteindelijk de toelichting bij 7 en toen dacht ik EHH.

Ma: ja maar het kan natuurlijk veel beter

P: Ja nou kijk in het algemeen wat mij, in dit blok menselijk is, nou wat ik helemaal niet human centered vind maar over zich zelf gaat, van wij vertellen, en helemaal achteraan kun je kiezen wat jij bent. Maar het gaat nergens…

Ma: Het zou eerder service moeten heten, in die antwoorden, En bij de vraag human centered zou je dan andere antwoorden krijgen

M: Ja dat heb ik ook bij toelichting, de customer journey van deze doelgroep is niet perse de beoogde customer journey voor ogen voor deze doelgroep. Want X wil eigenlijk aanzetten tot andere ondernemers vraag stukken, toch? En aanpakken

P & M: hmm jaa

P: soort van, ja ze willen, ze zijn nu meer verwachten dan andere brandstof passen, ja dat staat. Wat ze danprecies willen weet bijna niemand

M: Ja en als je dan zo, ik kom op de site met een bepaalde behoefte, dat zie je er bij definitie al nauwelijks in terug, omdat X heel anders communiceert, dan vind ik het wel

moeilijk om daar een waarde aan te hangen

P: Nou in die zin vind ik het heel makkelijk om daar een waarde aan te hangen,

Ma: Ja

P: want het gaat er NIET over jou, het is leuk wat jij wil, maar WIJ willen iets en dat gaan we je nu opleggen. Of proberen er naar toe te kneden en willen en doen we niet op een meeneem manier, we zetten jou als klant centraal, Nee Bedrijf X. En die.

M: Ja oké Eens.

Ma: Nou waar het natuurlijk in zit, is de waarde van de tank pas, die website, die conversie website, die hebben we natuurlijk gewoon voor een groot deel als basis gebruikt voor de nieuwe website. Terwijl je inderdaad vanuit een nieuw merk, misschien wat de ervaren ondernemer is en bladibla wil je misschien een om-boarding flow hebben van, hallo, wie ben jij, wat is jouw onderneming, idealen, oké, en dan nu vertellen we je iets over wat onze dienstverlening is. Maar het is inderdaad gewoon een zenden en koop!

M: jaa,

Ma: ja in die zin vind ik dat zo'n tekst, misschien zelfs wel nu hier aan tafel, van ohjaa je kan het ook anders aanpakken en misschien insteken, uh en

P: alhoewel, deze ervaring nu, puur gebaseerd is op web, voor mij nu he, ik ben die website door gaan ploegen en daar ervaarde ik over het merk, de producten toepassen en ergens achter aan kwam ik bij mijn stukje.

Ma: Toont aan op de score sheet authentic, waar hoog is gescoord. Kijk hier ben ik natuurlijk mee bezig geweest. En daar van weet ik van oh daar zitten we in ieder geval met alle energie er in om daar een unieke, of eigen verhaal te maken, dus daar zit dan die uitschieter bij mij, met content, op facebook

P: Ja en dat is dus een beetje het typische waarom ik hem niet helemaal een uitschieter heb, het is de combinatie van stijl en content. Bij mij is stijl net zo goed design,

vormgeving, tone of voice,

Ma: Ja

P: Dus het scoort hier redelijk hoog omdat ik de content vindik hoger scoren dan de stijl
K: dus het zou eigenlijk twee losse moeten zijn?

P: ja voor mij wel. En dan de content ivnd ik iets anders, dat heeft een hele andere waarde dan de stijl.

M: was dit ook de vraag waarbij er stond, "zonder logo is het ook duidelijk herkenbaar"

K: ik denk het wel

Ma: nee dat was de identity

P: even kijken hoor>

P: Ja dit was bij authentic toch? Of identity?? Ahh jaaa jaa, leest de vraag voor. Precies dat zat daar bij-
Maar goed voor mij scoort dus lager omdat enerzijds van de stijl vind ik dat Mwa, en de content vind ik hoog dus ben ik op het gemiddelde uitgekomen. Ma, heeft dat hoog met name vanuit de content bekeken en geeft dat daarom een hogere score,

Ma: Ja

P: terwijl we er eigenlijk hetzelfde over denken

Ma: Dus moeten er twee vragen zijn of anders formuleren. Dus de stijl zit dan meer aan de digital identity

K: Dus dan de stijl meer richting identity verplaatsen –

(Ja, discussie over bijvoegelijk naamwoorden als degelijk, eigenheid verfrissend)

K: Nu jullie dit hebben ingevuld, hebben jullie het gevoel dat je meer hebt nagedacht over digital hospitality voor merk X.

P: in de meest brede zin Ja, ik denk dat het nu een beetje gaat over, niet zo heel diep praten over wat het resultaat hiervan gaat zijn en wat de aanleiding hiervan gaat zijn,

dus introductie van DH betekent dus dit, en daarom moeten we kijken naar deze zaken Nou neem die dingen, die heb je dan een soort van map van digital hospitality, dus ja we hebben er zeker wel inhoudelijk over gepraat, en het is maar net hoeveel verstand iemand er van heeft om dat daadwerkelijk te beseffen.

K: want zou je dit als een soort tool (als het genereren van die afbeelding sneller werkt) gebruiken met een klant, dat je het samen invult.

M: Ik acht dat wel mogelijk in de toekomst,

Ma: Ja

P: Ja ik ook wel, ik denk dan vooral dat daar mooi zou kunnen zijn als er conclusies uit te formuleren zijn door die mensen zelf, waardes waarbij er dan een bepaalde discrepantie ligt tussen wat zij denken dat goed is en waar het kennelijk toch te kort schiet of als ze er eerder naar kijken, of dat het een beetje action wordt.

Ma: ja uiteindelijk wil je dan inderdaad weten wat bijvoorbeeld een benchmark is, en ook hoe je, uhm, wat je vooral moet beetpakken om te gaan verbeteren natuurlijk.

K: Even kijken voor merk X is dan bijvoorbeeld de laagste..

Ma: de groene daar?

K: jaa, nou totaal innovatiefheid en pro-actief is in dit geval het allerlaagst. Dus dan zou je uit dit figuur kunnen concluderen dat ze daar als eerst mee aan de slag zou mee moeten?

Ma: Ja

K: zijn jullie het daar mee eens?, kijk, uhm dus meer het laatste rijtje bij pro-actief, dus dat ze meer op de samenleving gericht zijn, en zelf initieven tonen om informatie uit de klanten te halen, en het stukje surprising, dus dat merk X een stuk beter moet anticiperen, denken jullie dan dat ze daarmee aan de slag kunnen?

P: ja maar zitten hier dan ook al die.., ohnee, dat zat in die

andere survey he, in de mate van wat je zelf belangrijk vind? Als je kijkt naar digital hospitality.
Kijk surprising is voor de menselijke kant belangrijk, en sympathie en dat soort zaken, maar als je een heel groot, uhmm ja even simpel gezegd, bij dynamiek daar zit gewoon, bij vraag nummer twee, even kijken, dat is 'context aware' heel specifiek gebruikers en meegaan daarin, nou dan blijven ze ver achter, ook al gemiddeld scoort dat ding goed dan zou je denken dat voor Hospitality in algemeen als deel van je bedrijfsvoering en service dat dit belangrijker is dan dat je af en toe verrassend bent.

