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Rational Overrides: Influence Behaviour Beyond Nudging

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Service designers and organizations are struggling to understand and change customer behaviour since it is complex, dynamic, multidimensional and very often not considered to be rational. Knowledge from behavioural sciences can provide service designers with the ability to more fundamentally understand, predict and guide customer behaviour. A combination of qualitative and exploratory methodologies was used in order to develop a design approach that supports service designers to create behavioural interventions across customer journeys. While service designers increasingly leverage the insights of behavioural science for designing nudging interventions, we propose that different efforts are needed to increase the chances of having a durable impact on behavioural change. We propose the inclusion of rational overrides in service design as an additional approach for influencing behaviour. Rational overrides introduce micro moments of friction in the customer journey, which can be used to disrupt mindless automatic interactions, prompt moments of reflection and more conscious decision making. This research resulted into a design toolkit to support service designers, clients and stakeholders to understand and design behavioural interventions by combining nudges and rational overrides.

service design; rational override; behavioural design; nudging

1 Introduction

Service design is a holistic, multidisciplinary and integrated design approach in which new services are created or existing ones are improved. The core value of service design is using customer insights - their needs, expectations, beliefs and behaviours - to design useful and desirable services that are effective as well as efficient for organizations (Moritz, 2005; Sleeswijk Visser, 2013). In essence, the effectiveness and value of a service relies, to a large extent, on the decisions and behaviours of the people that interact with the different touchpoints (Fullerton, 2009; Payne et al, 2008). All the different interactions between the customer and a service create the overall customer experience (Poline et al, 2013). The customer experience is based on peoples' personality, internal state and prior experiences. While service designers cannot design the actual customer experience, they can

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design the environment around it. In order to create the best possible conditions for a positive customer experience it is key to understand customer needs and behaviours. Service design methods and tools, such as customer journey mapping, customer shadowing and service safaris, are currently used to generate insights about what people do and want. However, these methods do not offer a fundamental explanation on why people behave the way they do. Knowledge from behavioural sciences can provide service designers with the ability to more fundamentally understand, predict and guide customer behaviour (Naumof, 2014).

1.1 *Using nudging interventions to influence behaviour*

Customer behaviour can be explained and influenced if we understand the underlying decision-making processes that determine if, and how, people will act (or not). Behavioural economics, a discipline that bridges economics and psychology, is focused on these individual, cognitive driven behaviours and decision-making processes. Making good decisions requires large amounts of brain capacity since we need to weight the pros and cons, possible alternatives and our own motivations and needs. Therefore, people tend to rely on their instinctive subconscious mindset when making decisions (Kahneman, 2011; Zaltman, 2003). Within this mindset people are guided by mental shortcuts and therefore use limited cognitive capacity. These mental shortcuts are universal, based on core capacities of the brain and strongly influenced by the context (Gigerenzer & Gaissmaier, 2011). By understanding the mental shortcuts that take place in a particular service environment, service designers have the ability to create behavioural interventions that help and guide customers in predictable ways to make 'more optimal' decisions and create better experiences.

In an attempt to influence customer behaviour, service designers have increasingly experimented with nudging interventions. Nudges are interventions that stimulate individuals' specific cognitive boundaries, biases, routines and habits, to influence people's judgement, choice and behaviour in a predictable way (Hansen, 2016). Nudges help to reduce choice overload, redesign confusing interfaces and remove unnecessary steps from the process to create frictionless customer experiences. These simple interventions make information or a particular behaviour really easy, attractive or social. Nudges can support service organizations and service designers to, among others, quickly resolve adoption problems, smooth channel migration and streamline operations.

1.2 *Disadvantages of nudging in a service environment*

Although nudges have been proven to be very effective, they are not always scalable, sustainable or suitable to apply in a service context. First of all, nudges only work in the present moment and in a stable context as they are designed to effect immediate behaviour (Dholakia, 2016; Strassheim, 2016). Nudging customers to a desired direction is only effective within a specific touchpoint and will not likely stretch beyond it (Bisset & Lockton, 2010; Stutzer, 2011; Hansen & Jespersen, 2013). Since nudges facilitate automatic and subconscious thinking it can only change behaviour in the environment in which the nudge is present. Services are inherently dynamic; customer move from one touchpoint to another. In order to change customer behaviour in a service context, multiple nudges would need to be present across different touchpoints. As customers move through a service in a nonlinear manner across channels, touchpoints and over different periods of time it is far less predictable and thus difficult to effectively integrate nudging interventions.

