Experiential Profiling of Products and Services

by

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ABSTRACT

The purpose of this text is to explore the way that firms create value for customers from an experiential point of view. The experience originated from the use of products and services is conceptualized within a customer's journey to satisfy a need. The concept of experiential friction is introduced to identify possible areas of experiential improvement for customers. A framework to perform the experiential profiling of a need-satisfaction journey is provided, allowing to identify, classify, and quantify experiential inefficiencies. An experiential theory of value is proposed in which incremental value is proportional to the total experiential improvement that a customer derives from using a product or service. Lastly, the managerial implications of the ideas presented in this text are discussed.

Thesis Supervisor: William Aulet
Title: Professor of the Practice

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Contents

1 Introduction

Products and services are ubiquitous in modern society. Finding them, buying them, and using them have become a staple of human experience. Products and services are "experienced" by customers, which carries significant consequences for their providers: Individuals associate the affective response of their experiences involving a product or service with the firm that offers it, the brand it bears, and the product or service itself. Because products and services cannot be fully separated from the environment in which they are experienced, firms and other providers run the risk of being negatively associated with experiences that they do not fully control. This text intends to explore how personal experience gives rise to people's perception of value in products and services and to serve as a guide to manage this experience.

Experience is a permanent phenomenon in our lives. It cannot be turned off, it happens spontaneously, and accompanies us until our last breath; we are, by definition, experiential beings. The formal study of consciousness and experience is carried out by the branch of philosophy known as phenomenology, literally meaning "the study of that which appears". The dictionary definition of experience is "the act or process of directly perceiving events or reality"[1], with perception being described by phenomenology founder Edmund Husserl as "the original object-giving experience".[2] Experience is the product of consciousness, it is how we make sense of reality, the result of perceiving the environment with our senses, processing the resulting sensory input with our minds, and interpreting it through the lens of our past experience. Several influential accounts of consciousness exist, amongst them the global workspace theory, the integrated information theory, and the biological theory. These theories attempt to explain consciousness and what is known as "the hard problem" — the question of how subjective experience arises from physical structures — through insights drawn from neuroscience, phenomenology, experimental psychology, and other fields. This text is, however, concerned mostly with the phenomenal aspects of experience, on the "experienced result" that individuals have and the affective reaction they get. In this context, relevant properties of experience are that 1) it is personal, meaning it exists only for the individual who is the subject of the experience; 2) it is continuous, not temporally bounded; 3) it is structured, composed of the "phenomenal distinctions" or "distinguishable elements" that can be made or distinguished within it; 4) it is unitary, meaning that the set of phenomenal distinctions that compose the experience are bound together and perceived holistically; 5) and that it has "valence", it produces an affective response that can be evaluated by the subject as positive, negative, or neutral.[3, 4]

Chief among the points to be made in this text is that products and services are vehicles of experiential improvement: People use and pay for them to get access to experiences that trigger in them a positive affective response and to avoid experiences that they do not desire, either because they trigger a negative affective response or because they get in the way of something they want to accomplish. The text is arranged in the following way:

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[1] "Experience.," *Merriam-Webster*, 2018, Merriam-Webster.com.
[2] Ludwig Landgrebe, "The Phenomenological Concept of Experience," *Philosophy and Phenomenological Research* 34, no. 1 (September 1973): 1–13.
[3] Giulio Tononi et al., "Integrated Information Theory: From Consciousness to Its Physical Substrate," *Nature Reviews Neuroscience*, July 2016.
[4] Kristen Lindquist et al., "The Brain Basis of Positive and Negative Affect: Evidence from a Meta-Analysis of the Human Neuroimaging Literature," *Cerebral Cortex* 26, no. 5 (2016): 1910–22, https://doi.org/10.1093/cercor/bhv00.

In chapter 2 the way people experience products and services is examined and conceptualized as an "experiential journey". Chapters 3 and 4 develop an approach to characterize or "profile" this journey in terms of a set of experiences, also introducing the concept of "experiential friction" or inefficiencies that make the journey more onerous for individuals. Strategies for reducing these inefficiencies are presented in chapter 5, reductions which are framed as "experiential improvements" that carry value in the mind of the customer in chapter 6. The last chapters in this work present an integrative framework to apply these ideas on the assessment of products and services, along with a discussion on its limitations and resulting managerial implications.

Products should be designed and built to make our passage through life ever more bearable. The motivation behind this work is to further our knowledge of how to design these products, those which make us feel good and give us the freedom to dedicate our time and energy to the things we find joyful and fulfilling.

2 Experiencing Products and Services

People use products and services in their daily lives to meet their personal and professional needs and improve their standard of living. Given that experience is a continuous phenomenon, interactions with products and services constitute an integral part of people's daily experiences. Commercial firms, as purveyors of products and services, can be therefore interpreted as experience enablers, improving the daily experiences of their customers through the products and services that they offer. Firms have a vested interest in understanding these experiences, since these can affect their customers' decision to acquire their products and services. By studying them, firms can shine light on missing or unmet requirements, areas of poor performance, and/or customer pain points. If done with a forward-looking perspective, firms can also support their product or service design and development efforts. For the purposes of this text, a product is anything that can be offered in a market by an organization or individual to satisfy a want or need.[5] Products can be goods, items, materials, software, or any other object of physical, informational, tangible, or intangible nature. A service, on the other hand, is a family of products characterized by being intangible and consisting of an action or set of actions that are performed by a service provider to satisfy the customer's target want or need.

[5] Philip Kotler et al., *Marketing*, 7th ed. (Frenchs Forest, Australia: Pearson Education, 2006).

The assessment and design of the experience of individuals with products and services is currently addressed by the disciplines of *User Experience* and *Customer Experience*. Across service theory and marketing literature, these terms are often used interchangeably to refer to a field of study, a design practice, or the experience phenomenon itself.[6] For clarity, this text uses the acronyms UX and CX when referring to the fields of study and design practices of user experience and customer experience, respectively. Donald Norman is regarded as having created the field of UX in the nineties while working at Apple Computer, Inc. (now Apple, Inc.), where he took the position of User Experience Architect. The International Organization for Standardization (ISO) defines user experience as "a person's perceptions and responses resulting from the use and/or anticipated use of a product, system or service."[7] Even though this definition includes services, the unit of analysis of UX is generally a tangible product, partly because the role of individuals as "users" is better appreciated when using a tangible product than it is when using a service. The focus of modern UX is product *usability*, which is defined as an attribute of products that relates to the ease of use of its interfaces.[8] The word "usability" also refers to methods for improving ease-of-use during the design process. The customer experience, on the other hand, is described as "the cognitive, emotional, physical, sensorial, spiritual, and social elements that mark the customer's direct or indirect interaction with (an)other market actor(s)."[9] Even though many of the tools and frameworks of UX are perfectly applicable to services, the focus of CX on "market actors" (firms and individuals) rather than "systems" (products or services) has made it the discipline of choice of pure-service businesses like banks, airlines, and accounting firms to design and evaluate the services they offer. Modern CX assessments will try to identify and evaluate the *touchpoints* through which a firm interacts with its customers. Touchpoints are defined as those "individual contacts between the firm and the customer at distinct points in the experience" or as "incidents" in which a customer is exposed to an

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[6] Effie Law et al., "Understanding, Scoping and Defining User Experience: A Survey Approach," in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (CHI Conference on Human Factors in Computing Systems, New York, NY, USA: ACM, 2009), 719–28, https://doi.org/10.1145/1518701.1518813.

[7] Tech. rep., "Ergonomics of Human System Interaction - Part 210: Human-Centered Design for Interactive Systems" (International Organization for Standardization, 2010).

[8] Jakob Nielsen, "Usability 101: Introduction to Usability," 2012, https://www.nngroup.com/articles/usability-101-introduction-to-usability/.

[9] Arne De Keyser et al., "A Framework for Understanding and Managing the Customer Experience," *MSI Working Paper Series*, 2015, 15–121.

experience offered by a firm.[10] In this sense, products, communications, and publicity of firms are all considered touchpoints.

Understanding the experience of individuals with products and services starts by knowing the following elements: 1) The individual who is the subject of the experience, 2) this individual's intent, 3) the product or service being used, and 4) how the experience develops through time. Individuals can interact with products and services in both, personal and professional capacities. To have clarity on the nature of these interactions, it becomes relevant to assess the individual's "role" in interacting with the product or service. An individual who makes direct use of a system is called an *end user,* while an individual with the authority to spend and proceed with the purchase of a system is called the *economic buyer*. For example, a manager who acquires a piece of equipment would be an economic buyer, while a technician who operates it would be an end user. One more role that individuals can take is that of the *advocate*, someone who pushes for the purchase of the product or service. The individual or group of individuals performing these three roles are commonly referred to as the decision-making unit (DMU) of the customer.[11,12] Individuals and organizations can both be customers, so it is not uncommon for the roles to be split among several people or for an individual to take more than one or all of them. However, because products and services are experienced differently and satisfy different needs for people performing different roles, it becomes relevant to know who — specifically — performs each of them. Experiences are better understood in the eyes of the subject, and the more information one has about how this individual perceives, the deeper and more nuanced this vision will be. Having information like the subjects' gender, age, income, place of residence, tastes, desires, fears, and motivations will allow to make better inferences of what aspects are more important and significant in their experience. Next comes intent: The primary reason for which people buy and use products and services is to meet their needs. "Needs" in this sense can be understood as anything that an individual feels an impulse or motivation to achieve, out of desire or by intrinsic or extrinsic necessity.[13] This notion was formally introduced to management science in 2003 by Clayton Christensen, whose jobs

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[10] Tom Duncan and Sandra Moriarty, "How Integrated Marketing Communication's 'Touchpoints' Can Operationalize the Service-Dominant Logic," in *The Service-Dominant Logic of Marketing: Dialog, Debate, and Directions* (Armonk, N.Y.: M.E. Sharpe, 2006), 236–49.

[11] A customer, in the sense used by CX, can be either an end-user or an economic buyer.

[12] Bill Aulet, *Disciplined Entrepreneurship : 24 Steps to a Successful Startup* (Hoboken, New Jersey: Wiley, 2013).