Ma;

K: of ze de tool zouden gebruiken:

P: nou zou kunnen nou ik denk dat dat waardevol is in de toekomst

	ANALYSIS (internal & external)	CONCEPTUALISATION	EVALUATION	REALISATION	TESTING CASE STUDY	LAUNCH	GRADUATION

pre study

Phase of design process

formulating problem, goals and strategies | generating and selecting ideas | clear bottlenecks & needs | product development | 'market introduction' | | thesis defence

When must it be finished?

week 9 - 11
29 feb - 20 march

week 12 - 13
21 march - 03 april

week 14 - 15
04 april - 17 april

week 16 - 17
18 april - 1 may

week 18 - 19
02 may - 15 may

week 20 - 21
16 may - 19 may

week 22 - week 23
30 may - 12 june

week 22 - week 23
12 may - 26 june

What must be done?

0 Defining of problem - Matching IN10 and TU Delft

1 Criteria + building framework for Digital Hospitality

2 Set of questions derived from the framework: design concept #1

3 Evaluation of concept #1 by case studies

4 Iteration of tool design to make working prototype

5 Hypothesis testing with parameters

6 Results & recommendations paper

7 presentation

Variation on styles? PVE voor tool design proposition+product? reflection on criteria DH score more than communication?

To do: case studies launch criteria for suited DH cases -> pick brands

look at results : same scores? interaction with product okay? weighing of indicators?

Finalise Hypothesis determine amount and kind of metrics which brands are used as case and why?

input for communication or hard measurement? implications for usage and further research? What's Next: implementation phase?

Who is involved?

IN10 experts / case owners | IN10 experts / case owners | BRAND X:
- Clients
- Customers / end users
- IN10 experts | Experts of IN10 used to apply tone of voice in tool design | BRAND X:
- Clients
- Customers / end users
- IN10 experts

IN10 division + constructs

How are tasks performed?

literature study
qualitative research
portfolio IN10 analysis
competitor analysis

Evaluation of tool idea by user tests of the concept

Results of study are integrated in design to make a final prototype

Optimize usability

Suitable metrics are gathered to test the hypothesis

Cases are selected by pre-set criteria

Comparison between DH score and metrics

writing paper with IN10

literature study
meetings

KIM STOLK 2016

8.11 Reviewing models

There are several studies that use the model of EVS of mathwick et. Al, 2001) to identify relationships between intrinsic value (such as sensory pleasure, enjoyment, sense of escape and entertainment) and interactivity (Keng et al, 2007; 2009). The model of Park (2012) for example shows that four types of interaction relate to intrinsic and extrinsic experiential Values. Interaction with the online store (*E-store interaction*: e.g. feeling of interest, friendliness and fun) and interaction with other customers (*C2C interaction*: e.g. reading customer comments, writing personal experience) have a positive relation with intrinsic experiential values of playfulness and aesthetics. The interaction with content (*content interaction:* e.g. updated information) has a positive relationship with both intrinsic and extrinsic values. And finally the accessibility and distribution of the website (*webstore utility:* e.g. personalized information, post purchase services and convenient access) have a positive effect on extrinsic experiential values. The model of EVS and the extended EVS model of Park are models that could combine some of the building blocks of the DH vision in a framework (i.e. digitalisation, user interaction, customer satisfaction) However, this model uses a perspective that is from the customer and not from the brand owner point of view. In this model there is no inclusion of hospitality, RRI principles and touchpoints orchestration.
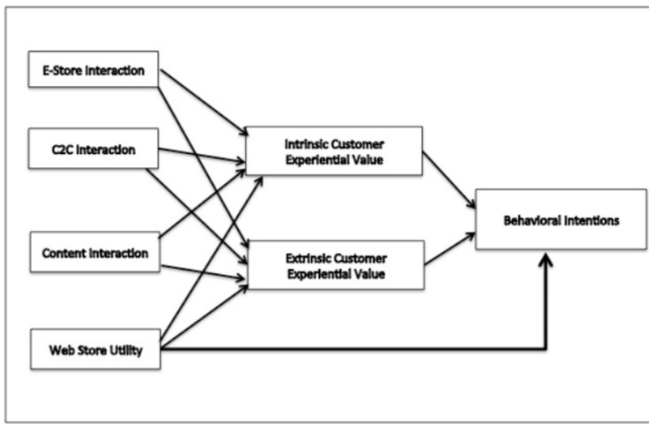
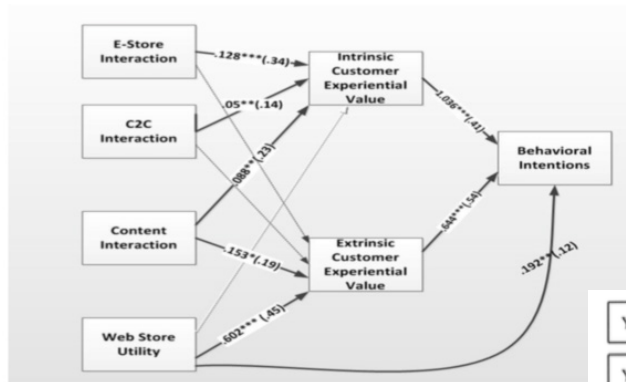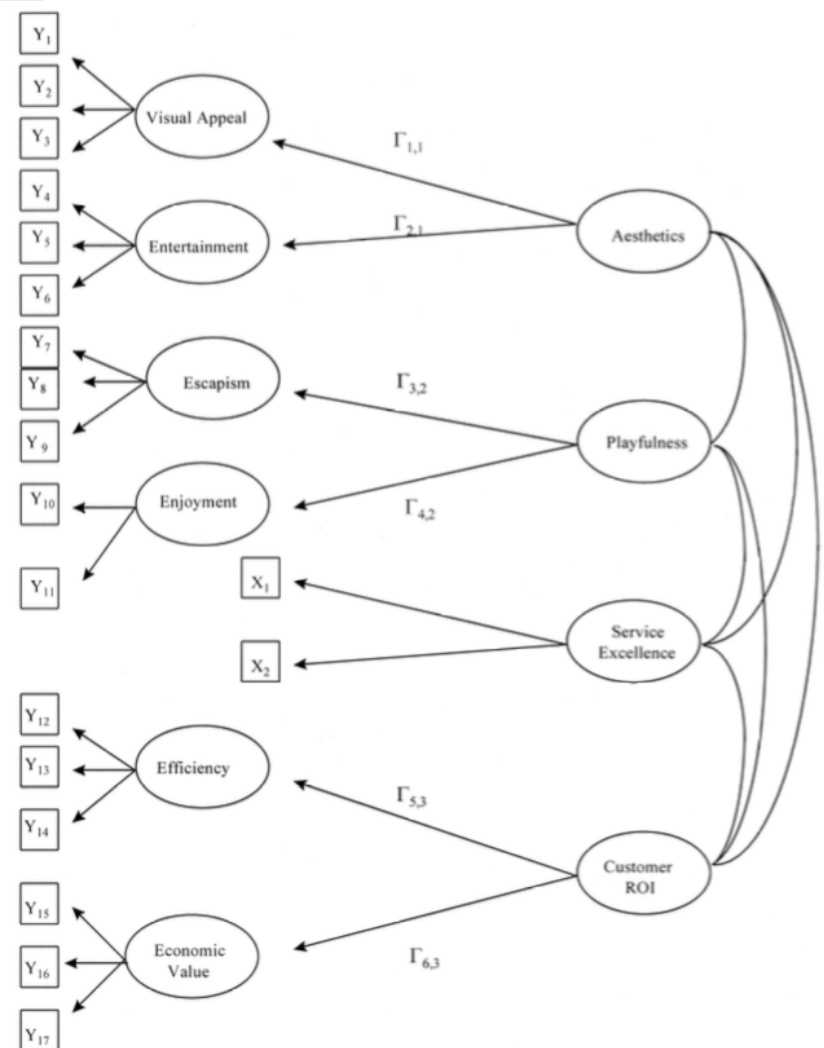typology of experiential value based on Holbroks classification

Figure 5-1 Path Analysis with SEM (unstandardized coefficients with significance denote