A second disadvantage is that nudges can make customers lazy and inactive. Using nudges to create frictionless experiences will result in customers that use less and less cognitive capacity to perform certain tasks. These frictionless interactions make that the decisions a customer takes go unseen, unnoticed and unprocessed. If customers are exposed to an overflow of nudges it can result in 'excessive convenience' that makes them lazy and disengaged (Bovens, 2009; Schubert, 2015). Moreover, since nudges stimulate decisions through inaction they are less likely to result into the committed follow-up that is often useful for implementing new behaviours or habits (Keller, 2011; Fowlie, 2017). However, most service organisations want to stimulate an active and engaged customer base that frequently interacts with the service.

Thirdly, nudges do not require customer input and are primarily created according to a one-size-fits-all approach. Nudges are completely provider led (service organisations determine the desired behaviour) and do not require or request active customer input. Changing customer behaviour by nudging can be effective when a single unified outcome is the optimal course of action (Botti & Iyengar, 2004; Dholakia, 2016). However, as most organizations serve customers with different characteristics and needs they require more than a one-size fits all approach. In some situations, nudges can hinder people from making a conscious decision that fits their personal situation best.

Finally, nudges do not increase the customer experience. Nudges facilitate automatic subconscious thinking and they make that the decisions a customer takes can go unseen, unnoticed and unprocessed. Nudges will thus not increase a decision maker's satisfaction and experience (Botti & McGill, 2006; Keller, 2011). A service is an interactive exchange between the provider and user over time in which value is co-created (Payne et al, 2008; Reckwitz, 2002). However, nudges do not require customers to be aware, let alone be involved in, the value creation process. Therefore, nudging customers into desired directions might not increase the perceived value and customer experience of a service.

1.3 A service design approach towards creating behavioural interventions

If service organizations objectify to create an endured behaviour change it requires customers to get out of the status quo, make an active or individual decision it is essential to get the customer in the right mindset at the right time. The objective of service design should thus not be to facilitate automatic and fast thinking alone but to also include behavioural interventions that can stimulate people to switch to more deliberate and conscious thinking when necessary. See figure 1.

Figure 1. Behavioural interventions can influence behaviour in two ways. Nudging interventions stimulate the activation of specific mental shortcuts in the unconscious, automatic mindset and guides customers to a single predictive outcome. Rational override interventions use micro moments of friction to disrupt users' mindless automatic interactions and stimulate conscious individual decisions making.

Based on the results of this research we propose an alternative design approach towards creating effective behavioural interventions in services. In this approach two types of behavioural interventions (nudges and rational overrides) are combined across a customer journey to either speed up or slow down the user's momentum. The interventions in this design approach do not only facilitate automatic and fast thinking but can, when necessary, switch customers to the conscious state. People can be prompted to switch to the conscious state by implementing micro moments of deliberate friction in the customer journey. We refer to these micro moments of friction as rational override interventions. They can be used to disrupt mindless automatic interactions, prompt moments of reflection and stimulate conscious decision making. These type of 'mindful' interventions have been reported, and are known in the behavioural literature, as debiasing interventions (Jolls and Sunstein, 2004), mindful nudges (Ly, 2013), system 2 nudges (Sunstein, 2015) and inclusion nudges (Nielsen, 2016). Additional literature research showed that in the UX and design discipline interventions like these are referred to as frictional feedback (Laschke, Diefenbah &

Hassenzahl, 2015) and micro boundaries (Cox & Gould, 2016). In comparison to nudging there has been limited attention for behavioural interventions that opt to make people consciously aware of their behaviour. However, different scholars have highlighted the potential of these mindful interventions, but indicate that more research is needed (Sunstein, 2015; Strassheim, 2016).

