Towards a Generative Model for In-Person Experience Design

by

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Abstract

Many organizations including retail stores, theme parks, and museums deliver value and differentiate themselves through the in-person experiences they offer customers or visitors. This paper presents a new, generic, and comprehensive model of in-person experiences intended to help designers and researchers analyze existing experiences, generate new ones, and identify opportunities for innovation. Based on an in-depth literature review, the author synthesizes four frameworks: an "experience value chain map" that relates the creative and business objectives of experience design, a "stager view" framework that outlines the elements that compose an experience, an "audience view" framework that outlines the emotional and cognitive states of a person undergoing an experience, and an "experience matrix" that can be used to study experiences and to identify opportunities for innovation. The paper concludes by offering an implementation plan to guide organizations in the application of the new model, and by suggesting directions for further research.

Acknowledgements

I could not have written this paper without the support of four remarkable people. Suzanne Stein offered more guidance, inspiration, and encouragement than I could ever have expected, even during difficult times. Her patience showed no bounds as my topic evolved endlessly, and as my Post-Its monopolized an entire wall of her lab for months on end. Her generous help in the final week of this project got it over the finish line.

Greg Van Alstyne selflessly accepted the challenge of advising me during a turbulent final semester without blinking an eye. Though our collaboration was short, he had a significant impact on the substance of this paper and its frameworks, and his naming suggestion for the MiXD model was a stroke of genius. His excitement about this work encouraged me to pursue it beyond the scope of this graduate research project.

Joanne Balles went above and beyond the call of duty as my external advisor, taking countless hours out of her schedule to share her professional wisdom. Our early conversations were invaluable in shaping this project; in particular, the value chain map owes much to her insights about how retailers build relationships. Her enthusiasm for this work continued to the end, despite my rather unreasonable requests for last-minute input.

Finally, Daniel Boyer's patience and support cannot be understated as we put our life on hold for this project more than once. He gave me the encouragement to get it done, and helped me chase my dream of making magic—all the way to Glendale and back again.

To all four of you: Thank you!

To all my friends—

who can't take me anywhere anymore

without listening to me go on and on

as I analyze every bit of the experience.

Table of Contents

List of Tables

List of Figures

TOWARDS A GENERATIVE MODEL FOR IN-PERSON EXPERIENCE DESIGN

Jonathan Hoss

1. Introduction

Sitting at the Eaton Centre with my mother, watching the rhythmic patterns of the water fountain, noticing hundreds of people flowing around us as they walked from store to store. Admiring the lobby of what felt like a corporate cathedral, as I stood awestruck, waiting for my father to finish dealing with the teller at a bank's head office downtown. Walking along Main Street, U.S.A. toward Cinderella's castle at Walt Disney World with my parents, wondering what would await us when we got there.

Many of my earliest and most vivid memories revolve around experiences I had in environments that were designed by large companies to engage, inspire, and influence visitors. I have always been fascinated by in-person experiences, so it's no wonder that throughout my career as an engineer and management consultant, I have gravitated toward work in industries that shape these kinds of experiences—like retail, hospitality, and entertainment—and eventually enrolled in design school, where I now find myself studying the topic.

From the start of this major research project, my goal has been to develop a deeper understanding of in-person experiences, in order to help me better design them. But the scope of the project has changed dramatically since I embarked on it nearly two years ago. Originally, I set out to write a manifesto about the use of technology in retail environments. Frustrated by my work with retailers who believed that the key to game-changing innovation was to simply jam their stores full of flat-panel LCD displays and breakdown-prone touchscreen kiosks, I wanted to develop a model to help store designers think through more useful and inspiring uses for various technologies.

Eventually, I decided to adopt a technology-agnostic approach, for several reasons: First, it became difficult to clearly define what a "technology" is. Most designers would consider digital kiosks or wireless sensors to be examples of technology. But what about non-digital technologies like lighting, or elevators, or even the uniforms worn by employees? Should these be included? Second, the rapid pace of technological advancement threatened to rapidly date any framework I could develop. Notions that felt like science fiction only a couple of years ago are now being realized—like the idea of a frictionless, checkout-free retail store, brought to life just this year by Amazon Go. Third, a framework with an explicit focus on technology risks biasing designers and managers away from simple, non-technological solutions to whatever problems they face.

Soon, I realized that the essence of my project revolved around understanding how visitors in a retail environment make sense of their experience, and what elements of that

experience (technological or not) might be introduced or modified by a designer to achieve various outcomes.

Additionally, I realized there was no need to limit my scope to retail settings. Many types of environments—from bank branches and hotel lobbies to airports and even hospitals—share similarities with retail stores: They all welcome guests in a designed space, help orient them, enable physical or verbal interactions with them, and in many cases, use the opportunity to try to engage, influence, and understand them. So, I decided to generalize my research to make it more broadly applicable across industries.

Motivation

Across industries, businesses invest considerable resources into the design and refinement of the physical spaces where they interact with customers and of the services provided therein (Rigby, 2014b; Herring, 2014; L.E.K., 2012). In retail stores, for example, experiences play a major role in shaping customers' brand perceptions and preferences (Evenson & Dubberly, 2010), influence consumer behaviours that can lead directly to sales (Rigby, 2014a), and even create value when an experience is so compelling that customers are willing to pay a premium or an outright admission fee to participate in it (Pine & Gilmore, 1999). Experience design is just as important in other industries, too, from travel to entertainment (Zomerdijk & Voss, 2010).

Despite the importance of the topic, there is a dearth of literature outlining practices for successful experience design, or even providing clear definitions of the field (Shedroff, 2001). Much of the published research on the topic is highly theoretical, and fails to provide guidance that can be put into practice by designers (Zomerdijk & Voss, 2010). To make matters worse, teams designing in-person experiences are usually multi-disciplinary and require practitioners from different fields to adapt and combine their wildly differing, and sometimes incompatible, terminologies and techniques (Teixeira, 2012). What's needed is clear and comprehensive definitional work to provide experience designers, from any background or industry, a common language and conceptual platform that they can apply in practice and use as a basis for ongoing research.

Researcher's Personal Context

Over the course of my career, I have worked on experience design projects across several industries (including retail, banking, healthcare, and entertainment) and in a number of different roles (including designer, technologist, and business consultant). My experience design work was done without any formal training, and involved learning and developing techniques on the go. Fortunately, I always had the good luck to work with strong inter-disciplinary teams on these projects, but I often found it difficult to collaborate across roles due to a lack of a common vocabulary and process.

Because of my years of training as a scientist and management consultant, my instinctual reaction to these challenges was to seek out a clear, conceptual experience design

framework to help structure and inform the thinking and the work of my teams. Unfortunately, I couldn't find one, and set out to create my own through this major research project.

Objectives

Definitions and Scope

Vocabulary poses a challenge when studying experience design. As will be illustrated later in this paper, the field of experience design is a multi-disciplinary one, where practitioners from a variety of backgrounds—design, business, engineering, sociology, psychology—continually contribute new thinking and terminology, resulting in a lack of clear and consistent definitions. This challenge is amplified when experience design is generalized across industries: a designer, for example, might rely on different language when working with colleagues in a commercial retail setting than she might when working in an art museum. For the purposes of this investigation, I will begin by establishing some foundational definitions.