[13] This text considers "wants" to be intrinsic needs created by individuals

theory states that people and companies have "jobs" that arise regularly and need to get done, and "hire" products and services to get said jobs done once they become aware of them.[14] The jobs theory argues that organizations that understand the jobs that their products and services get done for their customers can make more effective decisions in product development, innovation, and marketing. It further argues that the traditional focus on product features and attributes usually leads to "one size fits all" products that perform poorly any specific jobs that they are hired to do, as well as to "feature creep" — an undesired scenario in product management characterized by an excessive accumulation of features.[15]

In addition to the subject and her intent, another aspect relevant to understanding experiences is how they develop through time. Experience is not clearly bounded, it does not start when customers interact directly with products or services, nor does it stop when the interaction ends. The literature on UX and CX acknowledges this, identifying three basic temporal stages in the user and customer experience, respectively. The ISO definition for user experience, for instance, notes that it "includes all the user's emotions, beliefs, preferences, perceptions, physical and psychological responses, behaviors and accomplishments that occur *before, during and after use.*"[16] On the customer experience side, the "total customer experience" has been described as consisting of the stages of pre-purchase, purchase, and post-purchase.[17,18] When the flow of time is considered, customers could be seen as "traversing" the experiences enabled by the products and services they hire on their way to satisfy a need. This journey is experiential in nature and should be understood from the point of view of customers, not of the firm offering the products and services that enable it. This text refers to the experiential journey of satisfying a need as the *need-satisfaction journey*, with the portion leading to the point where the customer makes use of the product or service being the "inbound journey" and the portion taking place after usage the "outbound journey". The notion of experiential journeys is not new; *Customer Journey Mapping* is a popular technique used by UX and CX professionals to gain deeper

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[14] Clayton Christensen and Michael Raynor, *The Innovator's Solution* (Boston, MA: Harvard Business School Publishing, 2003).
[15] Christensen and Raynor.
[16] "Ergonomics of Human System Interaction - Part 210: Human-Centered Design for Interactive Systems."
[17] Katherine Lemon and Peter Verhoef, "Understanding Customer Experience Throughout the Customer Journey," *Journal of Marketing: AMA/MSI Special Issue* 80 (November 2016): 69–96, https://doi.org/10.1509/jm.15.0420.
[18] Some authors identify a fourth stage characterized by an ongoing relationship with the customer (e.g., returning customers, post-sales, etc.)

insight of the customer experience. The technique has been described as "a walk in the customer's shoes" and "as an engaging story about the user's interaction with a service".[19,20] Generally speaking, journey approaches are methods and practices where experiences are considered, analyzed, modelled, managed, designed or redesigned from the perspective of the customer.[21]

The result of applying a journey approach to model an individual's actual experience is an *experiential journey map*. For these maps to be effective, they should include the experiences that matter to customers. Every journey approach has its own criteria for capturing the experiences it considers relevant, varying in the type of information to be collected and the level of detail to be captured. The Customer Journey approach, for example, tries to capture the customer's experiences relating to "interactions with the brand and its environment" across the three stages of the journey.[22] Experiences not directly associated with the firm are usually not included. In this sense, the Customer Journey is firm-centric, as it will capture experiences only when the firm is involved. Another popular journey approach mainly used by entrepreneurs is the *Full Life Cycle Use Case*, which takes a cradle-to-grave view of the interactions of customers with products and services. The Full Life Cycle Use Case framework was designed to capture experiences relating to how customers find, analyze, acquire, pay for, install, use, and receive support for a product or service. It begins with the discovery and acknowledgement of a need and ends when that need is satisfied. This makes the Full Life Cycle Use Case a product-centric rather than a firm-centric approach, making it an ideal tool to understand the fit of a product or service in a customer's need-satisfaction journey. It also explicitly calls for identifying how customers determine the value they have received from the product or service and allows to identify situations in which the customer could choose alternatives to satisfy the need. In the following sections, the Full Life Cycle Use Case journey mapping technique is used to

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[19] Stefan Holmlid and Shelley Evenson, "Bringing Service Design to Service Sciences, Management and Engineering," in *Service Science, Management and Engineering Education for the 21st Century* (Boston, MA: Springer, 2008), 341–45.
[20] M Stickdorn and J Schneider, *This Is Service Design Thinking* (Amsterdam: BIS Publishers, 2010).
[21] Asbjørn Følstad and Knut Kvale, "Customer Journeys: A Systematic Literature Review," *Journal of Service Theory and Practice* 28, no. 2 (2018): 196–227, https://doi.org/10.1108/JSTP-11-2014-0261.
[22] Lemon and Verhoef, "Understanding Customer Experience Throughout the Customer Journey."

capture experiences and model the need-satisfaction journey of customers using a product or service.

3 Experiential Friction

In the natural sciences, *friction* is a concept that refers to the resistance to motion of a mass, usually derived from the rubbing of one body with another. In mechanical systems, e.g., internal combustion engines, the presence of friction reduces efficiency. The concept of friction has been applied in other fields of study to refer to the system's inefficiencies themselves. For example, in business management, inefficiencies in business processes like procurement and order fulfillment are often referred to as frictions. In the field of UX, frictions are usually termed "design frictions" and are described as "points of difficulty encountered during users' interaction with a technology."[23] Be it in a mechanical, business, or UX context, frictions translate into wasted time and resources and are generally sought to be reduced or eliminated. The notion of friction as an inefficiency can be similarly applied to the experiences of individuals. In particular, it is one of the main objectives of this text to develop the concept of experiential inefficiency, or friction, and apply it to the experience that individuals have when satisfying a need using products and services.

As discussed in the prior section, the experience of satisfying a need can be thought of as a journey where individuals subject themselves to a set of experiences that are necessary to reach their goal. For example, the journey to satisfy the need of replenishing groceries at home could consist of the experiences of discovering the need, going to the supermarket, finding the items in the supermarket, paying for them, and bringing them back home. In a need-satisfaction journey, the primary desired experience is the satisfaction of the need itself; in the journey to replenish groceries it would be having the wanted groceries at home. The rest of the experiences in the set — all the experienced activities, processes, interactions, events, sensations, emotions, and phenomena different than having the need satisfied in the way the customer wants — could be, but are not necessarily desired. Desired experiences in the journey different from the primary desired experience are termed *secondary desired experiences* in this text. These are experiences that would not be desired

[23] Anna Cox et al., "Design Frictions for Mindful Interactions: The Case for Microboundaries," in *CHI'16 CHI Conference on Human Factors in Computing Systems* (Conference on Human Factors in Computing Systems, New York, NY, USA: ACM, 2016), 1389–97, https://doi.org/0.1145/2851581.2892410.

if the primary desired experience had not been desired in the first place. In this context, the undesired experiences in the journey could be thought of as "inefficiencies", departures from the ideal, fully desired journey. In this sense, *experiential friction* could be defined as the set of undesired experiences in a need-satisfaction journey, i.e., the experiences that customers must necessarily go through, but would avoid if given the choice, to achieve the goal of satisfying a need. Under this logic, an ideal journey would contain only desired experiences. A similar construct to experiential friction, the *customer sacrifice*, was introduced by Pine and Gilmore in their book The Experience Economy in 1999. Customer sacrifice "is the gap between what individual customers settle for (...) and what each wants exactly".[24] Putting this statement in experiential terms, the need-satisfaction journey enabled by a product or service would be "what the customers settle for" and "what each customer wants exactly" would be the primary desired experience or having their need satisfied in the way they want. In other words, thinking of the customer sacrifice in experiential terms results in the overall friction experienced in a given need-satisfaction journey.

Having conceptualized undesired experiences in the journey as inefficiencies that distance customers from their ideal journey, it would be useful to have a guide to identify such experiences. To start doing this, it is helpful to first capture the relevant individual experiences that constitute the need-satisfaction journey. To guide this process, the Full Life Cycle Use Case approach asks a series of questions that follow the customer along the journey. Capturing the relevant experiences in the set requires to "live" the journey vicariously through customers, to understand how they find, buy, and use the product and the experiences they have while doing it. These questions are shown in table 1.

[24] Joseph Pine II and James Gilmore, *The Experience Economy* (Boston, MA: Harvard Business School Publishing, 2011).

	How does your customer...
1	... determine they have a need to satisfy?
2	... look for ways to satisfy the need?
3	... find out about your product or service?
4	... analyze/evaluate your product or service before deciding to acquire it?
5	... acquire your product or service?
6	... install your product?
7	... receive your service?
8	... use your product or service? (in detail)
9	... pay for your product or service?
10	... receive support for your product or service?
11	... acquire more of your product or service?
12	... determine the value gained from your product or service?
13	... spread awareness about your product or service?

Table 1.- Questions used in the Full Life Cycle Use Case

An adequately mapped journey will provide an understanding of what the customer is required to do, evaluate, decide, find, and endure on the way to satisfy the need. Need-satisfaction journeys can differ significantly depending on the need and the customer being considered, so the use of a *persona* — an abstracted person that best represents a firm's target customer segment — when mapping the journey is advised. Once the experiences in the journey are captured with sufficient detail, it is necessary to identify those which constitute friction, i.e., that are undesired by the customer but necessary in the journey. Knowing and understanding the customer through its persona becomes critical in this step because some experiences may be desired by some customers but undesired by others. For example, the experience of looking for and picking grocery items in a supermarket may be thought of as a form of entertainment for a person in retirement, while being interpreted as a waste of time for a busy consultant. A key question to ask in the process of identifying

friction is if the experience would elicit a positive affective response in the customer, i.e., if the persona would find the experience pleasurable, enjoyable, or engaging — if the answer is "no" then the experience is most probably undesired. In addition to having different views on the desirability of an experience, the level of tolerance for a given undesired experience also varies between customers, e.g., some will tolerate waiting times better than others. This makes categorizing experiential friction as relevant as its identification. The following is an attempt at developing an exhaustive list of meaningful categories for friction. The eight categories for experiential friction presented below group experiences that share a common origin, that are thought of and valued by customers in a comparable way, and that can be tackled through similar approaches. While one could argue that the eight categories presented here are arbitrary, it only makes sense to break down friction into groups of some kind to make concerted efforts to reduce it. For a list of categories to be "complete", it should be the case that no undesired experiences remain uncategorized after applying the friction category labels to the experiences in a need-satisfaction journey.

Travel friction includes those experiences thought of by the customer as "travel" in a given need-satisfaction journey. This usually includes travel done by a customer in any mode of transport to perform any necessary diligence on the product or service of interest, to acquire it, to pay for it, to get it delivered, to get it installed, to get necessary complements, etc. When not delivered to the customer's location, most non-software products and services will require some form of travel by the customer. Although many software products and services eliminate the need to travel by delivering the benefit directly at the customer's location, some may still require some displacement by the customer; for example, mobile ride-sharing services will often require the customer to walk to an agreed pick-up location. Journeys involving retail environments like supermarkets and department stores may also require travel within the firm's premises.

Temporal friction is characterized by the experience of time throughout the customer's need-satisfaction journey. It includes all experiences thought of by the customer as "waiting". Examples of experiences in this friction category are experienced delays or processing times, waiting in line, among others. Waiting times are pure temporal friction, as they are by definition not desired and only add to the overall time required to complete the journey.[25]

[25] One could argue that waiting times are on occasion desired; for instance, long waiting times that allow the customer to do another desired activity. While this could be true, it could also be argued

Experiences that involve waiting may be accompanied by negative emotions if the waiting time is uncertain or by physical discomfort if the customer must wait in an uncomfortable environment. These additional negative aspects of the experience are captured by other friction categories described below.