This paper describes our efforts to integrate these two types of behavioural interventions in the service design process. To achieve our goal, we used a combination of qualitative, exploratory methodologies that resulted into a toolkit consisting of five templates, two card sets and two databases to support service designers, clients and stakeholders to understand and design behavioural interventions by combining nudges and rational overrides. The toolkit enables designers to create tailor-made solutions that fits both the customer, business and organization. The proposed approach and toolkit is the first step towards systematically applying two different types of behavioural interventions across customer journeys to influence (and eventually change) behaviour, and should be interpreted as such.

2 Methodology

In order to understand how service designers can integrate behavioural knowledge into the design process to influence customer behaviour, an exploratory research design was performed (Yin, 2013). The research included a multi-case study at a service design consultancy to review the current design process, activities and tools used to include behavioural theory in the design of services. An additional goal was to identify how service designers can be best supported to design behavioural interventions. The case studies have been executed at one of the first service design consultancies and has offices in London, Oslo and Rotterdam. The company is dealing with both private and public-sector projects, which generate a wide range of design briefs. A purposeful sampling technique was used since there were limited cases at the case company in which behavioural science has been intentionally applied and to be sure to get information-rich cases (Patton, 2002). Seven cases were selected on the condition that these were completed cases, varied across sectors, performed by different designers and include both explicitly and implicitly uses behavioural economic principles.

These case studies were complemented by a series of semi-structured interviews with experts in applying behavioural knowledge to create behavioural interventions. Three experienced practitioners with different backgrounds and from different sectors were interviewed to generate insights into the development and implementation of behavioural interventions.

2.1 Data collection and procedure

2.1.1 Multi Case study analysis

The data in the case study analysis have been collected by means of desk research and semi-structured generative interviews with designers and clients. Triangulation was used in order to minimize bias and strengthen the findings of the research (Yin, 2013). Triangulation was achieved through the use of multiple data sources: designers as well as clients were interviewed to capture multiple perspectives on the phenomena. The desk research was used to create an initial understanding of the projects and create focus for the subsequent interviews. The desk research included a review of the information that was used and created during the projects; including presentations, workshop assignments, designs, brainstorm, user interviews, reports and summaries of knowledge about behavioral sciences. The findings from the desk research were used to create a thematic guide for the interviews in order to make sure important topics were included (Patton, 2002).

Subsequently, designers and clients were interviewed in order to understand the design process, success factors, challenges and ways on how to best support them in behavioural projects. Rich and anecdotal information is required in order to provide a throughout understanding of the current projects and design process (Eisenhardt, 1989). Therefore, a generative research approach, called context mapping, was used to acquire deep understanding of user needs. Context mapping can help

to capture emotional responses and deeper levels of knowledge from participants by letting them create designerly artifacts such as collages and drawings (Sanders & Stappers, 2008; Sleeswijk Visser et al., 2005).

Six designers were interviewed about seven different cases, as one of the designer was involved in two cases. Prior to the interview, designers received a sensitizing booklet with 4 small assignment to help them to reflect on the project and express their experiences. The subsequent interviews were semi-structured and involved two generative assignments that build upon on the assignment in the sensitizing booklet. All interviews were voice recorded and notes were taking during the interview. As sensitizing was not possible, the clients were only involved in one our generative interviews. The assignments and questions were similar to that of the designers. From two of the seven cases, it was not possible to interview the client. Thus, these cases were only used as additional verification of findings in the cross-case analysis. Again, voice recordings and notes were taking during the interviews.

2.1.2 Expert interviews

Next to the case studies, three experts were interviewed about the different applications of behavioural economics, development of interventions, ethical considerations and opportunities and challenges in the field of behavioural economics. While the three interviewees represent a small sample, care was taken to include different perspectives. Two interviewees, one with a social psychology background and one with a management background, are active in the private sector. One member of the Dutch 'behavioural insights team' was interviewed to include insights from the public sector. A thematic guide for the semi-structured interviews was created based on a literature study. The interviews were exploratory in nature and were voice recorded.