(* p<.05; ** p<.01; *** p<.001), standardized within parenthesis)

EVS model of Mathwick et al. (2001)

103

| Construct/Item Wording		α	CR	SL(t)
Visual Appeal		.92	.93	
Y1.	The way XYZ displays its products is attractive.			.91(*)
Y2.	XYZ's Internet site is aesthetically appealing.			.88 (t = 19.02)
Y3.	I like the way XYZ's Internet site looks.			.92 (t = 20.57)
Entertainment Value		.88	.91	
Y4.	I think XYZ's Internet site is very entertaining.			.85(*)
Y5.	The enthusiasm of XYZ's Internet site is catching, it picks me up.			.90 (t = 17.10)
Y6.	XYZ doesn't just sell products-it entertains me.			.87 (t = 16.11)
Escapism		.79	.79	
Y7.	Shopping from XYZ's Internet site "gets me away from it all".			.72(*)
Y8.	Shopping from XYZ makes me feel like I am in another world.			.86 (t = 11.10)
Y9.	I get so involved when I shop from XYZ that I forget everything else.			.65 (t = 8.80)
Intrinsic Enjoyment		na	.73	
Y10.	I enjoy shopping from XYZ's Internet site for its own sake, not just for the items I may have purchased.			.79(*)
Y11.	I shop from XYZ's Internet site for the pure enjoyment of it.			.82 (t = 11.42)
Efficiency		.74	.75	
Y12.	Shopping from XYZ is an efficient way to manage my time.			.69(*)
Y13.	Shopping from XYZ's Internet site makes my life easier.			.84 (t = 9.96)
Y14.	Shopping from XYZ's Internet site fits with my schedule.			.56 (t = 7.27)
Economic Value		.78	.83	
Y15.	XYZ products are a good economic value.			.77(*)
Y16.	Overall, I am happy with XYZ's prices.			.90 (t = 11.80)
Y17.	The prices of the product(s) I purchased from XYZ's Internet site are too high, given the quality of the merchandise.			.66 (t = 9.50)
Excellence		na	.78	
X1.	When I think of XYZ, I think of excellence.			.85(*)
X2.	I think of XYZ as an expert in the merchandise it offers.			.74 (t = 12.58)
Retail Preference		na	.72	
1.	XYZ's Internet site is the best place to shop.			.60(*)
2.	When it comes to shopping XYZ is my first preference			.88 (t = 8.21)
Future Patronage Intent		na	.89	
3.	I intend to shop from XYZ's Internet site in the future.			.82(*)
4.	In the future, XYZ's Internet site is one of the first places I will look when I need to find certain kinds of merchandise.			.88 (t = 12.62)
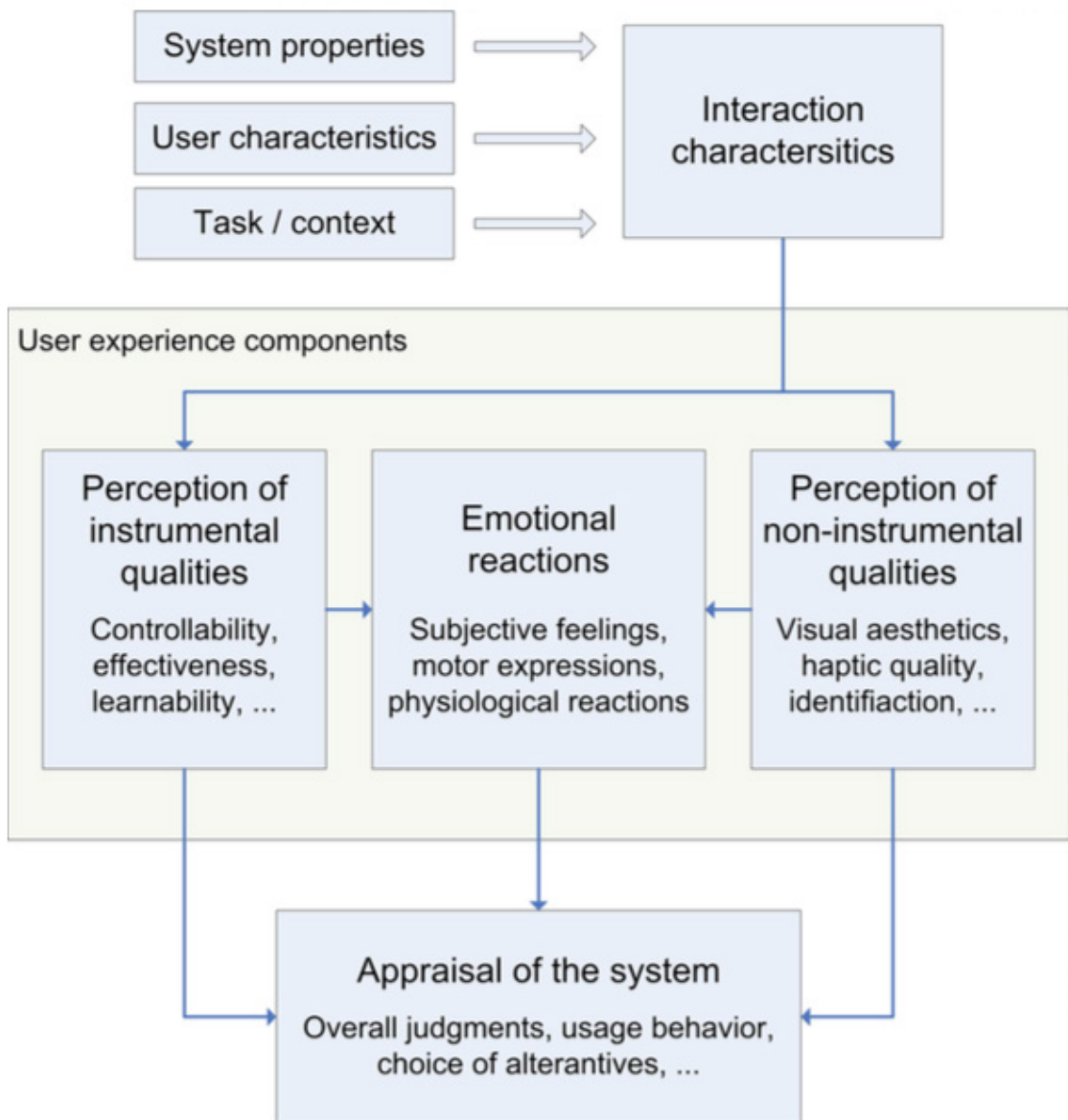
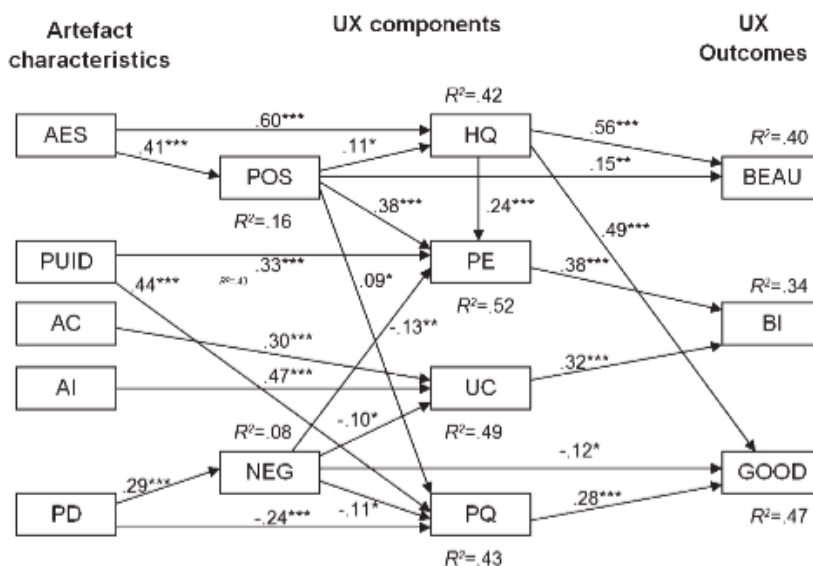**Figure 1. The CUE-Model: Components of User Experience.**

FIG. 2. Model of user experience with news sites. AES: perceived aesthetics. PUID: perceived user-interface design. AC: accessibility. AI: adequacy of information. PD: perceived disorientation. POS: positive affect. NEG: negative affect. HQ: hedonic quality. PE: perceived enjoyment. UC: usefulness of content. PQ: pragmatic quality. BEAU: beauty. BI: behavioral intention. GOOD: goodness. $*p < .05$. $**p < .01$. $***p < .001$.