Transactional friction is composed by experiences associated with effectuating necessary exchanges of any kind (e.g., information, money, goods), by any means (e.g., text, voice, graphics, video, etc.), and through any interface (e.g., digital, analog, human, etc.). Necessary exchanges are those that the customer is required to do during the need-satisfaction journey, i.e., those that, if absent, would result in the customer not achieving the satisfaction of the need in the desired way. These exchanges happen routinely across all stages of the journey, either to trigger actions, specify requirements, place, confirm, or modify orders, provide shipping and payment details, and to deliver, receive, or exchange products. The experiences in this category can be further categorized in two broad groups: Experiences where the customer provides an input and experiences where the customer receives an output, where the input and the output can be information, goods, money, etc. Examples of experiences in this category would be interacting with an automated attendant phone system, filling out an online form, and placing an order through a human attendant or on a digital kiosk.

Discovery friction consists of the experiences that relate to the customer's discovery of the options that are available to achieve a goal within their need-satisfaction journey. These experiences do not necessarily have to directly involve the discovery of the product or service that will ultimately satisfy the need; for example, searching for available doctors in the area, looking for available dates to schedule an appointment, and finding an available parking spot at a medical center would be three different instances of discovery experiences that represent friction in a journey to obtain a medical diagnosis. In general, customers experience higher discovery friction when the available supply is hard to find or when the offering is unstructured or hard to understand.[26] Customers experience high discovery friction in situations where it is not clear where or how to start looking for something.

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that in the absence of waiting times, customers would pursue the other activity once they have satisfied the first need.

[26] In a way, discovery friction is a combined form of process friction and cognitive friction

Process friction is comprised of the experiences of transforming, preparing, working on, or otherwise changing the state of objects. This includes objects both, physical and informational. All chemical, mechanical, and computational processing performed and experienced by the customer counts towards process friction. Sorting, mixing, cooking, installing, cleaning, mounting, packing, refilling, replacing, maintaining, or disposing of any product, raw material, component, ingredient, piece, or part, as well as loading or unloading any vehicle are examples of experiences that represent process friction. In software products, clicking, dragging, sliding, and other actions used to navigate or manipulate objects also represent process friction. In general, all experiences thought of as "work" by the customer constitute process friction.

Cognitive friction. In general, cognitive friction are experiences that demand a higher mental effort from the customer. Experiences like learning, comparing, evaluating, and making decisions[27] are examples of experienced processes that add cognitive friction. Comparing and selecting food items, clothing, electronics, and other products in retail environments with wide assortments is an example of a situation where customers experience considerable cognitive friction. Experiences that typically generate process friction, like the installation and assembly of products, can also contribute cognitive friction when the customer is not given clear instructions and/or is required to understand the system without assistance. The experience of learning how a product or service is operated also constitutes cognitive friction. Products and services that offer heavy customization (a high number of variables to customize and/or a high number of options to choose for each variable) tend to generate substantial cognitive friction because of the effort required for the customer to decide the right customization.

Somatic friction. Need-satisfaction journeys can contain physically uncomfortable experiences. Feeling pain, drowsiness, nausea, being exposed to environmental conditions like heat, cold, rain, wind, or loud noises, and prolonged sitting or standing are examples of somatic friction. Perceiving bad tastes or smells is also a physically uncomfortable experience that fit this category. Somatic friction is commonly encountered in journeys related to healthcare. In the journey to obtain a medical diagnosis, for instance, blood tests

[27] While decision-making as a mental process constitutes cognitive friction, the emotional consequences of the process on the subject constitute emotional friction.

may be required. In the current state-of-the-art, a blood draw with needle and syringe would be an undesired but required experience that is physically uncomfortable to the patient.

Emotional friction. Any experiences that could stress the customer, trigger negative emotions like anger, fear, frustration, and intimidation, or otherwise cause emotional discomfort on the customer constitute emotional friction. In this sense, negotiation processes, expectation mismatches, difficult decision-making processes, inspections of a customer's person or belongings, and unwanted social interactions could represent emotional friction in a journey.

The classification presented above is designed to help managers, designers, and developers to understand the experiences that they enable for their customers through their products and services. The result of mapping the customer's need-satisfaction journey, identifying the frictional experiences it contains, and labelling them according to their category, will yield a document with a sequential list of the set of experiences that make up the journey — the journey's *experiential profile*. These are the experiences that are relevant for customers and that they will inevitably associate with a product or service when it is used to satisfy a given need. However useful this information can be, nevertheless, chances are it may not suffice to make a direct comparison of the journeys offered by two different products, especially if the products are only subtly differentiated. To be able to meaningfully compare the journeys it is necessary to gain a quantitative notion of the experiences contained in them and capture the magnitude of the burden that the customer will have to endure in each of them. How to go about doing this is addressed in the next chapter.

4 Quantifying Experiential Friction

In the previous chapter, a conceptual structure was laid out to identify experiential friction and build the experiential profile of a need satisfaction journey. Now, each of the experiences in the set will be described quantitatively in order to make this information useful to compare need-satisfaction journeys in which different products or services are used. Having the ability to quantify the friction to be experienced in a need-satisfaction journey would allow firms to assess the "experienced result" being offered to their customers. This assessment could be helpful in innovation and product development initiatives or in the redesign of services. It is equally applicable to identify strengths and weaknesses in their own products or services,

to make comparisons with those of competitors, or to understand the impact that a new product or service could have on journeys for which the customer has none to use yet.

The challenge of getting a quantitative notion of experiences arises from the countless distinct things that customers can perceive and distinguish in their experience at any given time. Given the impossibility of capturing the totality of the customer's experience in a single metric, the goal becomes finding a metric that best captures the magnitude of the experiential burden endured by the customer, i.e., distilling the essence of the experience in a way that is relatable to them. A good way to begin is placing oneself once again in the shoes of the customer and identify how she thinks or could think of the experience. Many experiences are already thought of in quantitative terms by the customer. "Walking 10 blocks to the theater" would be a clear example of an experience where the customer will make conscious use of a quantitative measure — the number of blocks — to assess an experiential burden. There are other experiences, however, that are usually not or not always thought of in quantitative terms. "Work to be done", "mental effort to be made", and "discomfort to be felt" are all experiences that fall in this category. Some of these experiences, although not immediately quantified by customers, can be put in quantitative terms that are directly or closely associated with the way they assess the burden. For example, a customer may not think of the experience of work in terms of "parts to be assembled" or "tomatoes to be sliced" but these units describe it in terms that are directly associated with the magnitude of the burden expected by the customer. This approach can also be applied to certain experiences which involve mental effort, which can be put in terms of "decisions to be made" or "pages to be read". There are limitations to this approach as it would still fail to provide a measure for experienced physical or emotional discomfort and many experiences that involve mental effort. A way to circumvent this limitation is describing the experiences as events (e.g., a "discomfort event") or as events with duration (e.g., "training hours"), while also using an arbitrary scale to gain a notion of their magnitude. This arbitrary scale will ideally refer to an attribute of the event (e.g., its intensity or complexity) and can be simple (e.g., low-medium-high) or more specific.

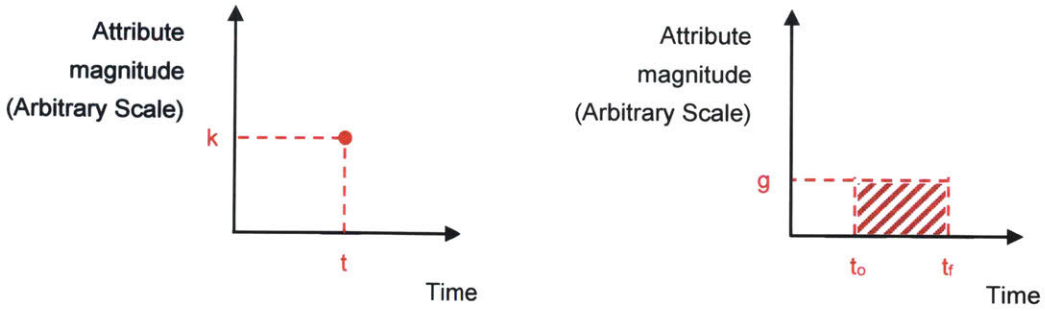

Figure 1.- Experiences can be represented on a timeline as events or as events with duration. On the left, an experienced event of magnitude 'k' happens at time 't'. On the right, an experienced event of magnitude 'g' occurs during time interval (t_f, t_o)

For instance, the Numeric Pain Rating Scale, also known as NPRS or NRS-11, is a numeric scale used in clinical research to rate patient's perceived intensity of pain.[28] The NRS-11 uses 11 points to rate the patient's self-reported pain intensity, where the value of '0' represents "no pain" at one extreme and the value of '10' represents "the worst possible pain" at the other extreme. Pain intensity in the NRS-11 relates to the level of interference that the pain has on the patient's activities of the daily life (ADLs), with "little interference" being an indicator of mild pain, "significant interference" indicating moderate pain, and "inability to perform ADLs" being indicative of severe pain.

Rating	Pain Level
0	No Pain
1–3	Mild Pain (nagging, annoying, little interference with ADLs)
4–6	Moderate Pain (significant interference with ADLs)
7 –10	Severe Pain (disabling, unable to perform ADLs)

Table 2.- The Numeric Pain Rating Scale, a scale used to describe the magnitude of the pain intensity experienced by patients.

[28] Margo McCaffery and Chris Pasero, "Pain Control: Teaching Patients to Use a Numerical Pain-Rating Scale," *The American Journal of Nursing* 99, no. 12 (December 1999): 22.

Describing the frictional experiences in the experiential profile with magnitudes and units adds a quantitative dimension to the customer's need-satisfaction journey. The information contained in this profile essentially details the overall burden that customers are expected to experience in order to attain their primary desired experience — the satisfaction of their need. Ideally, the experiences will be quantified using real data generated by the firm through their current operations, following user behavior on a software product, or through market research. Selecting adequate units to describe the experiences is a critical step in making the profile an effective tool to evaluate or compare a product or service. In summary, the experiential profile of a need-satisfaction journey is the set of categorized and quantified experiences in the journey and can be presented in the form of a table or a timeline. A sample experiential profile for a customer satisfying the need of replenishing groceries at home using a traditional supermarket is shown below.

The experience of	What is experienced	Is it desired?	Friction Category	Magnitude
Discovering the need	I notice that I'm out of a food item			
	I check what other items I'm out of	No	Discovery	1 discovery event, low intensity
	I think when it would be possible and convenient to go to the supermarket	No	Discovery	1 discovery event, low intensity
Waiting for the right time to go to the supermarket	I wait for the right moment to go to the supermarket	No	Temporal	Variable time, non-dedicated waiting time
Going to the supermarket	I select my route to the supermarket	No	Cognitive	1 decision event, low intensity
	I travel to the supermarket	No	Travel	3 kilometers by car
	I look for a parking spot	No	Discovery	1 discovery event, low intensity
	I walk to the supermarket's entrance	No	Travel	30 meters by foot
Grocery shopping	I choose if I need a cart, basket, or none	No	Cognitive	1 decision event, low intensity
	I locate the first item on the list	No	Discovery	1 discovery event, low intensity
	I select among available options for the first item (brands, sizes, flavors)	No	Cognitive	1 decision event, medium intensity
	I locate the nth item on the list	No	Discovery	1 discovery event, low intensity
	I select among available options for the nth item (brands, sizes, flavors)	No	Cognitive	1 decision event, medium intensity
	I wait in line for the cashier	No	Temporal	5 minutes of dedicated waiting time
	I check I'm charged for the right items	No	Cognitive	1 monitoring event, low intensity
	I pay for my items	No	Transactional	1 payment event
	I bag my items	No	Process	pack 2 bags
Going back home	I walk to my car	No	Travel	30 meters by foot
	I carry my groceries to the car	No	Process	carry 2 bags 30 meters
	I select my route back home	No	Cognitive	Low
	I drive back home	No	Travel	3 kilometers by car
Bringing groceries in	I carry groceries into my home	No	Process	carry 2 bags 10 meters
	I put items where they belong	No	Process	5 man-minutes
	I have the items where I need them	Yes		

Table 3.- A sample experiential profile for the need-satisfaction journey of replenishing groceries at home where the product or service being evaluated is a brick and mortar supermarket.