2.2 Data analysis

From the audio recordings statement cards were created and used for an analysis 'on the wall' (Sanders & Stappers, 2013). To become familiar with the individual cases and find patterns in each case a with-in case study was done. This first analysis was done by clustering the statement cards in themes and finding relationships between the themes. The themes are part of the findings as they were not based on a predetermined theoretical framework but come directly from the participants. This within-case analysis accelerated the cross-case comparisons. The themes and relationships of the individual cases were compared to allow for general patterns to emerge. The themes were based on (dis)similarities and quantity of insights that were gathered. The insights from the case study and expert interviews were synthesized into a systematic design process and guidelines for a behavioural design toolkit.

2.3 Toolkit development

The results of the exploratory research revealed that service designers and clients have a strong need for a systematic design process and practical tools in different parts of the design process. Up till now, projects have been of an experimental nature. In order to apply the behavioural theory, different approaches, methods and tools are used by service designers. Due to the increased interest in behavioural science in the field of design dozens of models, short-lists and tools have been emerging. These behavioural based tools are generally focussed on either behavioural theory (like the behavioural model of B.J. Fogg), a behavioural design process (like the Design for behavioural change from Stephen Wendel) or execution (like the EAST cards from the behavioural insights unit in the UK). While these different behavioural tools have shown significant opportunities in different domains there is yet not an approach focused on the design of interventions in a service context in which the organizational, business and customers experience perspective is taken into account. The insights from the case study were used to visualise a process overview, that includes the general steps and phases a service designer has to go through in order to create behavioural interventions. Although none of the processes described in the research were exactly the same, but the

approaches and steps showed large similarities. The activities, supporting resources and needs of designers and clients were plotted on the process overview.

The process overview was subsequently translated into four clear design requirements for the toolkit. These guidelines were used as a starting point for the development of the toolkit through a series of brainstorm and validation workshops with design students and design professionals. The first workshop included an exploration into the possible activities, visualizations, structures and forms design tools can have. Different behavioural models, the dual system theory, nudge cards and cognitive biases were evaluated on usability, effectiveness and possible opportunities for integration. The resulting toolkit prototypes have been progressively improved through validation sessions and design iterations with designers, clients and experts. The outcome is a toolkit consisting of five templates, two card sets and two databases to support service designers, clients and stakeholders to understand and design behavioural interventions by combining nudges and rational overrides. In the next paragraphs, we will focus on the part of the toolkit where the rational overrides are introduced and combines with the nudging interventions for the design of successful services.

3 Behavioural Intervention Design

This research integrates nudging interventions and rational overrides in a service design toolkit that enables service designers to fundamentally understand behaviour and design interventions that can influence, and eventually, change behaviour. The behavioural intervention design process consists of six phases, which are related, and complementary, to current phases in a service design process. The toolkit, consisting of five templates, two card sets and two databases, can be used by designers to create a strategy, conduct a behavioural analysis and generate ideas for behavioural interventions.

3.1 Guidelines for a service design toolkit

The insights from the exploratory research were translated to clear design guidelines for the toolkit. In order for the toolkit to effectively support service designers in creating rational overrides and nudges it should fit the following criteria.

- *The toolkit should facilitate co-creation*, as behavioural projects require a high level of client and stakeholder involvement. Co-creation workshops can stimulate clients to generate a feeling of ownership and engagement, which will increase the chances of successful implementation.
- *The tools need to be practical and flexible in use*. As the tools will be used by different people and in different types of projects, the tools in the kit should be modular, adaptable and easy to explain.
- *The toolkit should be supporting people with different levels of behavioural knowledge*. The tools must be accessible for people with no knowledge of behavioural theory but also need to support experience designers to get more in-depth insights when necessary. Thus, the tools should balance abstract theory, in-depth insights, with actionable steps and practical examples.
- *The tools should enable designers to think on abstract as well as more detailed levels*. While the design of behavioural interventions requires a micro perspective, it is important to integrate the more holistic insights of organizational challenges and effects on the overall customer experience.