During the use of the site I felt...

POS1	Interested	NEG6	Irritable
NEG1	Distressed	POS6	Alert
POS2	Excited	NEG7	Ashamed
NEG2	Upset	POS7	Inspired
POS3	Strong	NEG8	Nervous
NEG3	Guilty	POS8	Determined
NEG4	Scared	POS9	Attentive
NEG5	Hostile	NEG9	Jittery
POS4	Enthusiastic	POS10	Active
POS5	Proud	NEG10	Afraid

Response format: 7-point Likert scale with anchor points *not at all*, *moderately* and *extremely*.

AttrakDiff2-SF

PQ1	Confusing	—	Structured
PQ2	Unpredictable	—	Predictable
PQ3	Impractical	—	Practical
PQ4	Complicated	—	Simple
HQ1	Dull	—	Captivating
HQ2	Tacky	—	Stylish
HQ3	Cheap	—	Premium
HQ4	Unimaginative	—	Creative
BEAUTY	Ugly	—	Beautiful
GOODNESS	Bad	—	Good

Response format: 7-point semantic differential.

Perceived enjoyment (PE)

PE1	I find using this news site to be enjoyable.
PE2	The actual process of using this news site is pleasant.
PE3	I have fun using this news site.

Response format: 7-point Likert scale with anchor points *strongly disagree*, *neutral* and *strongly agree*.

CA1	Clean
CA2	Pleasant
CA3	Symmetrical
CA4	Aesthetic
EA1	Original
EA2	Sophisticated
EA3	Spectacular
EA4	Creative

Response format: 7-point Likert scale with anchor points *strongly disagree* and *strongly agree*. CA: classical aesthetics. EA: expressive aesthetics.

Usefulness of content (UC), adequacy of information (AI) and accessibility (AC)

UC1	The site provides relevant information.
UC2	The site provides up-to-date information.
UC3	The site provides unique content.
AI1	The site provides comprehensive information.
AI2	The site provides complete content.
AI3	The site provides sufficient information.
AC1	The pages of the site are accessible.
AC2	The pages of the site load quickly.

Response format: 7-point Likert scale with anchor points *strongly disagree*, *neutral* and *strongly agree*.

Behavioral intention (BI)

BI1	I intend to use the site in the future.
BI2	I predict that I will use the site in the future.

Response format: 7-point Likert scale with anchor points *strongly disagree* and *strongly agree*.

Perceived disorientation (PD)
During the use of the site. . .

PD1	I felt lost.
PD2	I felt I was going around in circles.
PD3	It was difficult to find a page I had previously viewed.
PD4	Navigating between the pages was a problem.
PD5	I didn't know how to get to my desired location.
PD6	I felt disoriented.
PD7	After browsing for a while I had no idea where to go next.

Response format: 7-point Likert scale with anchor points *strongly disagree* and *strongly agree*.

Perceived user-interface design (PUID)

PUID1	The layout of the site is user-friendly.
PUID2	The layout of the site is in good structure.
PUID3	Overall, the user-interface design of the site is satisfactory.

Response format: 7-point Likert scale with anchor points *strongly disagree*, *neutral* and *strongly agree*.

Need fulfilment relevance

How important were the following feelings to you in relation to using the news site?

RELAUT (Autonomy)	Feeling like you are the cause of your own actions rather than feeling that external forces or pressures are the cause of your actions.
RELCOMP (Competence)	Feeling that you are very capable and effective in your actions rather than feeling incompetent or ineffective.
RELREL (Relatedness)	Feeling that you have regular intimate contact with people who care about you rather than feeling lonely and uncared for.
RELPOP (Popularity)	Feeling that you are liked, respected and have influence over others rather than feeling like a person whose advice and opinions nobody is interested in.
RELSTIM (Stimulation)	Feeling that you get plenty of enjoyment and pleasure rather than feeling bored and understimulated.

Response format: 7-point Likert scale with anchor points *not important at all* and *extremely important*.

Scale	Item
Hedonic quality	Unimaginative—Creative
	Tacky—Stylish
	Dull—Captivating
	Cheap—Premium
Pragmatic quality	Impractical—Practical
	Confusing—Structured
	Unpredictable—Predictable
	Complicated—Simple

Need fulfilment

During my use of the news site I felt. . .

AUT1	that my choices were based on my true interests and values.
AUT2	free to do things my own way.
AUT3	that my choices expressed my "true self."
COMP1	that I was successfully completing difficult tasks and projects.
COMP2	that I was taking on and mastering hard challenges.
COMP3	very capable in what I did.
REL1	a sense of contact with people who care for me and whom I care for.
REL2	close and connected with other people who are important to me.
REL3	a strong sense of intimacy with the people I spent time with.
STIM1	that I was experiencing new sensations and activities.
STIM2	intense pleasure and enjoyment.
STIM3	that I have found new sources and types of stimulation for myself.
POP1	that I was a person whose advice others seek out and follow.
POP2	that I strongly influenced others' beliefs and behavior.
POP3	that I had strong impact on what other people did.

Response format: 7-point Likert scale with anchor points *strongly disagree* and *strongly agree*. The presentation order of the items was randomized.

Scale	Item
Positive affect	Inspired
	Enthusiastic
	Determined
	Active
	Proud
	Excited
	Attentive
	Strong
	Alert
	Interested
Negative affect	Distressed
	Afraid
	Upset
	Scared
	Ashamed
	Nervous
	Jittery
	Hostile
	Irritable
	Guilty

1.1 DeLone And Mclean 2003 IS - scale
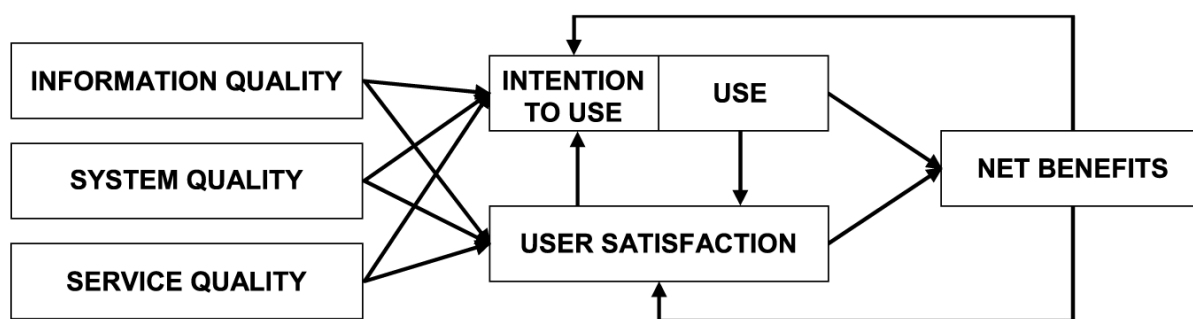
Source: DeLone and McLean (2003)

, in addition, the levels interact with customers through different concepts that will be attached to it later trough in this studyreport.