This paper focuses on *in-person experiences*, a term that can include a broad range of experiences across sectors—from the experience of a shopper in a store, to that of a patient visiting a hospital. Rather than constrain the scope to a particular industry, I have chosen to keep the definition as broad as practically possible. The goal of this investigation is to generalize in-person experiences across a variety of contexts, drawing

on research and practice from many different industries, and producing a generic model that is broadly applicable to many different situations. To that end, I will set the following definition:

An *in-person experience* is an *encounter* between an *organization* and one or more *visitors* in a physical space that is designed or controlled by the organization.

The ***organization*** in question could be a commercial entity (e.g., retailer, bank, hotel, or theme park) or a noncommercial entity (e.g., hospital, government facility). Generally, the organization will have one or more objectives involving the visitors. These objectives might be specific and measurable (e.g., increasing the time that visitors spend in the store, generating sales) or more abstract (e.g., inspiring or educating visitors, building brand loyalty). As does the relevant literature, I will use the following words interchangeably throughout this paper (unless otherwise noted):

organization = stager = host = company = business

The ***visitors*** are individuals present in the physical space who interact with the organization. Generally, visitors are aware of the organization's presence, and are participating in the experience by choice. One or more visitors may be present at any given time; they may or may not know each other, and they may or may not interact with each other. It is important to note that individuals working on behalf of the organization,

like employees or volunteers, are expressly excluded as visitors. Again, I will use the following words interchangeably (unless otherwise noted):

visitor = audience = guest = individual = customer

The ***encounter*** between organization and visitor must take place in a physical locale (hence, "in-person") that is designed or controlled by the organization. (This would exclude, for example, encounters between pedestrians and canvassers on the street, or between customers and delivery persons in a customer's home.) The encounter occurs over a fixed period of time, with a beginning and an end; recurring encounters (such as a customer's daily visits to a coffee shop) would represent a series of separate experiences. However, some ambiguity in time and space is permissible; so long as the most meaningful portion of the experience takes place in a physical setting over a fixed time period, the overall experience can be considered to include peripheral events that occur beforehand or afterward, or in other physical settings, if they are directly relevant. (For example, if a family travels to a theme park for a vacation, the experience may be considered to include the planning and preparation for the trip, as well as the travel there and back, depending on context.) Finally, the encounter may or may not include a formal transaction or interaction. For a shopper in a store, for example, making a purchase, or simply speaking to an associate, or even just browsing an aisle, are all examples of encounters.

Research Question

Keeping in mind the definitions and constraints described above, this research project will explore the question: **How might we conceptualize the elements and structure of in-person experiences in a generic and generative way?**

To further guide my research, I propose three measures of success for a model or framework answering the question above. It should:

- Be sufficiently general to apply across a wide range of contexts and industries,
- Offer a clear, comprehensive basis for understanding the elements of an experience, and
- Support innovation by generating possibilities for new tactics in experience design.

Methodology & Structure

Many of the most influential conceptual models of experience design—including Bitner (1992), Pine & Gilmore (1999), and Rosenbaum & Massiah (2011)—were developed solely by synthesis of preceding literature. In this tradition, I will begin my investigation with an in-depth review of the pertinent literature, including key academic and popular sources across the domains of service design and experience design. Additionally, to add a practical dimension to the literature review, I will explore selected writings by

respected experience designers describing the practices and conceptual models they use in their work. My analysis of the literature will constitute chapter 2 of this report.

Next, in chapter 3, I will propose and describe a new model for in-person experiences. The model will be based largely on a qualitative analysis of the themes gathered from the literature review, which will be supplemented by input from my decade of work as an experience designer across industries.

Then, in chapter 4, I will demonstrate how the model can be used generatively and applied to experience design practice to identify opportunities for innovation. This chapter will also include an implementation plan outlining how the model could be tested in industry.

I will conclude with a discussion of my findings and areas for further research in chapter 5.

2. Literature Review

Approach

In this literature review, I identify and discuss writings from scholarly and popular sources that are pertinent to my investigation of in-person experience design. In particular, I focus on sources that provide insight into how one might conceptualize the elements of in-person experiences, and how one might design for them in practice.

Originally, I set out to focus this literature review on scholarly analysis of in-person experience design for retail environments, under the assumption that the commercial importance of this topic had led to a significant corpus of research in management literature. I then intended to supplement this research with a review of scholarly articles from the more general domain of service design.

When I dove into the research, however, I found that different areas of experience design were not clearly delineated in the literature, and that most peer-reviewed research on retail design was embedded in the service design domain. As well, most literature on how to design for general in-person experiences was found in popular business books, rather than academic literature.

Therefore, I structure my literature review as follows. First, I explore academic publications on **service design**, tracing its evolution toward the specialized study of in-person experiences, and exploring some of the inherent tensions in the field. Second, I explore non-academic publications by established business and design consultants on the topic of general **experience design**. Third, I supplement my findings on the practical side of design by reviewing selected texts from practitioners in two fields that exemplify in-person experiences: **exhibition design** and **theme park design.**

Throughout the review, I will highlight key insights from the literature that will inform my experience design model in subsequent chapters.

Service Design

The rapidly-evolving discipline of service design emerged from the field of management science in the 1980s (Patricio et al., 2011). It is a practice that draws on a number of disciplines—including marketing, operations, technology, and human resources—to orchestrate coordinated interactions between organizations and individual customers or users, resulting in experiences that generate measurable outcomes (Polaine et al., 2013).

Service design is a broad domain and its boundaries are not clearly defined in the literature (Kimbell, 2011). Generally, it can include interactions that take place in physical settings—in which case, factors such as environmental design fall within its

scope—as well as virtual settings such as phone, digital, and paper channels. Service designers endeavor to create and optimize holistic experiences that may extend across multiple settings and channels (Stickdorn & Schneider, 2011). Because of the large degree to which a service experience is influenced by its user—for example, by her decisions about how to interact with the service, as well as her expectations, reactions, and interpretations of the experience—many service designers agree that their practice is a co-creative one, in the sense that an experience cannot be fully realized until it is lived and affected by its user. (Teixeira et al., 2012; Polaine et al., 2013)

Because of its academic grounding and its focus on holistic experiences (Teixeira et al., 2012), service design felt like a natural place to begin my literature review for this investigation. Indeed, several developments in the field have focused specifically on the study of in-person experiences, which will be discussed below. However, as I will detail, many researchers note that there are still significant gaps in the literature, particularly regarding the practical implementation of in-person experience design approaches (Kimbell, 2011; Teixeira, 2012).

Evolution of Servicescape Models

In the early 1990s, marketing academic Mary Jo Bitner laid the groundwork for extending the then-emerging discipline of service design to include the study of in-person experiences. Her seminal paper (Bitner, 1992), since cited over 4,000 times in academic literature (as of early 2017, according to Google Scholar), synthesized over 20 years of

academic work on customer service and, drawing on research in environmental psychology, posited a generic framework for understanding how various components of an in-person service encounter—including physical environment, employee behaviour, and customer mindset—interact to shape the customer's experience.

This research focused specifically on *servicescapes*, a term coined years earlier to describe commercial venues in which a "service is assembled and in which the seller and customer interact, combined with tangible commodities." (Booms & Bitner, 1981) (As we will see later, the model was eventually found applicable to non-commercial venues and adapted for more general use.) The paper made numerous contributions:

First, it linked environmental design to overall customer experience. Lamenting the "lack of empirical research or theory on the role of physical surroundings in consumption settings" (p.57), Bitner argued that service providers must pay more attention to the design of the physical settings of experiences. To do so, she drew on her previous research (Bitner, 1990) which found that a customer's perceptions of a single experience interacting with an organization could lead the customer to attribute positive or negative attributes to the organization, and that these perceptions could be influenced by a number of subjective factors, including the appearance of the service environment. For example, controlled studies of customer interactions with a travel agency in two settings (see figure 1)—one with a clean office, and another with clutter—showed that customers exposed to

the cluttered environment attributed negative feelings to the performance of the agency and its representative, despite the service provided being identical in both environments.