3.2 Behavioural Intervention Toolkit

In order to create effective behavioural interventions, it is important to first understand behaviour and the underlying mental mechanisms. Applying behavioural principles should

not simply be about intuition or trial and error, but requires a systematic design approach. Therefore, we have created a design process consisting of six phases – from strategy development, behavioural analysis, synthesis, idea generation, creation and validation. The phases are deliberately linked to existing phases in a service design process in order to align the activities and increase the chances of adoption. In general, all service design projects resemble the four main stages of the double diamond model (Moritz, 2005). Therefore, similar divergent and convergent stages are included in the behavioural intervention process. Table 1 shortly describes the different phases and elements of the supporting toolkit. No specific tools were developed for the create, validate and implement phase since the activities in these phases vary greatly and are strongly depended on the running time and budget of a project.

Table 1. The Behavioural Intervention Design process consist of six phases. For the first four phases, behavioural intervention tools are developed to support service designers. The behavioural toolkit consists of 5 templates, 2 card sets and 2 additional databases. The activities, behavioural tools, additional tools and outcome are presented per phase.

Phase	Activities	Tools from toolkit	Additional tools and materials	Outcome
Phase 1: Determine scope & strategy	Based on business objectives and organizational challenges of a client a clear scope, target behaviour and customer segment can be identified.	► Behavioural Intervention Canvas ► Behavioural Strategy Tool ► Customer Segment Template	Use an existing customer journey's to explore multiple unwanted behaviours and customer segments.	A target behavioural statement for one (or multiple) customer journeys for a specific customer segment.
Phase 2: Behavioural analysis	Analyse the unwanted behaviour to understand the underlying mental mechanisms. The influencing factors of the behaviour can be used to create direction for subsequent user- and context research.	► Behavioural Factor Template ► Behavioural Factor cards ► Cognitive Biases database	Based on the influencing factors, qualitative context and user research methods can be used.	Key behavioural factors that influence the unwanted behaviour and qualitative user insights.
Phase 3: Insights integration	Integrate insights from the behavioural analysis, user- and context analysis on a journey map to find key moments to influence the behaviour.	► Behavioural Journey Map	Use customer journey mapping activities to create a complete overview of the customer journey.	Key moments to influence behaviour across the customer journey.
Phase 4: Idea generation	Generate ideas for behavioural interventions for the key moments in the customer journey.	► Behavioural Intervention Strategy Cards ► Behavioural Intervention Strategy Database	Use ideation methods and tools support the idea generation process.	Ideas for nudging and or rational override interventions.
Phase 5: Create and test intervention	Select promising ideas and create multiple variations of the interventions.		Use quick prototypes to test the effects with real users. Focus on qualitative insights and results.	Multiple variations of interventions and qualitative insights that fuel iterations.
Phase 6: Validate and implement	Combine interventions across a journey to test for quantitative results.		Randomized control trials and before-after measurements.	Quantitative results on effect of interventions.

The behavioural intervention toolkit can be used in multiple ways; ranging from applying the templates or card sets individually during some of the phases in a service design project, to using all the tools consecutively throughout a whole project. The tools are modular and can be seen as

'building blocks' to support designers in different phases of a project. Depending on the client, case and resources, the toolkit can either be used in project or workshop mode. The tool activities are largely the same, but the amount of time, research and iteration can be adjusted to match the clients or project needs. It is suggested to use the tools over longer periods of time and in separate co-creation workshops. This enables designers to make iterations and acquire more in-depth (scientific) knowledge on the subject. The majority of the tools in the toolkit are developed to support designer, clients and stakeholders in co-creation workshops. However, it is recommended to have internal moments of reflection, integration and iteration with designers alone.

Figure 2. (parts of the) Behavioural Intervention Toolkit in use by design students in a co-creation workshop.

The behavioural Intervention design canvas, behavioural strategy tool, customer segment template and behavioural journey map are relatively simple templates that support designers to structure the process, integrate insights and communicate the process and results to the client. The templates enable designers to explore and select the scope, target behaviour and key moments in the customer journey by providing guiding questions.