1.1 DeLone And Mclean 2003 IS - scale

Table 1.1 Exemplary measures of system quality

Items	References
Access	Gable et al. (2008), McKinney et al. (2002)
Convenience	Bailey and Pearson (1983), Iivari (2005)
Customization	Gable et al. (2008), Sedera and Gable (2004b)
Data accuracy	Gable et al. (2008)
Data currency	Hamilton and Chervany (1981), Gable et al. (2008)
Ease of learning	Gable et al. (2008), Sedera and Gable (2004b)
Ease of use	Doll and Torkzadeh (1988), Gable et al. (2008), Hamilton and Chervany (1981), McKinney et al. (2002), Sedera and Gable (2004b)
Efficiency	Gable et al. (2008)
Flexibility	Bailey and Pearson (1983), Gable et al. (2008), Hamilton and Chervany (1981), Iivari (2005), Sedera and Gable (2004b)
Integration	Bailey and Pearson (1983), Gable et al. (2008), Iivari (2005), Sedera and Gable (2004b)
Interactivity	McKinney et al. (2002)
Navigation	McKinney et al. (2002)
Reliability	Gable et al. (2008), Hamilton and Chervany (1981)
Response time	Hamilton and Chervany (1981), Iivari (2005)
Sophistication	Gable et al. (2008), Sedera and Gable (2004b)
System accuracy	Doll and Torkzadeh (1988), Hamilton and Chervany (1981), Gable et al. (2008), Sedera and Gable (2004b)
System features	Gable et al. (2008), Sedera and Gable (2004b)
Turnaround time	Hamilton and Chervany (1981)

Table 1.2 Exemplary measures of information quality

Items	References
Accuracy	Bailey and Pearson (1983), Gable et al. (2008), Iivari (2005), Rainer and Watson (1995)
Adequacy	McKinney et al. (2002)
Availability	Gable et al. (2008), Sedera and Gable (2004b)
Completeness	Bailey and Pearson (1983), Iivari (2005)
Conciseness	Gable et al. (2008), Rainer and Watson (1995), Sedera and Gable (2004b)
Consistency	Iivari (2005)
Format	Gable et al. (2008), Iivari (2005), Sedera and Gable (2004b)
Precision	Bailey and Pearson (1983), Iivari (2005)
Relevance	Gable et al. (2008), McKinney et al. (2002), Rainer and Watson (1995), Sedera and Gable (2004b)
Reliability	Bailey and Pearson (1983), McKinney et al. (2002)
Scope	McKinney et al. (2002)
Timeliness	Bailey and Pearson (1983), Gable et al. (2008), Iivari (2005), Doll and Torkzadeh (1988), McKinney et al. (2002), Rainer and Watson (1995)
Understandability	Gable et al. (2008), McKinney et al. (2002), Sedera and Gable (2004b)
Uniqueness	Gable et al. (2008)
Usability	Gable et al. (2008), Sedera and Gable (2004b)
Usefulness	McKinney et al. (2002)

Table 1.3 Exemplary measures of service quality

Items	References
Assurance	Pitt et al. (1995)
Empathy	Pitt et al. (1995)
Flexibility	Chang and King (2005)
Interpersonal quality	Chang and King (2005)
Intrinsic quality	Chang and King (2005)
IS training	Chang and King (2005)
Reliability	Pitt et al. (1995)
Responsiveness	Chang and King (2005), Pitt et al. (1995)
Tangibles	Pitt et al. (1995)

Table 1.4 Exemplary measures of (intention to) use

Items	References
Actual use	Davis (1989)
Daily use	Almutairi and Subramanian (2005), Iivari (2005)
Frequency of use	Almutairi and Subramanian (2005), Iivari (2005)
Intention to (re)use	Davis (1989), Wang (2008)
Nature of use	DeLone and McLean (2003)
Navigation patterns	DeLone and McLean (2003)
Number of site visits	DeLone and McLean (2003)
Number of transactions	DeLone and McLean (2003)

Table 1.5 Exemplary measures of user satisfaction

Items	References
Adequacy	Almutairi and Subramanian (2005), Seddon and Yip (1992), Seddon and Kiew (1994)
Effectiveness	Almutairi and Subramanian (2005), Seddon and Yip (1992), Seddon and Kiew (1994)
Efficiency	Almutairi and Subramanian (2005), Seddon and Yip (1992), Seddon and Kiew (1994)
Enjoyment	Gable et al. (2008)
Information satisfaction	Gable et al. (2008)
Overall satisfaction	Almutairi and Subramanian (2005), Gable et al. (2008), Rai et al. (2002), Seddon and Yip (1992), Seddon and Kiew (1994)
System satisfaction	Gable et al. (2008)

Table 1.6 Exemplary measures of individual impact

Items	References
Awareness/Recall	Gable et al. (2008), Sedera and Gable (2004b)
Decision effectiveness	Gable et al. (2008), Sedera and Gable (2004b)
Individual productivity	Gable et al. (2008), Sedera and Gable (2004b)
Job effectiveness	Davis (1989), Iivari (2005)
Job performance	Davis (1989), Iivari (2005)
Job simplification	Davis (1989), Iivari (2005)
Learning	Sedera and Gable (2004b), Gable et al. (2008)
Productivity	Davis (1989), Iivari (2005), Torkzadeh and Doll (1999)
Task performance	Davis (1989)
Usefulness	Davis (1989), Iivari (2005)
Task innovation	Torkzadeh and Doll (1999)

Table 1.7 Exemplary measures of organizational impact

Items	References
Business process change	Gable et al. (2008), Sedera and Gable (2004b)
Competitive advantage	Almutairi and Subramanian (2005), Sabherwal (1999)
Cost reduction	Almutairi and Subramanian (2005), Gable et al. (2008), Sedera and Gable (2004b)
Enhancement of communication and collaboration	Almutairi and Subramanian (2005), Sabherwal (1999)
Enhancement of coordination	Almutairi and Subramanian (2005)
Enhancement of internal operations	Almutairi and Subramanian (2005), Sabherwal (1999)
Enhancement of reputation	Almutairi and Subramanian (2005)
Improved outcomes/outputs	Gable et al. (2008), Sedera and Gable (2004b)
Improved decision making	Almutairi and Subramanian (2005)
Increased capacity	Gable et al. (2008), Sedera and Gable (2004b)
Overall productivity	Gable et al. (2008), Sedera and Gable (2004b)
Overall success	Almutairi and Subramanian (2005), Sabherwal (1999)
Quality improvement	Sabherwal (1999)
Customer satisfaction	Torkzadeh and Doll (1999)
Management control	Torkzadeh and Doll (1999)

REFERENCES

Almutairi, H., & Subramanian, G. H. (2005). An empirical application of the Delone and Mclean model in the Kuwaiti private sector. Journal of Computer Information Systems, 45(3), 113–122.

Chang, J. C. J., & King, W. R. (2005). Measuring the performance of information systems: A functional scorecard. Journal of Management Information Systems, 22(1), 85–115.

DeLone, W. H., & McLean, E. R. (2003). The Delone and Mclean model of information systems success: A ten-year update. Journal of Management Information Systems, 19(4), 9–30.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. Management Science, 35(8), 982–1003.

Doll, W. J., & Torkzadeh, G. (1988). The measurement of end-user computing satisfaction. MIS Quarterly, 12(2), 258–274.

Gable, G. G., Sedera, D., & Chan, T. (2008). Re-conceptualizing information system success: The IS-impact measurement model. Journal of the Association for Information Systems, 9(7), 377–408

Hamilton, S., & Chervany, N. L. (1981). Evaluating information system effectiveness – part I: Comparing evaluation approaches. MIS Quarterly, 5(3), 55–69.