Generating experiential profiles like the one in table 3 for two products or services used to satisfy the same need allows for a direct, experience-by-experience comparison of their journeys. The example provided could be compared, say, with an experiential profile that uses an online grocery store instead of a traditional supermarket to satisfy the need of replenishing groceries at home. Simpler or more complex profiles may be obtained depending on the level of detail being used to capture the experiences in the journey. Long and complex profiles could become difficult to understand and, as such, some firms may want to produce a single figure or index representative of the overall experiential burden in the journey. This could be achieved by adding up the burdens of each individual experience but, as can be observed from the example in table 3, the units used to describe the experiences can vary significantly, taking away the possibility of performing simple addition. To circumvent this limitation, a normalization procedure can be used to put the burdens in terms of the same units. One way of doing this is to divide each burden by a normalization coefficient representing the typical burden experienced by an average customer in a given period of time, e.g., the kilometers traveled by car in a week or the number of payments done in a day. Notice that for normalization to be to successful, burdens would need to be reported in units that would allow to find an adequate normalization coefficient. Additionally, the values of the normalization coefficients would have to be obtained through market research. Once the necessary information is available, the overall experiential friction contained in any given need-satisfaction journey can be expressed as the sum of the quotients of the burden contributed by each experience in the set and their normalization coefficients. It should be kept in mind that normalization is a completely optional procedure.

$$E_a = \sum_{i=1}^{n} \frac{e_i}{c_i} = \frac{e_1}{c_1} + \frac{e_2}{c_2} + \cdots \frac{e_n}{c_n} \quad (1)$$

In equation one, "*a*" is a need-satisfaction journey, "E_a" is the overall experiential friction contained in need-satisfaction journey a, "e_1" is the friction contributed by the first undesired experience in the need-satisfaction journey, "c_1" is the corresponding normalization coefficient for "e_1", "e_n" is the friction contributed by the last undesired experience in the need-satisfaction journey, and "c_n" is the corresponding normalization coefficient for "e_n".

Experiential profiles are a useful tool to detect where a firm's product or service is doing well and where it is doing poorly. Firms that are conscious of how, exactly, customers are being

burdened in their journey to satisfy a need are in a better position to engage in concerted efforts to improve their experience. Reducing experiential friction for customers demands resources, so a good understanding of the opportunities that exist for doing so is essential to make conscious tradeoffs. Why firms should strive to reduce experiential friction for their customers and how they can do it is discussed in the next chapter.

5 Reducing Experiential Friction

In general, individuals use products and services to reduce the experiential friction in their need-satisfaction journeys, i.e., to get closer to an ideal, frictionless journey. The choice of products and services that individuals make, by virtue of their characteristics, performance, and fit into the need-satisfaction journey, directly affects experiential friction, expanding it, reducing it, or changing it. Therefore, firms have a vested interest in designing their products and services in a way that reduces the experiential friction in their customers' need-satisfaction journeys. Firms improve experience by offering products and services that are friction-reducing to a particular set of customers. In doing so, they have the choice of delivering significant reductions in friction when tailoring their products and services to the need-satisfaction journeys of a very specific set of customers, or achieving more modest reductions when choosing to serve a broader group. Firms also have the choice to pursue either a vertical or a horizontal strategy when reducing friction for their customers. A vertical strategy focuses on reducing friction within a single, well-defined need-satisfaction journey. A horizontal strategy, on the other hand, consists of creating products and services that reduce friction across multiple need-satisfaction journeys. Payment systems like credit cards, for example, reduce transactional friction at the time of doing payments across many need-satisfaction journeys. How specific a customer group to serve and whether to follow a vertical or horizontal approach are basic strategic decisions common to firms in every industry. There are two fundamental ways in which firms can enable journeys with reduced experiential friction, which are described below.

Improving an existing journey. The most straightforward way for firms to improve experience is to reduce friction on customers' known need-satisfaction journeys. This means enabling a new journey that is qualitatively similar to the existing one in terms of activities, processes, interactions, and events but where the total experienced friction is lower. If the experiential profiles of both journeys were compared, the list of experiences would be almost identical, with the differences being on the quantitative description of the experiences. These

quantitative improvements can be achieved by increasing the performance of products and services (e.g., increasing yields, reducing waiting times, simplifying tasks). Firms can also improve existing need-satisfaction journeys transforming undesired experiences into desired experiences. In other words, firms can find ways to tweak the activities, processes, interactions, or events that normally give rise to undesired experiences to make them more engaging, enjoyable, or pleasurable for the customer. Providing waiting-room amenities like refreshments, reading material, and playing music or videos is a basic example of this approach. Rewarding the customer for achieving steps along the journey through loyalty programs is also an example. Modern techniques like gamification also seek to make experiences more engaging by integrating elements typically found in games into non-game contexts.[29] The application of well-established management practices such as lean management, continual improvement, customer experience management, and product management usually lead to improved journeys of this type.

Enabling a different, improved journey. A second way to improve experience for customers is to offer them a different-but-better journey to satisfy the same need. This means giving customers the option to satisfy the need through a fundamentally different set of experienced activities, processes, interactions, and events that together contribute less friction that those in the original journey. Investments in new product development and product or service innovation can result in improved journeys of this type. This approach is essentially the one advocated by Christensen in his jobs theory: To innovate with products that accomplish the same job-to-be-done for customers, but in a better, more efficient way.

The desired outcome of following any of these paths is *differentiation*. Firms have an incentive to differentiate because offering undifferentiated products leads to perfect competition, a scenario characterized by price wars between competitors and low profit margins.[30] It is among the objectives of this text to argue that true differentiation is experiential. Two products are differentiated not when they differ on their features, but when the experienced result of using them to satisfy a need is different. The literature identifies two main types of differentiation, horizontal and vertical.[31] Vertically differentiated products

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[29] Kai Huotari and Juho Hamari, "Defining Gamification: A Service Marketing Perspective," in *Proceeding of the 16th International Academic MindTrek Conference* (Academic Mindtrek Conference, New York, NY, USA: ACM, 2012), 17–22, https://doi.org/10.1145/2393132.2393137.
[30] John Beath and Yannis Katsoulacos, *The Economic Theory of Product Differentiation* (Cambridge, UK: Press Syndicate of the University of Cambridge, 1991).
[31] These should not to be confused with the vertical and horizontal approaches to reduce friction.

are those which share the same features and only differ on the "level of quality" of said features, e.g., two computers each with the same processor but where the clock speed of their processors is different. The result is that, if a set of vertically differentiated products used to satisfy the same need were offered at the same price, they would be ranked in the same way by all customers and everyone would choose to buy the same one. Horizontally differentiated products are those which differ on the features themselves, e.g., color, taste, location of a store. When a set of horizontally differentiated products is offered at the same price, there would be no agreement among customers as to which one is best and each product would capture a positive market share. In practice, most products are both, vertically and horizontally differentiated, i.e., they vary in their features *and* the features' level of quality.[32] It should be noted from the way that these concepts are defined that differentiation emerges from both, product properties (features and their level of quality) and the point of view of the customer. Variations in product properties that cannot be noticed by the customer do not differentiate products in the market. Furthermore, variations in product properties that — in the customer's mind — don't lead to a better or worse experience do not differentiate products. In other words, effective differentiation is that which can be perceived and valued by the customer in terms of experiential impact. In experiential terms, vertically differentiated goods would be those which offer different levels of experiential friction to satisfy a given need. Horizontally differentiated goods, when used to satisfy the same need[33], would be those that enable qualitatively different need-satisfaction journeys with the same level of experiential friction. In this sense, examples of horizontally differentiated goods would be a spoon and a fork when used to eat cake — there is no tangible functional difference between using one or the other — and a passcode and a pattern used to unlock a smartphone. Firms therefore create vertically differentiated products and services when these — by virtue of their features and corresponding level of quality — improve upon existing need-satisfaction journeys, or vertically *and* horizontally differentiated products and services by enabling qualitatively different need-satisfaction journeys with overall lower experiential friction. While the specific way in which experiential friction can be reduced will vary greatly by need-satisfaction journey, there are generic approaches employed by firms in all industries to accomplish this. These approaches are condensed by friction category in table 4.

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[32] Beath and Katsoulacos, *The Economic Theory of Product Differentiation.*

[33] While economists study horizontally differentiated products whether used to satisfy the same need or not, it is in the interest of this text to specifically address horizontal differentiation across products used to satisfy the same need

Friction Category	Goal	Generic approaches
Travel Friction	Reduce	• Bringing products or services closer to the customer
	Eliminate	• Delivering products or services to customer's location • Delivering services online
Discovery Friction	Reduce	• Providing menus, maps, directories, listings, or other signage • Establishing and displaying product categories • Providing search engines
	Eliminate	• Match customer with best available product/service or option
Temporal Friction	Reduce	• Increasing product or service performance in terms of yield, speed, throughput, capacity, or relevant rate • Cutting lead times and delivery times • Providing amenities during waiting times
	Eliminate	• Delivering product or service on demand • Processing or automating tasks for the customer
Transactional Friction	Reduce	• Mediating transactions for customer • Facilitating payment, communication, or physical exchanges • Standardizing information input and exchange • Remembering customer information for future use
	Eliminate	• Transacting on customer's behalf • Automating order placements
Process Friction	Reduce	• Minimizing operation steps • Offering pre-processed products • Providing tools • Increasing life-, refill-, maintenance cycles
	Eliminate	• Automating or taking on tasks for customer
Somatic Friction	Reduce/Eliminate	• Providing comfortable facilities • Providing mechanical, thermal, hydrological protection to the customer • Inducing analgesia, anesthesia • Develop non-invasive treatments, procedures • Adding pleasant flavors, odors
Emotional Friction	Reduce/Eliminate	• Setting expectations correctly (marketing) • Decreasing uncertainty • Establishing rules of engagement for interpersonal contacts • Making policies and processes transparent • Providing feedback channels to customer • Setting structured interactions • Allowing returns and/or exchanges
Cognitive Friction	Reduce/Eliminate	• Providing intuitive interfaces • Providing variety, allowing customization* • Setting structured interactions • Providing clear instructions • Facilitating decision-making by providing reviews, ratings, unit prices, previews, forecasts, etc.