The behavioural factor template and accompanying behavioural factor card set supports designers to analyse the current unwanted behaviour of customers. The tool integrates insights from behavioural economics, consumer behaviour and social psychology in 20 influencing factors of behaviour, divided in three main categories. The well-established Motivation-Ability-Opportunity model (MacInnis et al., 1999; Ölander and Thøgersen, 1995) and Dual-system theory (Kahneman, 2011) were used as a foundation for this analysis tool as these models are rather simple, applicable to almost any type of behaviour and encompass both individual-level and environmental influences on behaviour. The behavioural factor template and cards can be used in a co-creation workshop to explore the unwanted behaviour and select the most important factors that influence it. If designers require additional knowledge they can consult the cognitive biases database, which includes over 200 cognitive biases categorized in 20 influencing factors of behaviour. The behavioural factor analysis can be used to create direction for subsequent user- and context research.

In the ideation stage, designers and clients work together to generate ideas on appropriate interventions to lead customers towards desired behaviour. Our findings indicate that, in order to change behaviour effectively, nudging is not sufficient and should be combined with rational overrides that inject moments of self-awareness and conscious decision making during the customer journey. To reach this goal we developed a card set to support designers in the ideation stage. The

card set includes 9 rational override strategies and 17 nudge strategies categorized on the three main behavioural factors that are corresponding to behavioural analysis. Different nudging tools, existing categorisations, a variety of nudge examples and the results from the exploratory research were evaluated to select relevant strategies for service design. The cards are colour coded, include an easy to understand visual, provide specific strategies for interventions and illustrate a real-world example on the back. Figure 3 shows an example of a card for a rational override. Additionally, a database was created in which over 140 categorized examples of nudges and rational overrides are described.

Behavioural Intervention Strategy Cards

Figure 3. The Behavioural Intervention Strategy Card Set includes 9 rational override and 17 nudge strategies, categorized in the 3 main behavioural factors; environment, motivation and ability. The front and back of one rational override strategy is shown in detail.

4 Rational overrides

The interpretations and applications of rational overrides vary greatly. From top-down debiasing skills, tricks and training (such as prompting people to think about alternatives by providing information or educating people about biases) to more bottom-up approaches like situated, frictional feedback embedded in products (Laschke et al, 2015). We propose the following working definition of a rational override, which includes elements of different existing definitions:

A rational override is a small moment of intentional friction that attempts to influence people’s behaviour or decision-making by intervening automatic thinking and activating reflective conscious thinking.

The interventions from our case studies, an additional literature study on deliberate friction and desk research into examples of behavioural interventions that stimulate conscious decision making resulted in a collection of 45 rational override examples. We clustered and rearranged the examples several times, until a set of nine rational override strategies was created. See figure 4. Some of the strategies originate from nudging tools, such as the EAST card set of the Behavioural Insights Team in the UK. Although they are currently categorized as nudges, additional literature research into these

strategies revealed that the underlying mental mechanisms fit better with rational overrides. The basis for all nine intervention strategies stems from academic literature and are all reflected in real-world service examples.

1. Extra decision points

By adding extra decision points at the right time people have the possibility to become aware, take a step back and re-evaluate the decision or behaviour at hand. It helps to establish boundaries that can minimize the risk of making a mistake or undesired decision (Cox & Gould, 2016).

2. Functional friction

Include small additional steps in the process to disrupt mindless automatic interactions. People are asked to put in a little bit extra effort to get to their goal (Cox & Gould, 2016; Laschke, Diefenbah & Hassenzahl, 2014).

3. Create commitments *

Let people create a specific commitment to achieve a certain behaviour before they have to perform it. Make the commitment detailed and action oriented (Hansen & Jespersen, 2013).

4. Relative ranking

Provide customers with personalized data, including their rank, in comparison to the performance of similar others. A relative rank can increase the personal relevance of information and thus stimulate conscious thinking. (Hansen & Jespersen, 2013; Frey & Rogers, 2014)

5. Enhanced active choice

Stimulate people to make an active choice in a desired direction by highlighting losses incumbent in the non-preferred alternative (Keller, 2011).