Figure 1. Examples of visual stimuli in contrasting service settings (Bitner, 1990).

To help conceptualize the relationship between physical environments and perceived experience, Bitner proposed three overarching attributes of an environment that can be designed: ambient conditions such as lighting or odor (which are generally noticeable only if extreme, exposed to for long periods of time, or in conflict with expectations), spatial layout and functionality (which are particularly important in self-service settings, when complex tasks are performed, or if a customer is in a hurry), and signs, symbols, and artifacts (which include verbal and written communications, the decorative style of the environment, as well as items that the customer might carry out). Together, these attributes compose a "servicescape" which plays three distinct roles:

- Serving as a visual metaphor for the brand, product, or service being offered,
- Facilitating the activities of customers and employees, and

- Differentiating the environment from a competitive standpoint.

This definitional contribution to the literature is notable because it begins drawing a link between physical environmental design, human resources, operations, and marketing.

Bitner's second contribution was her conceptualization of service providers (i.e., employees of a company providing service) as actors who not only impact the overall experience, but who are also impacted by it, through their exposure to the environment and to customer reactions. (Anyone who has worked as a retail clerk, and who has experienced a parade of scowling customers set to an uninspired and endlessly repeating music playlist, can attest to the validity of this claim.) In recognizing that the needs of customers and employees could be in conflict, Bitner added a humanistic dimension to the delivery of services, suggesting that service experiences could not be conceived of as mere mechanisms to be managed and optimized.

Thirdly, Bitner elucidated how a customer's (and an employee's) experience may be impacted by factors internal to him or her. She identified two types of internal factors—moderators and responses—and proposed how they impact a person's behaviour in a service environment.

Moderators are fixed attributes of a customer or employee's personality that colour his or her interpretation of an experience. Two types of moderators exist: personality elements—specifically, how well someone is able to filter or ignore noise and other

extraneous stimuli, and how quickly and strongly someone responds to relevant stimuli—and situational elements—including the goals and expectations of a person entering a service setting.

Responses, on the other hand, are not fixed; they vary based on the stimuli a person encounters. A typology of responses consists of cognitive, emotional, and physiological states that are triggered by the environment. Bitner argued that responses are strictly internal and cannot be directly observed.

Behaviours are what result after a customer or employee perceives an experience through a set of moderators and processes it into responses. Bitner proposed two categories of behaviour: physical (e.g., whether someone approaches or avoids a stimulus, or how long they choose to remain in an environment), and the social (i.e., how they interact with other people in the environment).

This contribution is notable because it is one of the first attempts to elucidate the relationships between an environment and the experience of a customer in a way that can help organizations understand, and perhaps influence or even control outcomes—such as how visitors feel or how much time they spend browsing an aisle.

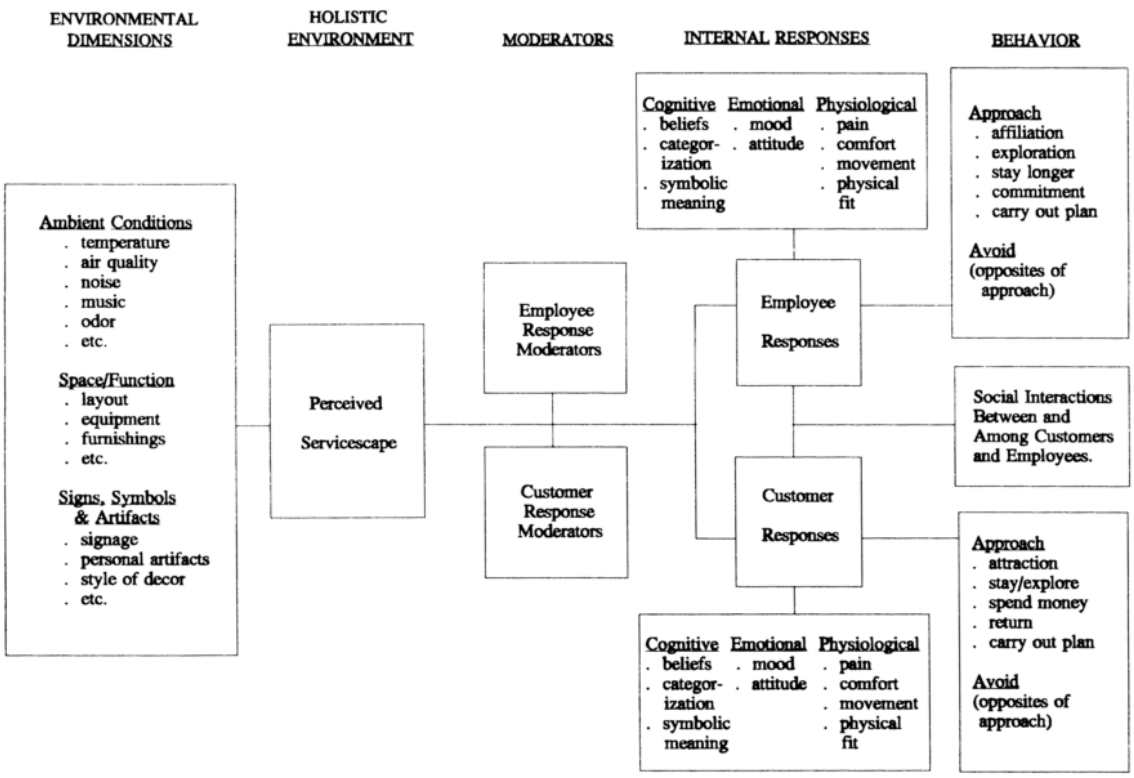


Figure 2. Framework for understanding environment-user relationships (Bitner, 1992).

Finally, Bitner recommends a strategy for experience design: that one should begin by deciding what customer behaviours are desired during the experience, then think of the customer emotions and beliefs that would lead to those behaviours, and finally design an environment and service offering that will elicit these emotions and beliefs. Does this approach conflict with the now-prevailing belief that one cannot design an experience, and can only design *for* one? Not necessarily. I argue that, by acknowledging the unpredictable role that customer's personalities, contexts, and reactions play, Bitner implicitly argues that a designer can only hope to influence an experience, not engineer its outcome deterministically.

In any case, Bitner's 1992 paper offers a rich conceptual framework that others have subsequently tried to extend (Zeithaml et al., 2009), quantify empirically (Pullman et al., 2004), and translate into design approaches (Patricio et al., 2011). But it is not immune to constructive criticism. One perceived weakness is its reliance on principles of environmental psychology, which critics argue is too reductionist—focusing on a person's direct response to a measurable stimulus—and does not adequately address the holistic effect of the complex constellations of stimuli that are often present in commercial environments (Rosenbaum et al., 2011) and are difficult for companies to measure and control (Zomerdijk et al., 2010).