Table 4.- Generic approaches to reduce experiential friction by experiential friction category

The role played by technology in reducing experiential friction is critical. It is through the implementation of technology that firms gain the capabilities to provide products and services. It could be said that firms are in the business of experiential improvement through technology. For every experiential improvement offered by a firm, there *must* be a corresponding enabling technology, as advanced or rudimentary as it may be. Technology, seen as a system with form and function, is embodied in products and services (and combinations thereof) with the function of reducing experiential friction. It is up to the designer to weave these formal and functional elements together to deliver a cohesive, compelling experience. Knowing how technologies map to a firm's capabilities, and how these map to the experiential improvements sought to be offered, can be the basis for developing the firm's technology and capability roadmaps. Firms that do not implement technology cannot improve the experience of their customers. The mass adoption of new products and services can be interpreted as society's collective agreement that the experience enabled by that product or service is preferable to what existed in the market. Once the new product or service becomes the status quo, it becomes ripe for efforts to deliver further experiential improvements. Perfect, frictionless journeys may be impossible to attain due to physical and natural limitations, making experiential friction something to be minimized.[34] Technologies will continue to be improved and embodied in new products and services as long as there remains friction to be reduced in need-satisfaction journeys valued by customers.

[34] For example, a perfect, frictionless journey to be transported from home to school would require some form of teleportation.

"As is" Experience		"To be" Experience		Improvement
Experience	Magnitude	Experience	Magnitude	
I drive to the hospital on my car	5 km by car	I drive to the hospital on my car	3 km by car	Driving 2 km less by car
I sit on the waiting area to wait for a table at a restaurant	20 minutes, dedicated wait	I expect a text message on my phone while I wait for a table at a restaurant	20 minutes, non-dedicated wait	Doing something else for 20 minutes
I swipe my card to pay for my items	1 payment event, low complexity	My items get automatically charged to my card	0 payment events	Doing 1 less payment event
I look for a product in a list on a website	10 minutes of search, unstructured	I look for a product in a categorized catalog on a website	5 minutes of search, structured	Saving 5 minutes of searching time
I mince garlic and add to the soup	Mince 2 cloves of garlic	I add pre-minced garlic to the soup	Mince 0 cloves of garlic	Mincing 2 less cloves of garlic
I learn how to assemble my new furniture with no instruction booklet	30 minutes of learning, high intensity	I learn how to assemble my new furniture reading the instruction booklet	10 minutes of learning, low intensity	Saving 20 minutes assembling furniture
I start feeling nausea after taking antidepressant A	1 hour of nausea, intensity of 3 on an NRS-11 scale	I start feeling nausea after taking antidepressant B	30 min of nausea, intensity of 1 on an NRS-11 scale	Not feeling as bad + feeling better 30 minutes faster
I ride my taxi to the airport worrying I will not make it to the airport on time	30 minutes of worrying, high intensity	I ride my taxi to the airport looking at a display with a live map and ETA	0 minutes of worrying	Not worrying at all

Table 5.- Examples of experiential improvement through reductions in experiential friction

One last aspect to consider when reducing friction for customers is the possibility of generating externalities. The concept of externality originated in the field of economics and refers to the costs (or benefits) derived from a transaction or activity and that are borne by an individual unconnected to the transaction or activity, i.e., by someone that did not choose to incur in said cost.[35] In common usage, it is used to refer mainly to "secondary or unintended consequences" of an activity.[36] Seen from an experiential perspective, an externality would be an unintentional experiential deterioration (or improvement) originated from the use of a product or service that is imposed on individuals not connected to the firm providing the product or service nor to the customers that use it. Firms should always evaluate any potential experiential externalities that could result from the use of the products

[35] James Buchanan and Wg Craig Stubblebine, "Externality," *Economica* 29, no. 116 (1962): 371–84, https://doi.org/10.2307/2551386.
[36] "Externality.," *Merriam-Webster*, 2018, Merriam-Webster.com.

and services they provide and make the pertinent design tradeoffs to eliminate or minimize them.

6 Value as Improved Experience

The result of reducing experiential friction in a need-satisfaction journey is an improved experience for customers, a journey with less and/or less intense undesired experiences. It should be understood, however, that experiential improvement not only results from reductions in experiential friction. Need-satisfaction journeys can also be improved by introducing pleasant experiences that become secondary desired experiences in the journey or by increasing the intensity of secondary desired experiences already present in the journey. The introduction of experiences that are aesthetically, physically, or emotionally pleasing will result in experiential improvement. This means that, if two products or services that reduce the same amount of experiential friction (compared to some reference journey) were sold at the same price, a customer would prefer the one that she finds the most aesthetically, physically, or emotionally pleasing.[37] For example, sustainably or ethically sourced products may be preferred by some customers despite being functionally identical to other non-sustainably or non-ethically sourced products. The same could be said of products that incorporate eye-pleasing elements in their design. For instance, some customers will prefer a water bottle with a curvy design, while others may be indifferent to this design element. Instead of reducing undesired experience, this approach to experiential improvement looks to add desired experience. To be consistent with existing marketing literature, this text refers to this type of improvements as *hedonic* experiential improvements, while referring to improvements resulting from reductions in experiential friction as *utilitarian* experiential improvements. In marketing, hedonic goods are those whose consumption is "driven by experiences of affective or aesthetic pleasure, joy, or entertainment".[38] Consumption of utilitarian goods, on the other hand, is "driven by rational and goal-oriented considerations and to accomplish a functional or practical task".[39] In actuality, all products have a hedonic and a utilitarian dimension and it is another main objective of this text to argue that products and services create value through hedonic and utilitarian experiential improvements. While the framework provided in the previous sections focuses on identifying

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[37] Some may argue that experiences can be also morally pleasing. This text assumes that moral concordance produces a positive affective and/or aesthetic response on the subject.
[38] Ravi Dhar and Klaus Wertenbroch, "Consumer Choice Between Hedonic and Utilitarian Goods," *Journal of Marketing Research* 37 (February 2000): 60–71.
[39] Dhar and Wertenbroch.

opportunities for experiential improvement in the form of reductions in experiential friction, this section covers the value creation potential of experiential improvements in general.

It should be noted that, while existing literature identifies experiential value as a type of value offered by products and services, this text argues that the entirety of the value created by products and services is experiential in nature: Individuals assign value to things that have the potential or proven capacity of improving their experience. It is the customers' assessment of how products or services will impact the experience of satisfying their needs that informs their perceived value and, consequently, their willingness to pay. This assessment can be made *a priori*, for products and services new to the customer, or *a posteriori* once the customer has made use of them. That products and services create value through experiential improvement also necessarily suggests an equivalence between experiential improvement and monetary value. People have an idea of this equivalence through their past purchases, i.e., they know "how much" experiential improvement can be obtained for a given sum of money. Understanding this equivalence is key to translate any quantitative measure of experiential improvement (for example, a reduction in friction) to a monetary equivalent. In particular, knowing the value contributed by each of the reductions in experiential friction offered by a firm's product or service would allow firms to concentrate their efforts in improving their customers' need-satisfaction journeys where it matters the most and would be helpful in making more accurate pricing decisions.

To start developing a model that connects experiential improvement with value, we can begin by formalizing the notion of an experiential improvement. When we talk about improvements, we automatically introduce the necessity of an initial or reference state and a final or desired state. In this case, the reference state would be the need-satisfaction journey that is being improved upon or the "as is" need-satisfaction journey, while the final state would be the improved or the "to be" need-satisfaction journey. The need-satisfaction journey that is being improved upon can be either one in which no product or service is used to satisfy the need or one where another product is used. We can define an experiential improvement (or deterioration) as the change in the quantitative metric used to describe an experience between the "as is" and the "to be" need-satisfaction journeys. Recall from section four that experiences can be "quantified" using a relevant metric that is connected with the way the customer thinks of the experience.

$$\Delta e = e_f - e_o \quad (2)$$

In equation 2, "e_o" is the quantitative measure of an experience in the reference need-satisfaction journey, "e_f" is the quantitative measure of the corresponding experience in the to-be need-satisfaction journey, and "Δe" is the magnitude of the experiential improvement or deterioration. In the particular case where the experiential improvement is a reduction in experiential friction, "e_o" would be the quantitative measure of a frictional experience in the reference need-satisfaction journey, "e_f" the quantitative measure of the corresponding frictional experience in the to-be need-satisfaction journey, and "Δe" the magnitude of the reduction or increase in experiential friction. The experiential improvement will necessarily be expressed in the units used to describe the experience that is being improved upon. Each experiential improvement will make the to-be journey better and more "valuable" to the customer when compared to the reference journey. The value added by each improvement is proportional to their magnitude, with their contribution being dependent on the way the customer values each improvement.

$$\Delta V \propto \Delta e \quad (3)$$

$$\Delta V = v\, \Delta e \quad (4)$$

$$\Delta V = v\, (e_f - e_o) \quad (5)$$

In equations 3, 4, and 5, "ΔV" is the incremental value resulting from experiential improvement "Δe" and "v" is the *experiential value coefficient* — a proportionality coefficient that assigns a value to each unit of experiential improvement. The incremental value is expressed in units of currency. Notice that an *increment* in value is used instead of value itself, which derives from the use of reference and final states to define the experiential improvement. The experiential value coefficient "v" is expressed in currency units per each of the units in which the experiential improvement is expressed. For instance, if the experiential improvement is defined as a reduction in waiting time in the reference need-satisfaction journey from five hours to one hour, the experiential value coefficient would be expressed in units of currency per hour and would represent the average value that the customer perceives in waiting one less hour. How important and valuable the customer judges an experiential improvement to be is captured by its corresponding experiential value

coefficient. Technically, these will be different from customer to customer but, for practical purposes, should be assumed to be similar across a well-defined customer segment. It should be noticed that, when the experiential improvement is utilitarian (i.e., a reduction in friction), the value in the parenthesis will be negative.[40] Should this be the case, the inclusion of a negative sign at the beginning of the expression becomes necessary to yield a positive value increment as can be seen in equation 6.

$$\Delta V = -v\,(e_f - e_o) \tag{6}$$

If the final need-satisfaction journey makes multiple experiential improvements over the reference journey, the value contributed by each improvement may be added to obtain a total value increment. Equation 7 shows an expression for the total value increment attributable to a need-satisfaction journey that makes "*n*" experiential improvements over a reference journey, with each improvement carrying its own experiential value coefficient.

$$\Delta V = \sum_{i=1}^{n} \Delta V_i = \sum_{i=1}^{n} v_i\,(e_{if} - e_{io}) \tag{7}$$

$$\Delta V = \sum_{i=1}^{n} \Delta V_i = -\sum_{i=1}^{n} v_i\,(e_{if} - e_{io}) \tag{8}$$

Again, attention should be paid to the sign of the individual experiential improvements and an additional negative sign should multiply any utilitarian experiential improvement. In the special case where all the experiential improvements being made are utilitarian, a negative sign would multiply every term in the sum in equation seven, which could be factored out to yield equation 8. Moreover, we could add equations 7 and 8 to obtain an expression for the general case in which the final need-satisfaction journey makes utilitarian and hedonic experiential improvements, as shown in equation 9.