6. Checklists *

Simplify how information is presented in order to make it easy for people to remember and use.

Simple checklists for important multistep procedures are effective reminders and useful in preventing errors (Hales & Pronovost, 2006)

7. Personalized feedback *

Personalized feedback prompts people to reflect on their behaviour since it this type of data is highly relevant to them and they perceive it to be of increased value, as it has taken some effort to produce (Frysak, J., Bernroider, E. & Maier, 2016).

8. Real-time feedback

Real-time feedback makes people consciously aware about what is going on. It can show the consequences of current actions and encourages to adjust and improve behaviour (Hansen & Jespersen, 2013; Wendel, 2013)

9. Alerts

Alerts and reminders can be used to make people aware, help them to remember important actions or persuade people to perform desired behaviour. Alerts and reminders work as feedforwards and could be implemented as sounds, visuals, push notifications or objects in the environment that stand out (Jung & Mellers, 2016).

Figure 4. Nine rational override strategies emerged from the case study analysis and additional literature on functional friction. * These strategies are currently used in tools as nudging interventions, such as the EAST cards, IIT institute of design cards, Artefact strategy cards and Design with Intend toolkit.

Friction is generally thought off as a barrier to perform the desired behaviour. For instance; due to confusing interfaces, unnecessary steps and choice overload. It is common practice to remove these points of friction and opt for a seamless experience. However, not all interactions require the speed and usability of frictionless experiences. Some situations require users to slow down, focus on the decision at hand and understand the options that they have. In these situations, friction is not bad, it is necessary. The surge pricing model of Uber is a good example of how a frictionless experience can turn into a negative customer experience. Although, Uber did tell users that prices were higher because of increased demands people ignored, or not even consciously processed, the information. This resulted in dissatisfied customers since they were negatively surprised by higher fares. The experience turned out to be too smooth. To avoid this, Uber introduced a micro moment of friction; the app forces users to type the correct surge price to confirm that they are aware of and consciously accept the increase (as seen in figure 5). This patented method of ‘forcing’ users to manually agree to the higher fare drastically reduced customer complaints.

Figure 5. Example of ‘extra decision points strategy’. App screenshots from Uber’s patented method to force users to type the multiplying number during surge pricing. Image from <https://medium.com/adventures-in-consumer-technology/surge-pricing-can-save-hundreds-of-people-e2f3c0f6517e>

4.1 When to apply which type of intervention

Rational override interventions have high potential to change behaviours in a service context. However, it should not be the objective to prompt users in more reflective and conscious thinking in every situation. Although it might seem that rational thinking would enable people to make better choices it is recognized that automatic thinking can, in some situation, result in better outcomes (Gigerenzer, 2011). Moreover, people do not have the cognitive capacity to use their conscious reflective mindset all the time. To create successful behavioural change through service design it is important to use the right type of intervention in the right situation. Thus, the tools in the toolkit support designers to discern when to use the rational overrides and when not. The most important factor to consider in the decisions between a nudge or rational override is the intended outcome. Since nudges stimulate a predictive unified outcome is likely to be effective in situations in which there is a single optimal course of action, that most people do not take (Keller, 2011). Rational overrides are suitable for situations in which the optimal outcome is largely depending on an individual situation. People are prompted to actively decide what is best for them. Since 45% of everyday behaviour is habitual, most behavioural challenges are concerned with changing habits

(Verplanken and Wood, 2006). Both type of interventions can change habits. Nudges can be used to change routines by automatically cueing desired behaviour. In order for the new routine to become a habit it needs to be repeated frequently and therefore the nudges needs to be present every time. Nudges can thus only be used to change routines in stable contexts (Frey & Rogers, 2014). Habit formation takes time, varying by person and situation from a few weeks to many months (Lally et al. 2010). It is therefore important to consider if and when a behaviour persist when the nudge is discontinued. Rational override strategies are more effective to change routines that take place in different environments, at different times and or require a change in people's beliefs, attitudes, or interpretations (Frey & Rogers, 2014). To consciously change a habit, people need to establish a new routine and extensively practice it so it can eventually move down into subconscious thinking (Strassheim, 2016).