Iivari, J. (2005). An empirical test of the Delone–Mclean model of information system success. The DATA BASE for Advances in Information Systems, 26(2), 8–27.

McKinney, V., Kanghyun, Y., & Zahedi, F. M. (2002). The measurement of web-customer satisfaction: An expectation and disconfirmation approach. Information Systems Research, 13(3), 296–315.

Pitt, L. F., Watson, R. T., & Kavan, C. B. (1995). Service quality: A measure of information systems effectiveness. MIS Quarterly, 19(2), 173–187.

Rai, A., Lang, S. S., & Welker, R. B. (2002). Assessing the validity of IS success models: An empirical test and theoretical analysis. Information Systems Research, 13(1), 50–69.

Rainer, R. K., Jr., & Watson, H. J. (1995). The keys to executive information system success. Journal of Management Information Systems, 12(2), 83–98.

Sabherwal, R. (1999). The relationship between information system planning sophistication and information system success: An empirical assessment. Decision Sciences, 30(1), 137–167

Sedera, D., & Gable, G. (2004). A factor and structural equation analysis of the enterprise systems success measurement model. In Proceedings of the 25th international conference on informa- tion systems (ICIS 04), Washington..

Seddon, P., & Yip, S. K. (1992). An empirical evaluation of User Information Satisfaction (Uis) measures for use with general ledger accounting software. Journal of Information Systems, 6(1), 75–92.

Torkzadeh, G., & Doll, W. J. (1999). The development of a tool for measuring the perceived impact of information technology on work. Omega, 27(3), 327–339.

Wang, Y. S. (2008). Assessing e-commerce systems success: A respecification and validation of the Delone and Mclean model of IS success. Information Systems Journal, 18, 529–557.

Yang, Z., Cai, S., Zhou, Z., & Zhou, N. (2005). Development and validation of an instrument to measure user perceived service quality of information presenting web portals. Information Management, 42(4), 575–589.

Table 2: WebQual Constructs' Sources

Constructs	Description of Concept	Major Sources*
Information quality	The concern that information provided is accurate, updated, and appropriate.	Katerattanakul and Siau, 1999 (MIS) Strong et al., 1997 (MIS) Wang and Strong, 1996 (MIS) Baroudi and Orlinkowski, 1988 (MIS) Bailey and Pearson, 1983 (MIS)
Functional Fit-to-task**	The extent to which users believe that the Web site meets their needs.	Davis, 1989 (MIS) Franz and Robey, 1984 (MIS) Goodhue and Thompson, 1995 (MIS) Ives, et al., 1983 (MIS) Doll and Torkzadeh, 1988 (MIS) Todd and Benbasat, 1992 (MIS) Su, et al., 1998 Harry, 1998
Tailored Communications	Communications can be tailored to meet the user's needs.	Ghose and Dou, 1998 (MKT) Philport and Arbittier, 1997 (MKT) Marrelli, 1996 (POP) Hoffman et al., 1995 (MIS) Emerick, 1995 (MKT) Steuer, 1992 (MIS) Blattberg and Deighton, 1991 (MKT) Xie, et al., 1998 (MIS) Parasuraman, et al., 1991 (MKT) EXPL
Trust	Secure communication and observance of information privacy.	Gruman, 1999 (POP) Doney and Cannon, 1997 (MKT) Hoffman et al., 1999 (MIS)
Response Time	Time to get a response after a request or an interaction with a Web site.	Shand, 1999 (POP) Machlis, 1999 (POP) Seybold, 1998 (POP/MKT) EXPL

Table 8: Web site areas of conccern and recommendated actions

Area of concern	Recommended action
Ease of understanding	Design the pages that are easy to read and understand.
Intuitive operations	Develop an intuitive navigation system that is easy to learn and master.
Informational fit-to-task	Undertake market research to determine what information consumers want on the Web site.
Tailored Communications	Support consumer interaction via the Web site and the capability to receive tailored information.
Trust	Adopt and promote security and privacy policies and procedures that make customers feel secure in dealing with the company.
Response time	Have sufficient hardware and communications capacity to meet peak demand and avoid large graphics.
Visual appeal	Use colors, graphics, and text that are pleasing to the consumer's eye and avoid cluttered pages.
Innovativeness	Use a creative and differentiating approach to the Web site.
Emotional appeal	Design the Web site to provoke a positive customer experience.
On-line completeness	Allow customers to conduct important business functions over the Web.
Relative Advantage	Make the Web site just as easy, if not easier, for customers to use than other forms of interacting with the company.
Consistent image	Design the Web site to reflect the company's image.

1 WEBQUAL 2002

Ease of Understanding	Easy to read and understand.	Davis, 1989 (MIS) Kotler, 1973 (MKT) EXPL
Intuitive Operations	Easy to operate and navigate.	Davis, 1989 (MIS) Benbunan-Fich, 2001 (MIS) Moschella, 1998 (POP) Radcliffe 1998 (POP) Nielsen, 1997 (POP) EXPL
Visual Appeal	The aesthetics Web site.	Geissler, et al. 1999 (MKT) Elliot and Speck, 1998 (MKT) Ha and Litmarn, 1997 (MKT) EXPL
Innovativeness	The creativity and uniqueness of a Web site.	Eighmey, 1997 (MKT) Aaker and Stayman, 1990 (MKT) Ducoffe, 1995 (MKT)
Emotional Appeal	The emotional affect of using the Web site and intensity of involvement.	Novak and Hoffman, 1997 (MIS) Hoffman et al., 1996 (MIS) Hoffman and Novak, 1996 (MKT) Ellis, et al., 1994 (MIS) LeFevre, 1988 (MIS) Csikszentmihalyi, 1977, 1990 (MIS) Richins, 1997 (MKT) De Pelsmacker and Van Den Bergh, 1997 (MKT) EXPL
Consistent Image	The Web site does not create dissonance for the user by an image in compatible with that projected by the firm through other media.	Watson et al., 2000 (MIS) James and Alman, 1996 (MKT) Resnik and Stern, 1977 (MKT) Machlis, 1999 (POP) Seybold, 1998 (POP/MKT) EXPL
On-line Completeness	Allowing all or most necessary transactions to be completed on-line (e.g., purchasing over the Web site).	Seybold, 1998 (POP/MKT) EXPL
Relative Advantage	Equivalent or better than other means of interacting with the company.	Moore and Benbasat, 1991 (MIS) Rogers, 1982 (MIS) Seybold, 1998 (POP/MKT) EXPL
Customer Service***	The response to customer inquiries, comments, and feedback when such response requires more than one interaction.	Kaynama and Black, 2000 (MKT) Xie, et al., 1998 (MIS) Parasuraman, et al., 1991 (MKT)

*Not an exhaustive list. Items in this column should be viewed as representative. MIS = MIS (& Information Science) Literature Review, MKT = Marketing Literature Review, POP = Popular Press, & EXPL = Exploratory Research.
**Due to analysis described later in the paper Information quality & Fit-to-task were collapsed into one construct.
***As explained in text multiple interaction Customer service measures are not yet included in WebQual.

Appendix 8: WebQual Items by Construct

USEFULNESS:
Informational Fit-to-Task
The information on the Web site is pretty much what I need to carry out my tasks.
The Web site adequately meets my information needs.
The information on the Web site is effective.
Tailored Communications
The Web site allows me to interact with it to receive tailored information.
The Web site has interactive features, which help me accomplish my task.
I can interact with the Web site in order to get information tailored to my specific needs.
Trust
I feel safe in my transactions with the Web site.
I trust the Web site to keep my personal information safe.
I trust the Web site administrators will not misuse my personal information.
Response Time
When I use the Web site there is very little waiting time between my actions and the Web site's response.
The Web site loads quickly.
The Web site takes long to load.
EASE OF USE:
Ease of Understanding
The display pages within the Web site are easy to read.
The text on the Web site is easy to read.
The Web site labels are easy to understand.
Intuitive Operations
Learning to operate the Web site is easy for me.
It would be easy for me to become skillful at using the Web site.
I find the Web site easy to use.