[40] One should account for any frictional experiences described with quantitative metrics where an increase represents an experiential improvement and be certain that their value is being assigned the correct sign.

$$\Delta V = \sum_{i=1}^{n} \Delta V_i + \sum_{j=1}^{m} \Delta V_j = \sum_{i=1}^{n} v_i \, (e_{if} - e_{io}) - \sum_{j=1}^{m} v_j \, (e_{jf} - e_{jo}) \qquad (9)$$

In equation 9, the total value accrued to the improved journey is computed in two summations. The first summation corresponds to the "*n*" hedonic experiential improvements where the difference in quantitative measures of the final and reference states yields a positive number. The second summation corresponds to the "*m*" utilitarian experiential improvements that are reductions in friction and yield a negative number when computing the net change in the quantitative measures of the reference and final experiences. Equation 9 makes a clear distinction between the two fundamental sources of value in a product or service: Hedonic experiential improvements (i.e., those resulting from making the experience more aesthetically, physically, or emotionally pleasing) and utilitarian experiential improvements (i.e., reductions in experiential friction).

The expressions provided above can be used to compute the incremental value of a product or service compared to a reference state. The utilitarian experiential improvements can be obtained using data from the experiential friction profiles of the two need-satisfaction journeys being compared. Hedonic experiential improvements can be assessed if the secondary desired experiences were quantitatively characterized in the profiles; however, the nature of desired experiences can make them difficult or impossible to quantify. Whenever their quantification is not possible, one should keep in mind that there remains an unknown premium to be added to the incremental value computed from utilitarian experiential improvements alone. The measure of incremental value obtained through this approach is *perceived incremental value,* a measure of the total experiential improvement perceived by the customer. The total value perceived by the customer and, consequently, the customer's willingness to pay, will be necessarily informed by the value of the reference state. The decision to buy or not to buy will still depend on the price of the product or service. Recall from the beginning of this chapter that customers have an idea of "how much" experiential improvement can be bought for a given sum of money. A product's price can be construed by customers as the "amount" of experiential improvement they must forgo to access the improvements offered by the product. From the other perspective, a product's price can be interpreted as the firm's claim to the experiential improvement being delivered. It follows that customers will proceed to buy the product only if the experiential improvement they expect from using the product exceeds the improvements that they must forgo to

acquire it. Whether the product or service is profitable or not will depend on the costs incurred by the firm to deliver the experiential improvements to the customer.

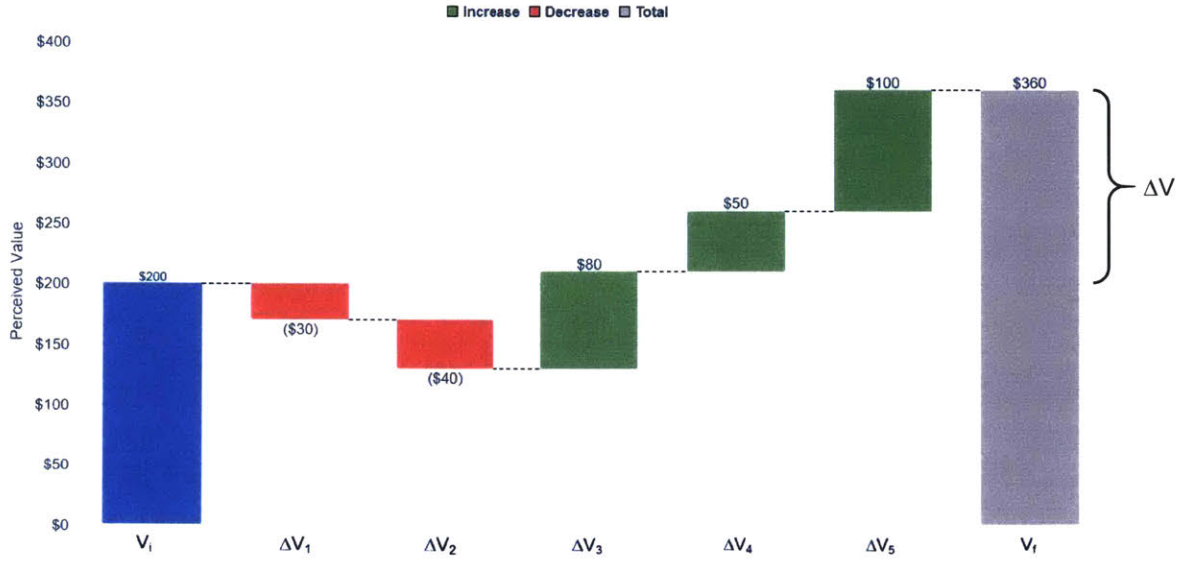

Figure 2.- Experiential improvements and deteriorations (on the x-axis) made over the "as is" journey add or take away perceived value, respectively, to the "to be" journey.

7 The Experiential Profiling Framework

The ideas and concepts in previous chapters are presented with the intention of providing firms and individuals with an alternative way of thinking about the products and services they offer and how, precisely, it is that they are creating value for their customers. This chapter intends to integrate these ideas into a framework that can be used by firms to perform an experiential assessment of the products and services they offer.

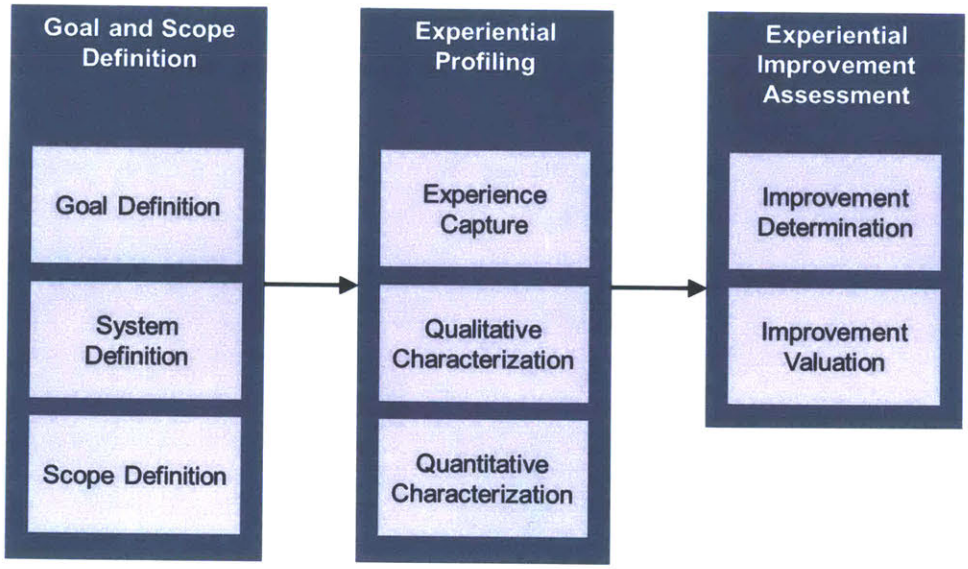

Figure 3.- Overview of the framework, its stages and steps

The first stage in doing this assessment is to define the goal and the scope of the assessment. What is the purpose of the study and what does the firm want to know? A firm may have different motives for doing the assessment: Does it want to compare one of its products or services with one of the competition or does it want to compare two of its own products or services? Is the intent to improve the experience offered by one of its existing products or to design an entirely new one? Or does the firm simply want to better understand the value proposition of its products or services? Defining the purpose of the assessment will guide the activities performed downstream. The system that is being studied — a need-satisfaction journey — must also be carefully specified. To correctly define a need-satisfaction journey a product/service, a customer segment, a need, and a time period have to be specified. What product or service is being evaluated in the journey? What is the need that will be satisfied through its use? Products and services may be used to satisfy multiple needs and/or be used by customers in different customer segments. What is the target customer segment whose experience will be evaluated? If the purpose of the assessment involves the comparison of two need-satisfaction journeys (like when comparing two products or evaluating the impact of a new one), a second need-satisfaction journey needs to be defined as well. The last element to be specified before moving on to the next stage is the assessment's scope. Scope refers to the level of detail required for the results to be applicable and actionable to attain the study's goal. Defining the scope is an iterative process, as it may be readjusted at different points of the assessment. In general, one should come back to revise and confirm the assessment's goal, system, and scope whenever

necessary. The result of this stage should be a text or document describing the purpose of the study, the need-satisfaction journeys being studied, and the required level of detail, clearly specifying and justifying the choices that have been made.

The second stage is at the core of the assessment and consists in the experiential profiling of the need-satisfaction journeys defined in the initial stage. Recall that the experiential profile of a need-satisfaction journey contains the sequence of experiences from the moment that the need is discovered to the moment in which the need is satisfied. The first half of the profile is qualitative and is a representation of all the experiences in the journey that matter to the customer. These are captured by "reliving" the journey in the shoes of the customer. A good way to start this process is by answering the questions shown in table 1 of chapter 2. These answers will provide a broad view of the journey, from which an initial set of top-level experiences can be captured. In addition to these questions, one could also frame the journey in terms of the three canonical stages of before use, during use, and after use. Once these top-level experiences have been captured, one can zoom into each of them, breaking them down to capture more specific and self-contained experiences until the level of detail specified in the scope is reached. All the experiences that are relevant to the customer should be captured, particularly those experiences that the customer may associate strongly with the firm or the brand. The result of this step is a document containing a graphical representation of the need-satisfaction journeys being studied. This document, called the experiential profile, is a model of actual experience that may be presented in the form of a table, a timeline, or any other suitable way. Upon completion of this step, it is advised to review the resulting experiential profiles and confirm the goal and/or scope of the assessment.

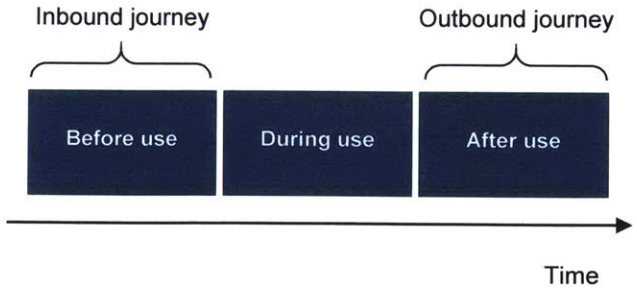

Figure 4.- The three stages of a need-satisfaction journey can be used to as starting point to capture the customer's experiences

Once the qualitative portion of the experiential profiles is ready, we can proceed to identify which of the captured experiences constitute experiential friction. As we may recall, frictional experiences are those that the customer would do away with if given the choice, i.e., the undesired experiences in the journey. One may be tempted to answer this from a personal viewpoint, but one should use exclusively the point of view of the persona chosen to represent the customer segment being studied. Key questions to ask during the process of reviewing each of the experiences in the profile are: Would the customer value having the option to avoid or skip this experience? Would he find this experience pleasant, enjoyable, entertaining, fun, or otherwise engaging? Would he welcome having the experience? Is the customer expecting the experience? Would he interpret this experience as a burden? Would knowing about this experience be a deterrent or demotivate the customer to proceed on with the journey? Depending on the context, more specific questions may be formulated to assess the desirability of the experiences in the profile. The result of this step should be a labelled experiential profile for each of the need-satisfaction journeys being studied, clearly distinguishing between frictional and non-frictional experiences.