To address this limitation, Rosenbaum & Massiah (2011) propose an extension to Bitner's framework by considering additional factors that shape a servicescape and how it is perceived by an audience. Their framework (see figure 3) clusters the environmental stimuli identified by Bitner (1992) into a single "physical dimension" and proposes three additional dimensions of stimuli:

1. A social dimension: This dimension encompasses all the interpersonal interactions within the experience. This includes direct interactions between customers and employees and between customers themselves, as well as indirect influences, such as the density of crowds and reactions to the perceived emotional states of others.

2. A socially-symbolic dimension: This dimension includes signs, symbols and artefacts that draw on the customer's cultural experience. This includes explicit references to culture, or even culturally implicit cues. For example, in cultures where queuing for service is the norm, such as in North America, a narrow area in front of a cash register might serve as a cultural cue that customers should form a line, whereas this meaning might be lost in other cultural contexts.
3. A natural dimension: Also called the "restorative" dimension, this captures the holistic experience of being immersed in an unfamiliar setting. This might include, for example, the restorative effects of being away on vacation (which are to some degree independent of the physical environment of the vacation), or the engaging mysticism associated with a religious experience.

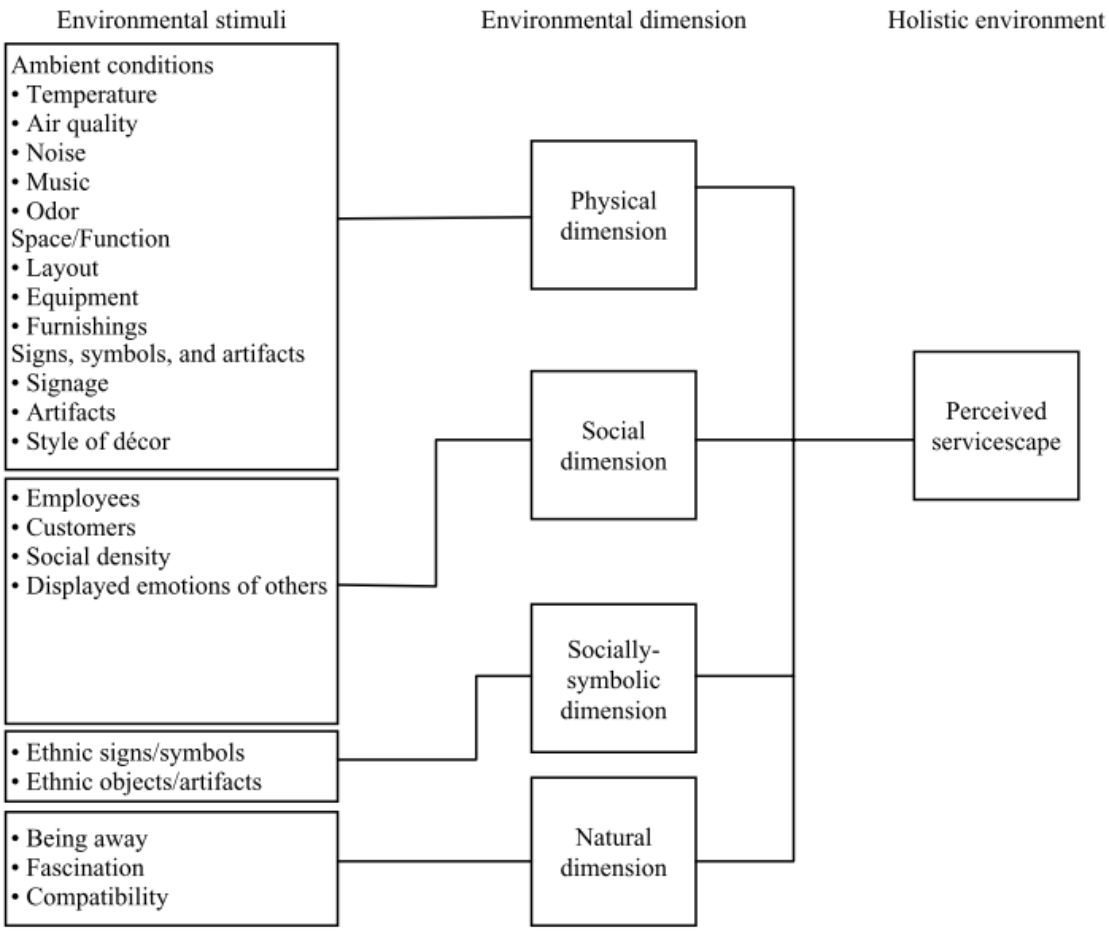


Figure 3. Environmental dimensions of the servicescape (Rosenbaum & Massiah, 2011).

The goal of extending Bitner's framework with these dimensions is to acknowledge the effect of socio-cultural conditions that cannot necessarily be quantified or measured in an experience. Although this model does not explain how these conditions map directly to perceptions, it provides a means to conceptualize some of the more abstract and holistic elements of experiences. This model is also notable because, with the addition of the "natural" dimension, it suggests that the servicescape paradigm might be applied to

entirely non-commercial environments—such as places of worship. Finally, in agreement with Bitner's original view, the authors of this model emphasize that the environmental factors they describe cannot be analyzed outside the context of the customer: "A conceptualization setting actually comprises several different perceived servicescapes that are influenced by a customer's intention of place usage." (Rosenbaum & Massiah, 2011)

Approaches to Service Conceptualization

Much of the service design literature reviewed so far describes the building blocks of in-person experiences (Bitner, 1992; Rosenbaum & Massiah, 2011), but several researchers acknowledge that relatively little has been published on how these building blocks can be used to construct experiences that lead to specific outcomes for an audience or organization (Patricio et al., 2011; Pullman & Gross, 2004, Zomerdijk & Voss, 2010). Patricio et al. (2011) attribute this to the complexity of service design, which encompasses a variety of disparate fields including marketing, operations management, innovation, and interaction design, and suggest that the challenge of integrating them will only become more important because of "the growing complexity of service systems, the emergence of multi-channel services, customer co-creation of service experiences, and the need for interdisciplinary methods."

The literature presents two distinct and arguably conflicting views of this challenge, which I will discuss in this section. First is what I call the *mechanistic approach,* which

attempts to break down the elements of experiences and suggests a bottom-up design process wherein elements are assembled to lead to a pre-determined outcome. Second is what I call the *co-creative approach,* which argues that experiences are created in part by their audiences, and can only be grossly influenced, but not precisely engineered, by a holistic system of stimuli offered by the organization presenting the experience.

Mechanistic Approaches

Mechanistic approaches to experience design generally involve attempts to disaggregate an experience into discrete elements, model the importance or impact of each element in a quantitative way, and use a methodical process to assemble the most important elements into an overall experience that achieves some desired set of outcomes (such as increased customer dwell time in a store, or higher reported emotional impact of an exhibit on visitors).

Methods for measuring and modeling the effect of individual design choices—for example, how wall colour, ambient music, and staff uniforms affect customer decisions—abound in retail marketing literature (Baker, Levy, et al., 1992; Baker & Wakefield, 1998; Chebat & Michon, 2003; Hui et al., 2009), but are often laborious and focused on very specific details, limiting their practical usefulness in the design of a broad, full-scale experience.

Researchers have attempted to generalize these approaches into psychometric models that measure the importance of more general design decisions. For example, one such model explains the mathematical correlation between high-level design and managerial choices in a store—such as how many products are displayed, whether the store is well-designed for self-service, and whether employees are given the tools and permissions they need to feel empowered—and the reaction of the customer (Shockley et al., 2011). But the authors acknowledge that their model may not be sufficiently predictive of business outcomes (such as customer traffic and monthly sales) to be applied in practice. (Indeed, in my years of working as a retail consultant and with retail store designers, I have rarely seen these quantitative models used in practice, with the occasional exception of their use when testing whether one specific change to an existing store layout—like adding an aisle—might influence a specific outcome like dwell time.)