ENTERTAINMENT:

Visual Appeal

The Web site is visually pleasing.

The Web site displays visually pleasing design.

The Web site is visually appealing.

Innovativeness

The Web site is innovative.

The Web site design is innovative.

The Web site is creative.

Emotional Appeal

I feel happy when I use the Web site.

I feel cheerful when I use the Web site.

I feel sociable when I use the Web site.

COMPLIMENTARY RELATIONSHIP:

Consistent Image

The Web site projects an image consistent with the company's image.

The Web site fits with my image of the company.

The Web site's image matches that of the company.

On-Line Completeness

The Web site allows transactions on-line.

All my business with the company can be completed via the Web site.

Most all business processes can be completed via the Web site.

Relative Advantage

It is easier to use the Web site to complete my business with the company than it is to telephone, fax, or mail a representative.

The Web site is easier to use then calling an organizational representative agent on the phone.

The Web site is an alternative to calling customer service or sales.

Figure 1
COGNITIVE MODEL OF THE ANTECEDENTS AND CONSEQUENCES OF SATISFACTION DECISIONS
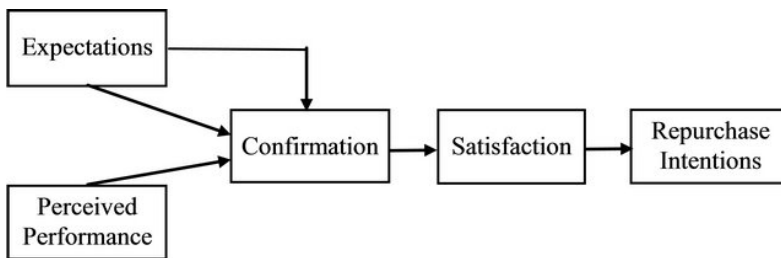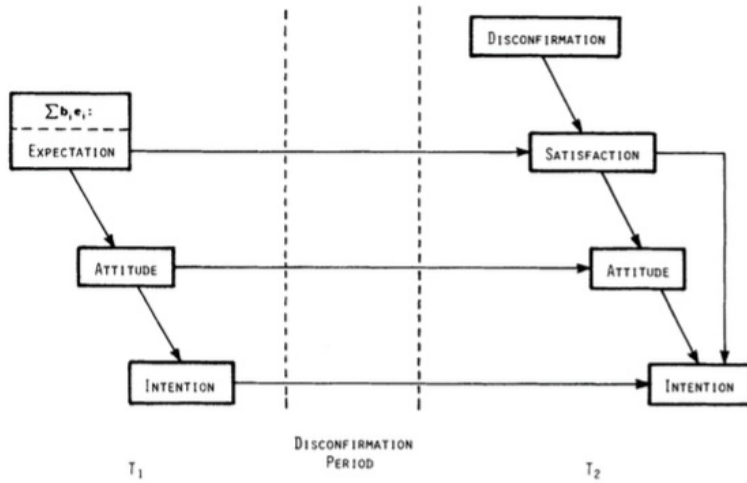
Measures of Usability and User Experience (UX): Correlation and Confusion

Table 3: Comparisons of seven empirical studies on the relations between usability and aesthetics

Author/ Source	Evaluation Methods/ Duration of Interaction	Product/ Task Complexity	Measures	Main findings on usability(U)- aesthetics(A) relation	Rel. U-A	Statistics Reported
De Angeli, Sutcliffe & Hartmann, DIS 2006	Users were asked to perform information retrieval tasks with websites of two different interaction styles: menu-based vs metaphor-based/ *3-hour* session	Informative website/ Medium-High	(i) Usability: performance, usability problems, subjective scale; (ii) Memorability; (iii) Aesthetics: heuristics and questionnaire; (iv) Information quality scale; (v) Engagement scale; (vi) Overall preference	Usability measures and expressive aesthetics were significant predictors of overall preference; users tend to discount negative attributes in their preferred interaction style; framing effect of user judgment	Yes	logistics regression analysis
Lindgaard & Dudek IwC 2003	Open-end interviews (content analysis); Users were asked to inspect the given websites and comment on them/ *10-minute* for each website tested	B2C websites Low-medium	(i) Perceived usability; (ii) Aesthetics; (iii) Emotion; (iv) Likeability; (v) Expectation, and (vi) WAMMI standardized satisfaction scores	Perceived usability and aesthetics did not co-vary; aesthetics and satisfaction correlated	No	t-test statistics
Hassenzahl HCI 2004	Users were asked to rate each of the MP3-player skins with the given questionnaires; pre- and post-usage evaluations were measured/ Study1: 15-min (no usage); Study2: 30-min (with usage)	MP3-player skins Study1: low-medium Study2: medium	(i) Perceived hedonic-identification and hedonic-stimulation; (ii) Perceived pragmatic quality (i.e. usability); (iii) one-item scale for beauty; (iv) one-item scale for goodness; (iv) subjective mental efforts	no or only a weak correlation between aesthetic quality and pragmatic attributes of the product; aesthetic appreciation is not strongly affected by experience	No	Pearson correlation
Schenkman & Jönsson BIT 2000	Users were asked to view the given websites and rate them pairwise and individually to evaluate similarity, preference and other design attributes/ No time limit; no real interaction	13 websites of different domains Low-medium	(i) Similarity (pairwise website); (ii) Preference (pairwise website); (iii) complexity, legibility, order, beauty, meaningfulness, comprehension, and overall impression scales (indiv. website) [Multi-Dimensional Scaling (MDS)]	Beauty was a primary predictor of overall impression and preferences of websites	Yes	MDS analyses; Multiple regression;
Lavie & Tractinsky IJHCS 2004	Exploratory research via 4 studies; users evaluated their impressions or experiences of using the given websites/ No data on time	10 websites of different domains or languages/ Vary with studies: low to medium	Subjective scales on aesthetics, usability, playfulness and service quality	Correlation between usability and classic aesthetics is higher than that between usability and expressive aesthetics	Yes	correlations
Ben-Bassat, Meyer & Tractinsky, TOCHI 2006	Complex mixed methods design; users were asked to read usage instruction, (enter data, (bid an auction)), rate usability and aesthetics of the system/ 7 to 12 min	Computer-ized phone book Low-medium	(i) Objective performance (accuracy of entries); (ii) subjective preference; (iii) auction bids (economic measure); (iv) subjective ratings for usability and aesthetics	Experience with the system and monetary incentive had NO effect on user preference; auction bids had significant effect on usability but NO effect on aesthetics.	No	ANOVAs
Chawda et al. HCI 2005	Semi between-subject design (3 visualization techniques x 2 search tasks)/ No data on task completion time	Search tool Medium	(i) Objective performance (errors, completion times); (ii) pre-/post-use usability questionnaire (SUS); (iii) pre-/post-use aesthetics questionnaires;	Strong relationships between pre-use aesthetics and pre-use usability, same for the post-use. No correlation between objective usability measures and aesthetics	Yes	correlation
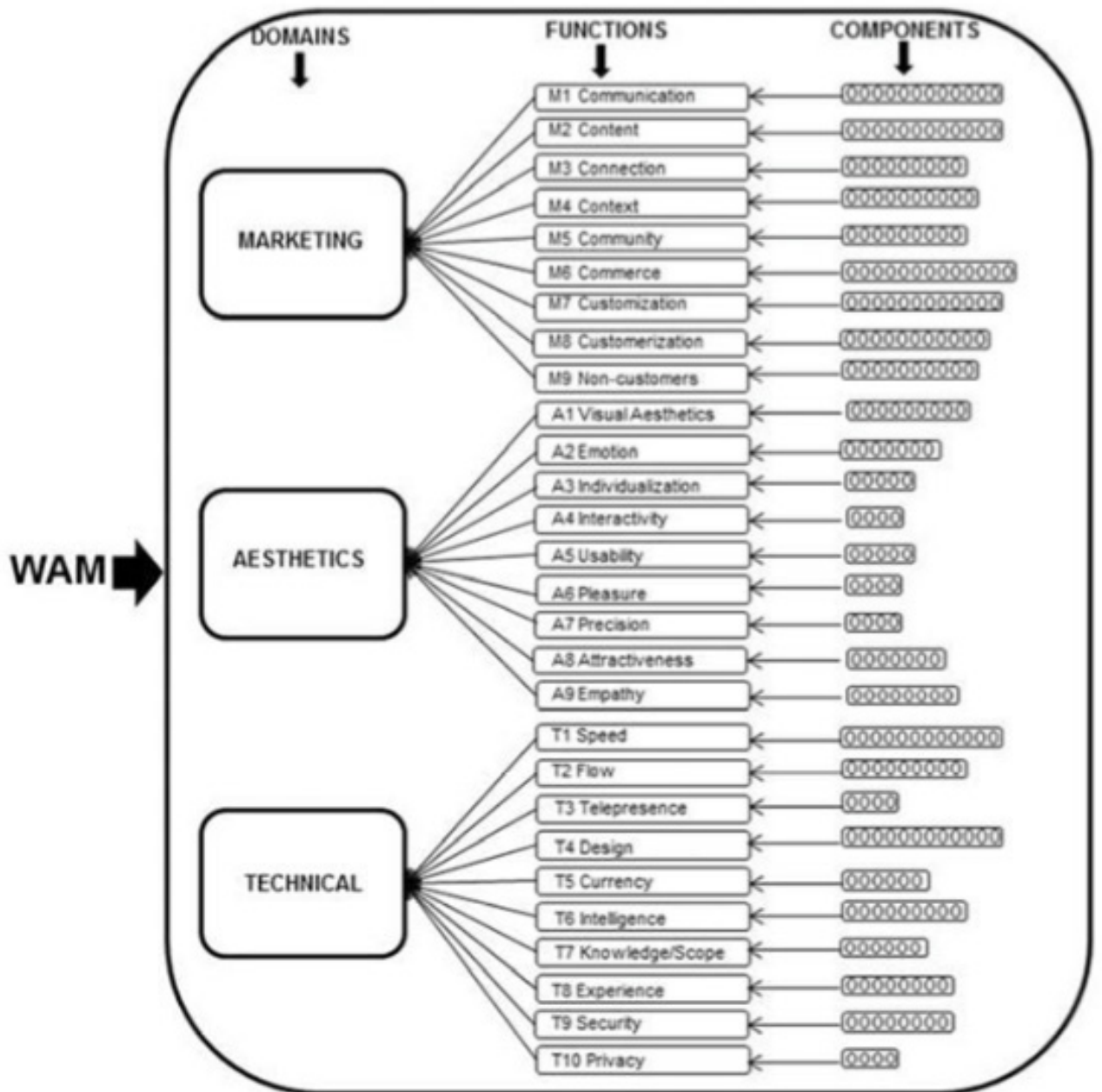
8.11 Forrester tool