The next step in the qualitative characterization of the captured experiences is to categorize the frictional ones. As laid out in chapter 3, one way to do this is to group the experiences that originate or are thought of by the customer in comparable ways, or which can be mitigated through similar approaches. Categorization involves being on the shoes of our chosen persona and figuring out how she would think of the experience. Will the customer think of driving as travel or as work? Categorizing will be useful at the moment of devising strategies to reduce experiential friction and to get a clearer perspective of what the products or services being evaluated are "doing" for the customer. Each frictional experience should be described using the most relevant category available. In the case that several categories are equally relevant to describe an experience, the best course of action would be to revise the experiential profile and "split" the experience into as many experiences are needed for each to be labeled with a single relevant category. Splitting experiences for them to bear a single category will provide a better understanding of what is being experienced and will simplify the process of finding potential avenues for friction reduction. The result of this step should be a document where the frictional experiences in the experiential profiles are clearly categorized. If only qualitative information about the experience enabled by the products or services being studied is desired, one may use the results of this step to start performing evaluations.

Friction Category	Types of Experiences	Examples
Travel Friction	Experienced travel or displacement	Walking, driving, biking, flying, taking the elevator, etc.
Temporal Friction	Experienced flow of time	Standing in line, waiting on a room, delays, etc.
Transactional Friction	Experienced necessary exchanges of physical or informational objects	Sharing shipping information, placing an order to trade stocks, receiving merchandise, submitting documentation, etc.
Discovery Friction	Experienced search and discovery of available options to achieve a goal within the journey	Asking friends for restaurants, looking for a product in a store, searching for a concert date, etc.
Process Friction	Experienced work, tasks, or activities that have the result of transforming or changing the state of objects	Slicing tomatoes, reorganizing icons, assembling furniture, replacing a cartridge, carrying boxes, etc.
Cognitive Friction	Experienced mental effort	Learning to operate a product, deciding between two products, etc.
Somatic Friction	Experienced physical discomfort	Getting wet, suffering medication side effects, tasting unpleasant tastes, smelling unpleasant smells, feeling pain, etc.
Emotional Friction	Experienced emotional discomfort	Having an awkward personal interaction, feeling worried about a product's performance, feeling anxiety for now knowing how long a wait will be, etc.

Table 6.- The Categories of Experiential Friction

The third step in the profiling stage consists of the quantitative characterization of the experiences in the profile, a process that may involve a substantial data-gathering effort. The time and effort required for quantitative characterization will depend on how much data is already available to the firm, on the number of sources that must be consulted to obtain it, and on the amount of data to be generated specifically for the assessment. The goal of the quantitative characterization is to assign a relevant metric to each of the experiences captured in the qualitative experiential profiles, with the intention of gaining a notion of their magnitude. For an experience to be quantitatively characterized, two elements are required: a magnitude and a unit to accompany it. Units are used to get an idea of the experience in a physical, spatial, temporal, or other dimension. To gather the data, one may need to consult data that comes from the firm's current operations, performance reviews, customer

feedback, and other types of assessments or studies performed in the past. Publicly available data and data from authoritative sources may also be helpful to estimate the magnitudes of the experiences. Should no data be available within the firm or from outside sources, one may have to proceed to generate the data directly through *ad hoc* measurements, studies, or experiments. The reliability of the results of the assessment will depend greatly on the adequacy of the choice of metrics and units and the quality of the data used to characterize the magnitude of the experiences. Common units for describing experiences per friction category can be found in table 7. Making quick estimates may provide some intuition on the order of magnitude to be expected from the figures to be calculated. The result of this step should be a document containing a fully characterized experiential profile, where each of the captured experiences is quantitatively described using a magnitude and a corresponding unit.

Friction Category	Which units to use	How to measure the magnitude	Examples
Travel Friction	Can be described in distance units or time units, with optional mention of mode of transport used	Direct measurement or estimation of traveled distance or time	5 meters, kilometers, or miles 7 meters by foot, kilometers by bike, or miles by car 5 minutes by car, or hours by train
Temporal Friction	Can be described in time units, with optional mention of the origin of the wait and optionally distinguishing between dedicated waits and non-dedicated waits	Direct measurement or estimation of elapsed time	10 seconds, minutes, hours, days 15 seconds of lag, minutes of wait, hours of lag 30 minutes of dedicated waiting time
Transactional Friction	Transaction events can be described with an arbitrary scale and its corresponding units and an optional duration of the event in time units	As specified by the selected scale, with optional measurement or estimation of transaction time	1 transaction event, 1 transaction event of medium complexity, 1 transaction event of 30 minutes
Discovery Friction	Discovery events can be described with an arbitrary scale and its corresponding units and an optional duration of the event in time units	As specified by the selected scale, with optional measurement or estimation of discovery time	1 discovery event, 1 discovery event of low complexity, 1 discovery event of 5 minutes
Process Friction	Can be described in terms of objects to be processed, tasks to be accomplished, or time units	Direct count of objects to be processed or tasks to be accomplished, or direct measurement or estimation of time required to process the objects or accomplish the tasks	15 parts to be assembled, mushrooms to be sliced 4 bags to be carried, documents to be filed 30 minutes of installation time
Cognitive Friction	Cognitive events can be described in terms of cognitive processes or time units	Direct count of the cognitive processes to be effectuated, or estimation of time required to effectuate them	3 decisions to be made, comparisons to be made 5 minutes of decision making, hours of learning 4 hours of attention
Somatic Friction	Physical discomfort events can be described with an arbitrary scale and its corresponding units and an optional duration of the event in time units	As specified by the selected scale, with optional estimation of the duration of the discomfort event	1 pain event with intensity of 3 in NRS-11 scale 30 minutes of nausea, 15 minutes of feeling cold
Emotional Friction	Emotional discomfort events can be described with an arbitrary scale and its corresponding units and an optional duration of the event in time units	As specified by the selected scale, with optional estimation of the duration of the discomfort event	15 minutes of stress 1 worrying event of medium intensity

Table 7.- Units and approaches used to characterize the frictional experiences by friction category

The final stage in the assessment consists in comparing the experiential profiles of the need-satisfaction journeys being studied to determine and perform the valuation of any actual, desired, or potential experiential improvements. Experiential improvements can be assessed qualitatively or quantitatively, using data from the respective qualitative or quantitative experiential profiles obtained in the previous stage. Recall from chapter 6 that experiential improvements can be hedonic or utilitarian. Utilitarian experiential improvements come from qualitative changes in frictional experiences, from reductions in their magnitude, or the elimination of the experiences themselves. Hedonic experiential improvements come from increasing the magnitude of desired experiences in the journey and from the addition of new desired experiences in the journey. Experiential deterioration is also possible, should any of the frictional experiences in the reference journey grow in magnitude, new frictional experiences appear on the final journey, or if desired experiences in the reference journey become less intense. If two experiential profiles were prepared in the last stage, one must establish which of these will be the reference or "as is" journey and which one will be the final or "to be" journey to begin the determination of experiential improvements. If only one profile was prepared, it is still possible to determine potential improvements by establishing a desired final state for one or more experiences in the profile. Equation 2 in chapter 6 provides a mathematical expression to obtain the experiential improvement when quantitative information for the reference and final experiences is available. The result of this step should be document identifying any actual, planned, or potential experiential improvements and any resulting experiential deteriorations, preferably described quantitatively.

A change in a...	Represents an experiential improvement if it...	Represents an experiential deterioration if it...
Frictional Experience in the "as is" journey	Doesn't appear in the "to be" journey	
	Decreases in magnitude	Increases in magnitude
	Improves qualitatively	Worsens qualitatively
Desired Experience in the "as is" journey	Increases in magnitude	Decreases in magnitude
	Improves qualitatively	Worsens qualitatively
		Doesn't appear in the "to be" journey
Desired Experience in the "to be" journey	Doesn't appear in the "as is" journey	

Table 8.- A quick guide to identify experiential improvements

Once the experiential improvements and deteriorations are known, one can proceed to value them. Valuation is the last and most difficult step in the assessment because the data required to perform it is not readily available. As the name implies, the goal in this step is to obtain a measure of the value perceived by the customer in each of these experiential differences. Experiential improvements result in value increments, while experiential deterioration will have the opposite effect, a value reduction. Equations 5 and 6 in chapter 6 provide mathematical expressions to obtain the value increment resulting from quantitatively defined hedonic and utilitarian experiential improvements, respectively. The challenge in obtaining an accurate valuation lies in obtaining the experiential value coefficients for each improvement, which depend on the highly subjective notions of value that individuals have. No two people value things equally, making it hard to assess how — exactly — a customer will value a given experiential improvement. The decision on how much effort to employ in obtaining these coefficients is up to the firm performing the assessment. Coefficients can either be assigned values based on empirical data or on careful market research. The value of qualitative experiential improvements will have to be determined on a case by case basis, for example using comparative data from products already in the market. The result of this step should be a document listing all the actual, planned, or potential experiential improvements and deteriorations, along with an estimate of the value increment or reduction that they contribute.

The documents produced throughout the three stages of the framework — the experiential profiles and the list of experiential improvements with their valuation — provide a radiograph of the selected need-satisfaction journeys. These should offer an accurate picture of the experiences that the customer is expected to undergo, along with information on how the customer would value changes in those experiences. With this information in hand, the firm should proceed to perform the pertinent evaluations to fulfill the stated purpose of the assessment. Revisions to the prepared documentation should be made if important experiences in the journey are missing or if the scope has to be readjusted.

8 Limitations and Future Research

The experiential profiling framework has limitations that can be addressed by future research. The main areas of opportunity relate to the lack of a specification for classifying undesired and desired experiences, the linear nature of the model used to compute incremental value, and the absence of ready-to-use data on experiential value coefficients and normalization coefficients.

"Desired experience" is not defined. In 1964, United States Supreme Court Justice Potter Stewart famously used the phrase "I know it when I see it" while evaluating if a motion picture fitted the description of "hard-core pornography" during the First Amendment case of *Jacobellis v. Ohio*.[41] The phrase is now used to refer to situations where an observable event, fact, or object is to be categorized, but no clearly defined parameters exist for such classification. The experiential profiling framework falls in a similar situation, as it relies on the capacity of the individual preparing the assessment to determine the desirability of experiences. The preparer is expected to do this by empathizing with the persona used to represent the target customer segment for the products being evaluated. No clearly defined parameters are offered to establish desirability of experience in and of itself. Future research could help establish those parameters. The results of this research could also have applicability in developing a structured framework to evaluate the value derived from hedonic experiential improvements.