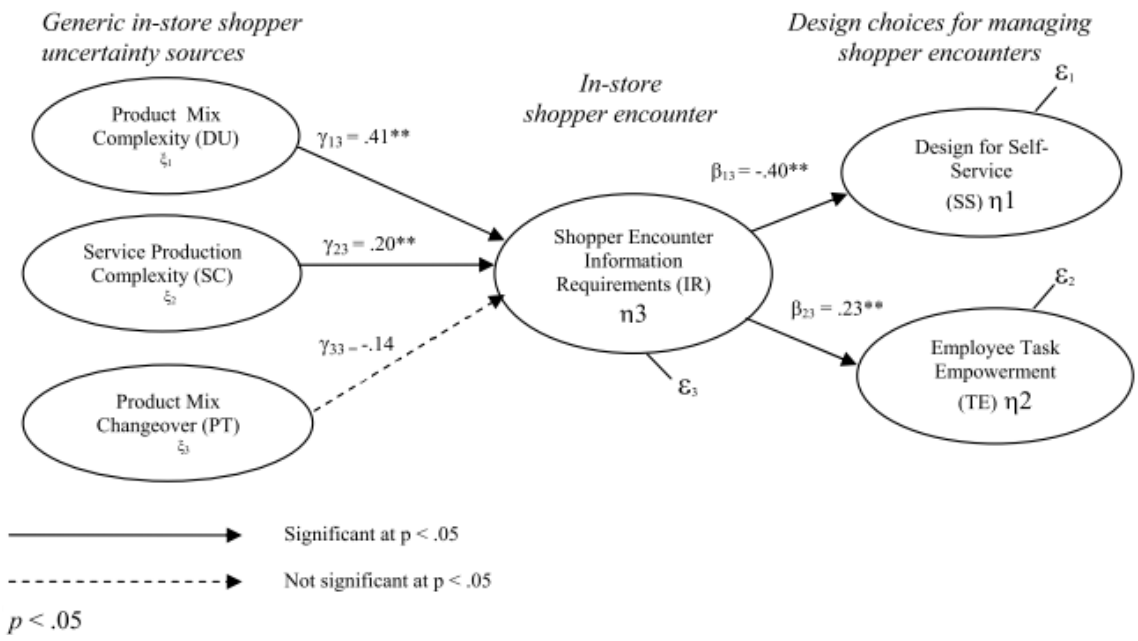


Figure 4. Mechanistic model of an in-store experience (Patricio et al., 2011).

Some mechanistic approaches to experience design do not have an explicit quantitative component, but nevertheless begin by defining and measuring the value to be delivered to the customer and the organization, and then identify the individual elements—sometimes within just one dimension of the design, like the physical architecture or the customer service interactions—that must be built to deliver the value desired. One example of such an approach, the multilevel service design (MSD) model, focuses specifically on the design of the service touchpoints needed in an experience (Patricio, Fisk, et al., 2011). MSD proposes a design process with two interacting, iterative workstreams: one focused on measuring the experience, and one focused on designing it. The process is hierarchical: each workstream begins with a top-down "concept design" phase where the

desired outcomes are defined, followed by "system design" and "encounter design" stages where elements of the experience are measured and designed in increasing detail.

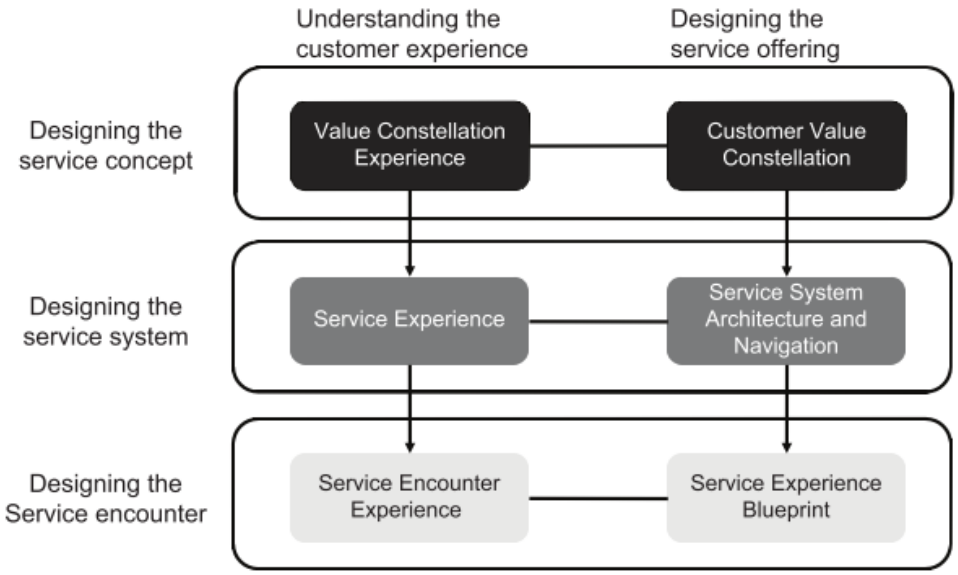


Figure 5. Multilevel service design approach (Patricio et al., 2011).

The MSD approach is highly generalized; it offers a high-level process that designers and managers can follow, but does not provide guidance on specifically how to measure or construct parts of the experience. For the purposes of this investigation, however, two aspects of the MSD approach are informative: It suggests the importance of both the delivery and measurement of experiences in commercial settings, and it suggests an iterative approach in which high-level decisions (e.g., "What departments should be located at the centre of a store?") should be made before details are ironed out (e.g., "How should merchandise be displayed in each department?").

One approach that combines the procedural guidance of MSD with quantitative modeling is proposed by Voss & Hsuan (2009). They argue that breaking down an experience into "modules" that each have a well-defined value lets an organization mix and match these to easily replicate distinctive design offerings. For instance, a cruise line that creates a satisfactory customer experience in a shipboard restaurant can replicate aspects of that experience (e.g., staff behaviour, style of dishware, efficiency of food delivery) in other contexts like a poolside grill or food delivery to a passenger's stateroom. These modules can even be applied across companies and industries (e.g., by an airline or restaurant chain).