5 Evaluation of the rational override and toolkit

To evaluate the applicability, usefulness and value of the toolkit and rational override strategies, evaluation sessions with design students, service design professionals, behavioural experts and a service organisation were held. To evaluate the toolkit design students were asked to use the tools in a workshop. Students were instructed to work on a design brief using various tools and describe their experience. During the workshop, the researcher was present to observe and ask questions. Video recordings were made and a group discussion at the end of the session provided detailed insights into the use of the tools and possible improvements. Additionally, separate feedback sessions were held with service design professionals, behavioural experts and members of a service organisation. During the sessions participants were introduced to the rational override, the nine strategies and the toolkit.

The evaluation workshop with design students mainly resulted in general improvements to the instructions, wording and templates in the toolkit to make them more clear and accessible. Generally, the tools were perceived as useful. The divergent and convergent elements in all the tools were highly valued by the designers since it enables them to quickly come to conclusions and valuable results. Service design professionals expressed that the toolkit adds value to their existing practices and would predominantly help them to structure the process and design activities. Finally, behavioural experts recognized that the proposed toolkit combines the strengths from behavioural economics, consumer behaviour and some aspects of psychology in a novel way. It is stressed by some of the experts that the integration of interventions that trigger both mindsets is valuable and that this is the direction in which the field of behavioural economics is going to develop.

Experts mentioned that the biggest opportunities and application possibilities for rational overrides are with lifestyle decisions, long-term decisions and financial decisions. This type of decisions are generally hard to influence with nudging, do not have a one size fits all outcome and happen across touchpoints and time. Members of the service organization recognized that rational overrides have the ability to increase customer loyalty, profitability, positive referrals and create bigger market shares. However, behavioural experts mentioned that the rational override, and getting people aware and conscious, is only the first step. If we can be effective in making people conscious we should also think about (and design for) the follow-up behaviour or decision. Where nudging leads to an immediate predictive action or behaviour, this is relatively unsure with rational overrides. Conscious customers might decide to do nothing, or choice the non-desired alternative (e.g. switch to another service provider). This insight shows the difference between nudging and rational overrides in terms of quantity and quality. Nudging can affect a relatively larger group of customers. With rational overrides the number of people that choose the desired outcome might be smaller but the ones that do decide in favour of the desired behaviour are more engaged and can provide more value.

6 Conclusive remarks

The purpose of this paper was to understand how service designers can improve the way in which they use behavioural knowledge to influence (and eventually change) customer behaviour. An alternative design approach, Behavioural Intervention Design, was developed to support service designers in the development of behavioural interventions across customer journeys. This approach goes beyond the theory and current applicability of behavioural economics and nudging. Key principles from behavioural economics, consumer behaviour, psychology and service design were integrated and synthesized towards a new design approach and toolkit. Behavioural Intervention Design is focused on influencing behaviour by getting the customer in the right mindset at the right time. The design approach integrates two types of behavioural interventions that not only stimulate desired behaviour by facilitating automatic and unconscious thinking, but can help customers to switch to a conscious interaction during critical points in the customer journey. By integrating micro moments of deliberate friction, also referred to as rational overrides, we can disrupt mindless automatic interactions and create active, conscious and engaged customers. Rational override interventions can change customer behaviour, not because they make things really easy, but because they put customers in control of their actions and they help raise their awareness. In this paper, we presented a service design toolkit that includes nine rational override strategies and seventeen selected nudge strategies. This toolkit can be seen as a first step towards systematically applying two different types of behavioural interventions across customer journeys to influence behaviour, and should be interpreted as such. The goal of the introduction of the rational override was modest: to provide an initial list of strategies that can be used to create rational override interventions. The strategies are all supported by empirical evidence but more research is needed in order to validate the effects and specifics of these type of interventions. However, the initial evaluation of the toolkit shows the potential use for service designers, clients and stakeholders to create service environments in which customers can make more optimal decisions.

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