Improvements to linear model of value. The linear model for incremental value presented in chapter 6 does not account for non-linearities in the way that customers value experiential improvements. Future research could find more accurate relationships between experiential

[41] Jacobellis v. Ohio, 378 U.S. 184 (1964).

improvements and the value they contribute. For example, in a need-satisfaction journey where a 3-hour waiting time is being reduced by 1 hour, the first 5 minutes of the reduction would be valued differently than the next 5 minutes. Another related question is if a given experiential improvement is valued differently (carries a different experiential value coefficient) if effected in different need-satisfaction journeys.

Experience inventories. The optional normalization step in the experiential profiling framework was inspired in the one used in the environmental study known as Life Cycle Assessment (LCA). The LCA's normalization procedure compares the various environmental impacts of products (greenhouse gas emissions, water consumption, etc.) to the typical environmental impact that a person would have over the course of a year. To facilitate this task, researchers around the world have tasked themselves with producing environmental impact data for people by country and region. A similar approach could be taken to generate collections of experiential data to be used in experiential profiling assessments. Having publicly available quantitative data on people's common experiences could facilitate not only the normalization step in the assessment, but also the quantitative characterization step. This data could be, for example, the typical set of experiences of an office worker in a day or the experiential profile of a prototypical consumer product. The ever-larger availability of sensor-enabled products and wearable devices could provide a route to conveniently gather this data. The use of these devices makes the high-resolution characterization of experience at the individual level possible, which could bring about products and services that reduce experiential friction in a personalized way.

Useful frictions. The literature on UX identifies instances in which intentionally building design frictions into a user's interaction with a product can produce desired outcomes.[42] For example, users can be induced into a more involved and thoughtful state of mind and thus prevented from making rushed decisions through the use of so-called "microboundaries". Microboundaries are small obstacles introduced in the users' workflow that create a brief pause for the them to reflect on what they are doing. These are especially useful in workflows that involve actions with important and/or irreversible consequences, e.g., permanently deleting files, accepting a loan, etc. Another instance in which an experience that could be thought of as friction can be useful is the noise produced by internal combustion engines on automobiles. Although conventional wisdom would suggest that a more silent engine

[42] Cox et al., "Design Frictions for Mindful Interactions: The Case for Microboundaries."

provides a better experience by removing the undesired experience of noise, the engine noise provides audible feedback to people in the vehicle, allowing them to know that it is turned on and functioning. Additionally, engine sound can alert pedestrians of an approaching vehicle that is not in sight. In this case, completely removing the engine's sound has the potential of generating an externality in which pedestrians are put at physical risk of collision with the vehicle. In summary, the judicious use of frictions along the journey should always be considered as a tool to spare customers potential and more intense undesired experiences.

9 Managerial Implications

The experiential point of view is used throughout this text to evaluate concepts, definitions, and journeys alike. By using an experiential point of view, firms can improve the way they design and develop products and services, gain deeper insights about their customers, and increase their awareness of their value proposition. When a firm knows its customers, their needs, and their journeys, it is better positioned to offer them a unique and compelling mix of experiential improvements. It is also better prepared to deal with the future, having a sense of direction as to which technologies and capabilities they should nurture and where they should invest their resources. Implementing the experiential perspective should impact a firm's strategy in multiple ways, most prominently when it comes to product development and management, marketing, brand development, and pricing.

Product development and management. The experiential profiling framework presented in chapter 7 provides a route to identify and assess the most valuable experiential improvements available in a need-satisfaction journey. Depending on their capabilities and resources, firms can choose which of the available experiential improvements they wish to deliver and use them to develop user stories and requirements documents. The experiential profiling of new products and services is decidedly more difficult than of already existing ones given the lack of usage data. Considering this, a firm's product management strategy should strive to develop and maintain a set of experiential metrics, gathering the data and customer feedback it needs to facilitate the routine experiential profiling of its products and services. When and how often to perform these assessments is up to the firm to decide.

Marketing and brand development. Brands are a powerful vehicle for customers to encapsulate the experiences they have along a need-satisfaction journey. They are

themselves an element that reduces cognitive friction at the moment of deciding between products and services. Firms should therefore make a conscious effort to associate, in the minds of their customers, their products' brands with the improved need-satisfaction journeys they enable. In terms of marketing, a thorough understanding of the inbound journey will help firms devise strategies to reduce the amount of effort that customers need in order to find and decide for their products as the best option.

Effective product differentiation. Firms want to make sure that their own products are differentiated if they want to engage in price discrimination through customer segmentation. A company may have products offered at different price points that differ in their features but that enable the same experience for customers. If this becomes obvious to customers in the segment targeted by the higher priced product, they can be expected to choose the product with the lower price. The same applies for differentiation versus products and services of competitors: Differentiation is experiential and depends on the resulting journey experienced by the customer, not on product features. That two products differ in features does not necessarily translate in different need-satisfaction journeys.

Capability planning. By understanding the experiential improvements offered through its products and services, a firm can perform deeper assessments to identify the core capabilities that enable those experiential improvements as well as the technologies being used by the firm to gain said capabilities. Mapping current or desired experiential improvements to capabilities and capabilities to technologies can become a powerful planning tool that can help firms shape their future value proposition. Funds for research, development, licensing, technology transfer, and M&A can be better allocated when a firm has a clear idea of the trajectory of the experiential improvements sought to be delivered to the customer. This trajectory should be reflected on the firm's technology and capability roadmaps.

Organizational alignment with value proposition. Having clarity on the activities and capabilities that lead to value creation can be leveraged to devise organizational structures better suited to deliver the firm's value proposition. Taking into consideration the need-satisfaction journeys served by the firm, management can organize functional areas vertically (with a focus on a particular need-satisfaction journey) or horizontally (serving a function needed in multiple journeys).

Partnerships and competitive threats. Firms will naturally focus in improving the portion of their customer's need-satisfaction journey that better matches their core competencies. However, as friction across the entire journey affects customers' decision to acquire a firm's products or services, firms may want to establish partnerships with other entities whose competencies are better suited to reduce friction in other parts of the journey or who already control other parts of the journey. Control of key experiences in the inbound journey is extremely valuable, as it confers firms gatekeeping power that can shape the rest of the journey downstream, including customers' access to products and services of other firms. Gatekeepers and other firms with presence along the journey may be motivated to expand ownership of the journey. It is important for firms to identify these entities in the need-satisfaction journeys they serve and assess any competitive threats that could result.

Finally, there are two aspects of need-satisfaction journeys that have significant managerial implications: The firm's degree of control over the experiences in the need-satisfaction journey and the customer's visibility of the need-satisfaction journey.

Firms' control over the need-satisfaction journey. The stage of the need-satisfaction journey where the firm's control over the experiences that customers have is typically at a maximum when the customer is interacting directly with the product or service offered by the firm — in the "use" stage. Firms' control or ability to influence the experiences that happen before and after that is usually lower. Experiences that fall in the inbound portion of the journey mostly relate to the discovery of the need itself, the discovery and evaluation of the options available to satisfy that need, and the acquisition of the product or service. Firms usually partner with other business to distribute, advertise, and sell their products and services, and customers usually have multiple ways to discover and evaluate their options, so having complete control of this portion of the journey is rare. The outbound portion of the journey mostly consists of experiences relating to returns, exchanges, customer support, technical service, and disposal of the product. Firms typically have more control over the outbound journey because a relationship with the customer is already in place. In either direction, however, costs to the firm increase when moving away from the middle stage where the customer makes use of the product or service, especially if the firm decides to takes direct ownership of the activities. Furthermore, gaining more control upstream or downstream may push the firm into performing activities that fall outside of its core competence. A cost-effective approach to increase control upstream is through agreements with the actors that have direct control over the experiences in that portion of the journey:

Retailers, distributors, and other entities involved on the customer's decision and sales process. For example, firms can select which retailers will carry their products depending on the experience they provide to customers, while also agreeing with them where in the store their products will be located, and how they will be displayed and marketed. Some firms may want to exert full control over the purchasing experience and develop their own retail channels, a prominent example of this being Apple, Inc.'s retail operations. Offering products and services directly through the internet is yet another avenue for firms to gain control of the customer's purchasing experience, although the growing relevance of aggregators like mobile application stores like Google, LLC's "Playstore" and online retailers like Amazon is making it increasingly difficult for firms to own and shape this part of the journey. Partnerships are also a way to gain control in the downstream journey, e.g., agreeing with distributors and retailers on policies for returns and exchanges, partnering with a local repair shop to provide technical support, and offering environmentally sustainable ways to dispose of products. Firms may be wary of this approach because the experiences that customers have after using the product or service are more strongly associated to the firm than those in the upstream journey. Direct control, on the other hand, may involve deploying significant resources in developing reverse logistics as well as customer and technical support capabilities. In any case, firms should be aware of the friction their customers experience throughout the entire journey and make the pertinent tradeoffs according to their competencies, resources, and strategy. Lastly, given the associations that customers can make between their experiences throughout the need-satisfaction journey and the brand of the product or service being used, firms should devise ways to ensure that any experiential improvements can be effectively connected with the brand while trying to impede this connection during frictional experiences not directly under the firm's control.

Customer's visibility of the need-satisfaction journey. The importance of customer's visibility of the need-satisfaction journey stems from its impact on the value that the customer perceives in a product or service. Recall from chapter 6 that customers assess value from expected or actual experiential improvement. Their accurate assessment of value depends on their ability to know and understand the potential experiential improvement offered by a product or service. Experiential improvements that are not immediately visible will not figure in the customer's initial value assessment, affecting their willingness to pay. In many cases, it is hard for customers to visualize, know, or anticipate the experiences they will have over the need-satisfaction journey, representing a challenge for firms to communicate their value

proposition. Furthermore, customers can be expected to resist changing a product or service they currently use for another, especially if they feel comfortable with it despite of the friction they may experience while using it. Therefore, firms have an incentive in making clear the experiential improvements they offer to the customer before actual use of their products or services takes place. This should be an explicit goal of a firm's marketing strategy.

The managerial implications for firms resulting from adopting and maintaining an experiential perspective abound and are difficult to exhaustively discuss here. Perhaps the best way to summarize them is to understand that every decision made by a firm will translate into an experiential improvement or deterioration *for someone* and that a firm's success will depend on the degree that it enables more enjoyable and tolerable experiences for the individuals who interact with it. To understand a firm's place in the economy, one must understand how it fits in people's experiential journeys. All stakeholders that a firm can have — their customers, employees, investors, strategic partners, suppliers, etc. — are, in the end, people wired to learn through experience and who will *always* have an affective and aesthetic response for every experience they undergo. All people can be designed for and considering their experience for doing so is only rational. Design sits at the intersection of selfishness and selflessness, it is the practical application of empathy. Being a fundamentally human activity, it should not be construed as something reserved for high-technology companies developing complex, cutting-edge products; it is for every firm, of every size, offering any product or service. As the art and craft of improving experience, design is a central competency for any business; because *doing business means improving experience.*