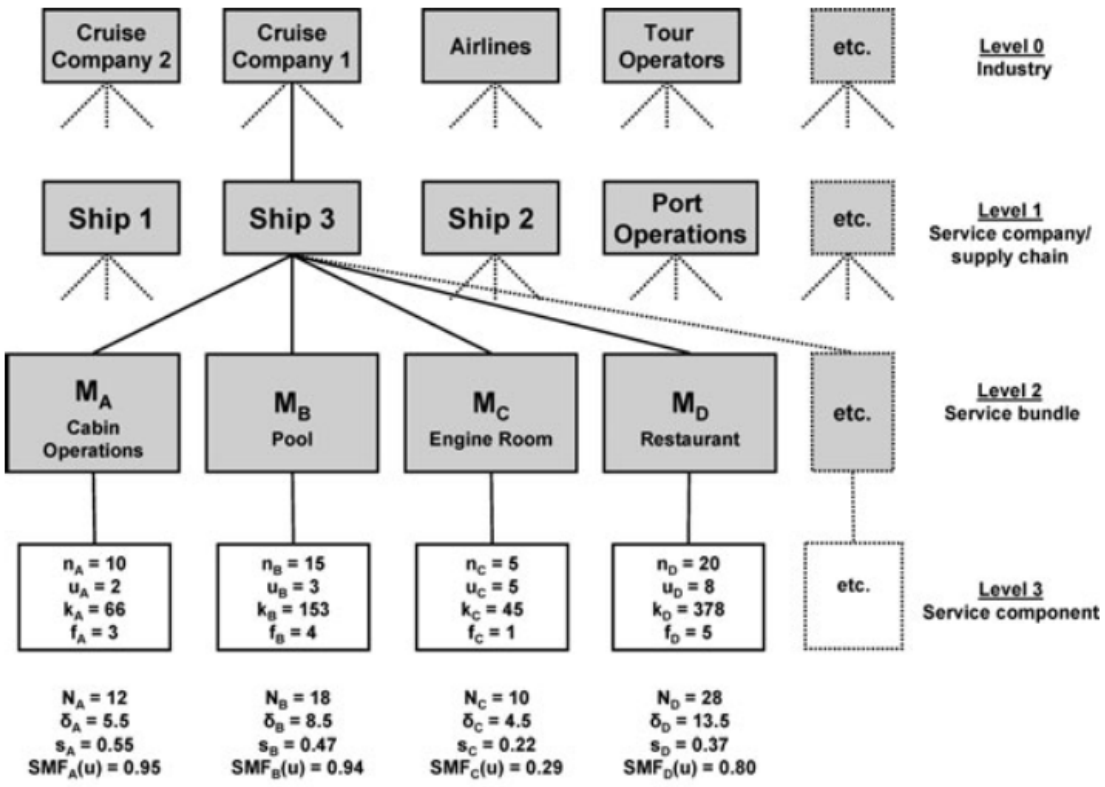


Figure 6. Modular decomposition of experience elements (Voss & Hsuan, 2009).

The idea that service elements can be highly modularized and applied across different concepts is interesting for the purposes of this paper's investigation. The authors suggest that this modularization of design can be used to innovate by differentiating a company's experience from a competitor's, and by tailoring an experience to the specific needs of a particular venue or context: "It is proposed that service customization can be either combinatorial (the combination of a set of service processes and products to create a unique service) or menu driven (the selection of one or more services from a set of existing services/products to meet customer needs)." (Voss & Hsuan, 2009)

Researchers argue that a modular design approach is also beneficial because it allows an experience to be tailored to the particular desires of individual customers (Bettencourt and Gwinner, 1996). While this may be practical in some cases (for example, if a store tailors its musical soundtrack based on an analysis of the demographics of the customers present at a certain time of day), I argue that designers and managers must keep in mind that not all elements in an experience can be easily controlled. Some researchers take the mechanistic approach to disturbing extremes, suggesting that every element can be controlled and should be optimized, right down to the emotions and facial expressions of store employees (Mattila & Enz, 2002)!

In summary, various mechanistic approaches to experience design are of interest because they:

- Propose a methodical and disciplined approach to design in pursuit of specific outcomes,
- Organize design decisions into modular, hierarchical collections of choices, and
- Attempt to model the links between the experience an organization delivers, its interpretation by visitors, and the ultimate outcomes on both the organization and the visitor.

But despite their benefits, mechanistic attempts to frame experience design as a problem-solving exercise are in tension with another view, generally acknowledged in literature

and practice, that experiences cannot be fully engineered because they are co-created by end users (Kimbell, 2011). The following section explores some of the co-creative approaches described in the literature.

Co-creative Approaches

In opposition to mechanistic approaches, the other dominant view of service design is that "experience is not designed, rather it is co-created through customer interactions with the several service elements. (...) As such, we cannot expect to design experiences that follow predicted outcomes exactly. Instead, we only design situations that better support customers in co-creating their desired experiences." (Teixeira, Patricio, et al., 2012)

Why is this so? At least one mechanistic attempt to measure the impact of individual components of an experience (Gentile, Spiller, et al., 2007) found that the complexity of the system could not easily be modelled, and that customers undergoing an experience were more likely to assimilate it holistically. The study also found that customers interpreted the experience through the lens of their personality, context, and past experiences, which is consistent with Bitner's servicescape theory (1992). Other research, summarized by Rosenbaum & Massiah (2011), reveals that elements of the servicescape that cannot be predicted or controlled, such as the behaviour of other customers, can have a profound impact on how a visitor interprets an experience. These issues of complexity, individuality, and chaos together make deterministic experience design intractable.

The co-creation school of thought does not argue that designers cannot influence an experience significantly, nor does it suggest that the individual elements of an experience (such as those presented by Bitner, Rosenbaum, and others) do not play an important role. Rather, it argues that experience design is as much art as it is science, and that good design can only hope to enable certain sensations and reactions among visitors: “Rather than offering experiences per se, experience-centric service providers create or stage the prerequisites that enable customers to have the desired experiences.” (Zomerdijk & Voss, 2010)

Co-creative experience design methodologies described in the literature are less prescriptive than mechanistic ones. Generally, they acknowledge a link between the elements that an organization presents and the visitors’ emotional reactions, which in turn influence the visitors’ behaviours. They suggest that designers should begin by identifying the desired visitor emotions (Pullman & Gross, 2004; Zomerdijk & Voss, 2010), and consider how these might be triggered by elements of the experience. This should be an exploratory process, rather than a hypothesis-driven one (Evenson & Dubberly, 2010), since it is difficult to predict how visitors might react emotionally to any given stimuli, or how they might choose to behave as a result of that reaction (Pullman & Gross, 2004), or how these reactions and behaviours might interact with each other to further alter the experience. (For example, in a theme park, a visitor might be either excited or frightened by the sight of a roller-coaster ride. In response to that emotion, she might choose to approach it or to avoid it, and as a result of the direction she

chooses to walk in, she may be exposed to different stimuli that will elicit a new set of emotions to react to.) In a sense, each visitor will, by some combination of choice and chance, "design" his or her own experience. Thus, the organization interacting with the visitor can only hope to "meta-design" the experience (Evenson & Dubberly, 2010).

Various authors from the co-creative school of thought assert that the corpus of service design literature fails to offer clear guidance on how to proceed with experience design. Given the necessary trial-and-error nature of the process, some suggest that designers would be best served by a generative framework that can inspire experience design. (Teixeira et al., 2012; Zomerdijk & Voss, 2010; Evenson & Dubberly, 2010)

From the literature, three examples of co-creative experience design frameworks are worth discussing here in some detail: Teixeira et al.'s customer experience model (2012), Dubberly & Evenson's experience cycle (2008), and Zomerdijk & Voss's practice-based propositions for experience design (2010).

The Customer Experience Model

Teixeira et al. (2012) recognize two challenges in service and experience design. The first is a lack of holistic approaches in the literature: "Existing service design methods focus on separate elements of the customer experience, but designers must embrace the holistic nature of customer experience and take any and all elements and touchpoints into account."

The second is the absence of any procedural guidance in the literature that acknowledges that experience design requires contributions from a variety of practitioners, from researchers and designers to technologists and managers. They identify a need to "facilitate the work of multidisciplinary design teams by providing more insightful inputs to service design."

To address these challenges, Teixeira et al. propose the "customer experience model" (CEM). A qualitative, conceptual, process-oriented framework, the CEM serves as a visual system map of the elements and activities involved in the design, delivery, and consumption of a service experience (see figure 7).