Digital transformation assessment made in Qualtrics.

Digital available on: https://forrester.co1.qualtrics.com/jfe/form/SV_7WZBAU12u0dJbWl

FORRESTER®
CHALLENGE THINKING. LEAD CHANGE.

Digital Transformation Assessment

No matter where your company is on your journey to becoming a digital business, you must figure out where you are today.

Assess your digital business capabilities by asking yourself a few probing questions. We'll use your answers to figure out which of the four categories you fall into, and give you suggestions for what you need to do to advance to the next level.

Next

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Digitize Customer Experience

Please rank how accurately these statements reflect your firm's current status:

	Nonexistent We don't do this at all	Ad hoc We do this occasionally, not well-defined	Defined Some business units/teams do this in a well-defined way	Repeatable The company does this consistently in all business units	Optimized We optimize this through continuous measurement and feedback across the business
We deliver a best-in-class digital experience	○	○	●	○	○
The disciplines of customer experience influence everything we do	○	●	○	○	○

Back   Next

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Create Trusted Machines

Please rank how accurately these statements reflect your firm's current status:

	Nonexistent We don't do this at all	Ad hoc We do this occasionally, not well-defined	Defined Some business units/teams do this in a well-defined way	Repeatable The company does this consistently in all business units	Optimized We optimize this through continuous measurement and feedback across the business
We leverage digital data sources and analytics to optimize our customer experience in real time.	○	○	○	○	○
Our customers rely upon and trust our systems to recommend their next action or take the action for them.	○	○	○	○	○

Back   Next

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CHALLENGE THINKING. LEAD CHANGE.

Digitize Products And Services As Part Of The Customer's Ecosystem Of Value

Please rank how accurately these statements reflect your firm's current status:

	Nonexistent We don't do this at all	Ad hoc We do this occasionally, not well-defined	Defined Some business units/teams do this in a well-defined way	Repeatable The company does this consistently in all business units	Optimized We optimize this through continuous measurement and feedback across the business
We design products and services as digital-first experiences.	○	○	○	○	○
We extend the value we bring to customers inside their ecosystem of digitally connected products and services.	○	○	○	○	○

Back   Next

FORRESTER®
CHALLENGE THINKING. LEAD CHANGE.

Drive Rapid Customer-Centric Innovation

Please rank how accurately these statements reflect your firm's current status:

	Nonexistent We don't do this at all	Ad hoc We do this occasionally, not well-defined	Defined Some business units/teams do this in a well-defined way	Repeatable The company does this consistently in all business units	Optimized We optimize this through continuous measurement and feedback across the business
We leverage digital technology to engage customers and partners in innovation and product design.	○	○	○	○	○
We use agile and iterative techniques to bring digital product and services to customers.	○	○	○	○	○

Back   Next

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CHALLENGE THINKING. LEAD CHANGE.

Source Enhanced Operational Capabilities Within A Dynamic Ecosystem Of Value

Please rank how accurately these statements reflect your firm's current status:

	Nonexistent We don't do this at all	Ad hoc We do this occasionally, not well-defined	Defined Some business units/teams do this in a well-defined way	Repeatable The company does this consistently in all business units	Optimized We optimize this through continuous measurement and feedback across the business
We optimize our operations using digital connections to dynamically source services in support of customer value.	○	○	○	○	○
Our employees are empowered with digital tools in order to build their own collaboration networks, internally and with partners.	○	○	○	○	○

Back   Next

Digitize For Agility Over Efficiency

	Nonexistent We don't do this at all	Ad hoc We do this occasionally, not well-defined	Defined Some business units/teams do this in a well-defined way	Repeatable The company does this consistently in all business units	Optimized We optimize this through continuous measurement and feedback across the business
Please rank how accurately these statements reflect your firm's current status:					
We prioritize investments that create agility in our operations to cope with rapid changes in market conditions.	○	○	○	○	○
We measure and reward employees based on customer-centric metrics over functional metrics.	○	○	○	○	○

Back   Next

One Last Step!

Please fill out the form below to see your results. (All fields are required.)

* First name

* Last name

* Email address

* Business phone

* Job title

* Company

* Company address

* City

* State/Province (required for US/Canada)

* ZIP or postal code (required for US/Canada)

* Country

Back   Next