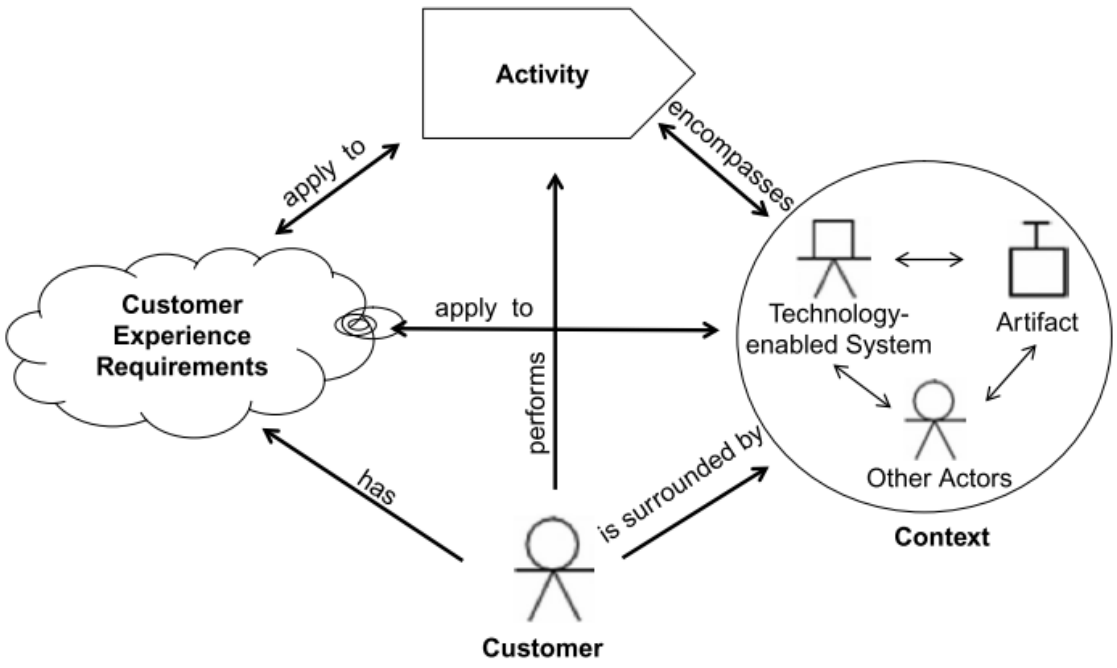


Figure 7. Customer experience model (Teixeira et al., 2012).

CEM is a high-level conceptual aid to assist with early-stage experience design work. It is not a generative framework; rather, it is intended to guide different workstreams of the multidisciplinary process—for example, by suggesting that technologists should consider how customers and employees might use a system, and by emphasizing that a single body of research should inform the design of various components of an experience.

While CEM may be useful in the coordination of experience design projects, and while it helpfully contextualizes some elements of the experience being designed (technology, artifacts, and other actors such as employees and other customers), it does not provide

insight into how the components of an experience are best used by the designer, nor does it provide a generative basis to inspire design activity.

Propositions for Experience Design

Like Teixeira et al., management academics Zomerdijk & Voss (2010) acknowledge the interdisciplinary nature of experience design, but focus their attention on the lack of practical guidance in the service design literature on how one might design a meaningful experience. They note that "while services may be shifting to a paradigm that involves the delivery of customer experiences, academic research on service design remains anchored in the past. It is unclear, for example, which elements create the most compelling contexts and how they can be used to establish customers' emotional connections to a given service."

To address this, the authors review experience design and psychological literature, and study the professional practices of various experience design agencies and experience-centric service providers (including retailers and travel/hospitality companies), to identify practices that succeed in creating competitively differentiated experiences that have a reportedly meaningful impact on customers.

They identify six practical propositions or principles for successful experience design, along with examples of their successful implementation:

Table 1. Experience design principles.

Principle	Description	Example in Practice
1. Design from the perspective of the customer journey.	Create a cohesive set of cues and touchpoints that connect different parts of the experience across time to create a cohesive whole. Cues and touchpoints can extend beyond the end of a physical experience, and offer a reminder post-experience.	Walt Disney World designers map the experience of a customer from booking a trip to returning home, interacting with guests consistently every step of the way.
2. Conduct sensory design.	Follow the environmental design practices described by Bitner and others to engage the senses and elicit emotional reactions from customers. Sight, sound, smell, taste, and touch can all be used.	Le Pain Quotidien restaurants are designed with a bread shop exterior and a rustic look inside, to convey the impression of eating in a farmhouse.
3. Require front-line employees to engage with customers.	Ensure employees create an emotional connection to customers by building rapport and displaying empathy.	Crew members on Royal Carribean Cruiselines are required to get to know the customers on their ship to add a dimension of socialization and belonging to the experience.
4. Pay attention to the dramatic structure of events.	Create an arc-like narrative structure for the experience, with a beginning, middle, and end. Note the end often has a particularly strong impact on the customer.	The Guinness Storehouse tour begins with an introduction to the brand and its products, and ends by whisking guests to a skybar where they enjoy a pint with breathtaking views of the city.
5. Manage the presence of fellow customers.	Provide cues and architecture that guide customers into interacting with each other in emotionally impactful ways.	Le Pain Quotidien provides a communal table to allow single guests to talk over their meals if they don't wish to dine alone.
6. Closely couple backstage employees and frontstage experiences.	Manage people and processes to ensure that information and artefacts flow seamlessly to and from the customer.	Disney uses a "role and purpose" system to ensure every employee, whether or not they interact directly with guests, is aware of the part they play in delivering a great experience.

(Adapted from Zomerdijk & Voss, 2010)

Principles 1, 2, 3, and 5 are familiar from the literature reviewed thus far. The other principles, which draw on drama and theatrical metaphor, are similar to those commonly found in the non-academic literature on experience design that will be reviewed later in this paper.

In particular, the sixth principle alludes to a commonly-used theatrical metaphor (Polaine et al., 2013; Pine & Gilmore, 1999; Laurel, 1993) that distinguishes three major categories of experience components: those that are presented to the customer ("frontstage" or "onstage"), those that support the experience but can be hidden from view ("backstage"), and those that centre around the customer ("auditorium" or "audience"):

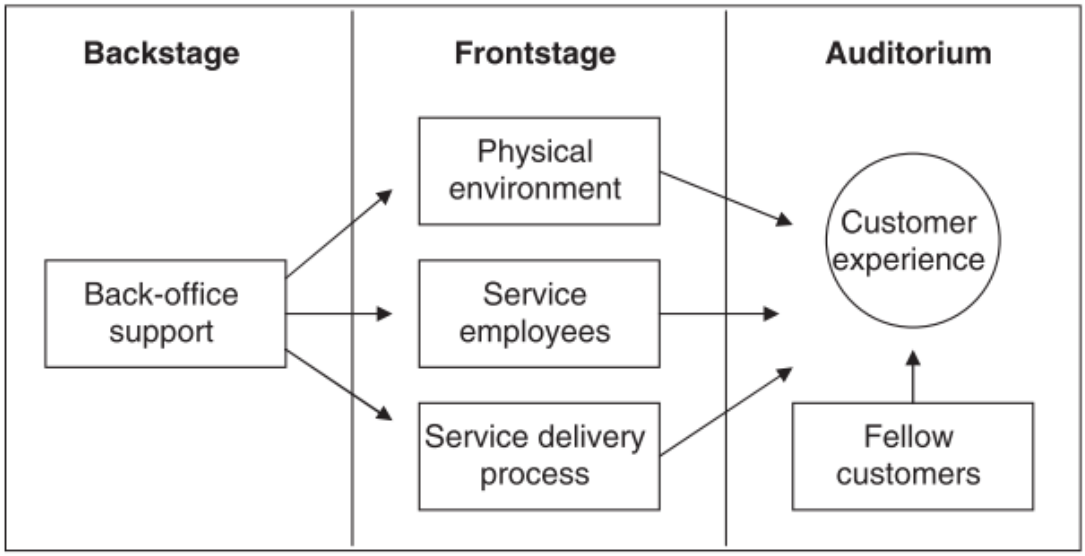


Figure 8. Stage metaphor and the five design principles (Zomerdijk & Voss, 2010).

These three categories are figurative rather than literal, and do not necessarily signify separate physical spaces. For example, "backstage" activities, such as counting or replenishing inventory, do not necessarily need to be performed in a back room; often, activities and elements from all three categories take place in the same space (e.g., on the shop floor). Additionally, these categories are not always as clearly delineated as in figure 8; an interaction between a customer and a display, for instance, bridges the "frontstage" and "auditorium" domains. Nevertheless, this model is a useful way of broadly categorizing an experience's elements and activities from the stager's point of view.

The Experience Cycle

Experience design practitioners Dubberly & Evenson (2008) take a different approach to modeling experiences. Unlike Zomerdijk & Voss, they attempt to conceptualize the experience exclusively *from the customer's point of view.* Their "experience cycle" model describes the cognitive and emotional stages that a customer goes through in retail experiences.

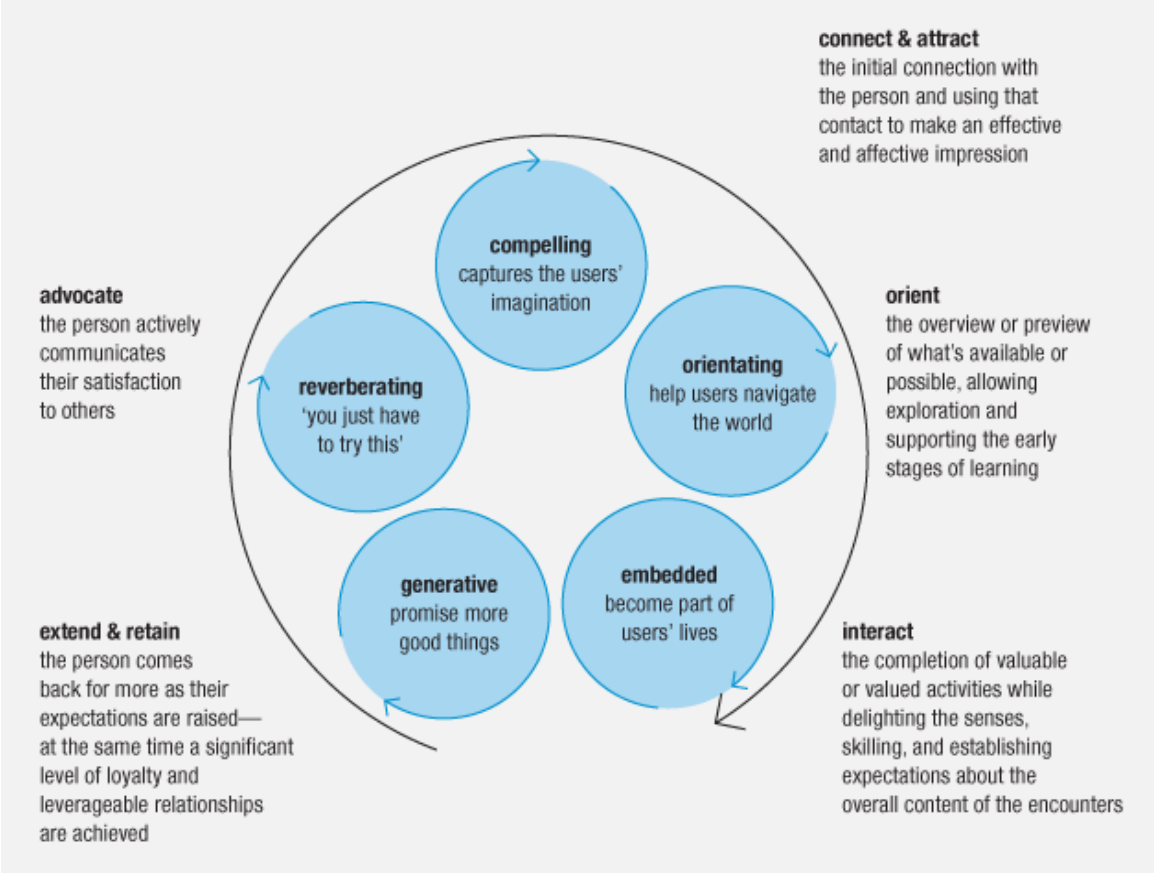


Figure 9. Experience cycle (Dubberly & Evenson, 2008).

As illustrated in figure 9, the experience cycle is a loop consisting of five stages. Each stage describes a cognitive or emotional phase that a customer goes through during the experience. While no guidance is provided on how specific design elements can be used to facilitate the cycle, each stage is associated with a key performance indicator that designers can use to assess whether the overall experience supports that step. The following table summarizes the steps and their KPIs:

Table 2. Experience stages and key performance indicators.

Stage	Description	Key Performance Indicator
Connect & Attract	The customer connects with the experiences, which makes an effective and affective impression.	Compelling: The experience must capture the customer's attention and imagination.
Orient	The customer gets an overview or preview of what's available or possible, allowing exploration and supporting the early stages of learning.	Orienting: The experience must provide cues to help users navigate its world.
Interact	The customer completes some valuable activity while delighting the senses and establishing expectations about the overall content of the encounter.	Embedded: The experience must become part of the customer's life.
Extend & Retain	The customer comes back for more as their expectations are raised, while developing a sense of loyalty.	Generative: The experience must promise more good things to come.
Advocate	The customer actively communicates their satisfaction to others.	Reverberating: The experience must make the customer want to say: "You just have to try this!"

(Adapted from Dubberly & Evenson, 2008)

This model is based on the research of Bitner and other marketing academics into the science of purchase decisions (i.e., what customers think and feel when they choose whether to buy a product). Obviously, this theoretical underpinning makes the framework directly relevant to retail experience design, where companies may be trying to drive a purchase decision in a store. While this is the intended use of the framework, I suggest

the model may be applicable in broader settings, where customers make any kind of decision relating to the experience—for example, whether to continue exploring the next wing of a museum, or whether to embark on a ride at a theme park, or whether to book one's next holiday at the same hotel.

Dubberly & Evenson lend support to this theory in noting that the experience cycle does not culminate in a single customer decision; rather, customers undergoing an experience find themselves in a "flow" state where they make a large number of decisions, including some that do not directly lead to purchase. For example, a shopper in a store uses the same decision-making cycle to choose whether to approach a display, whether to pick up the product on the shelf, whether to consult a sales associate, and so on. In fact, the authors argue that experience cycles have a fractal quality, whereby each part of a cycle consists of a sub-cycle, which itself consists of further sub-cycles, and so on:

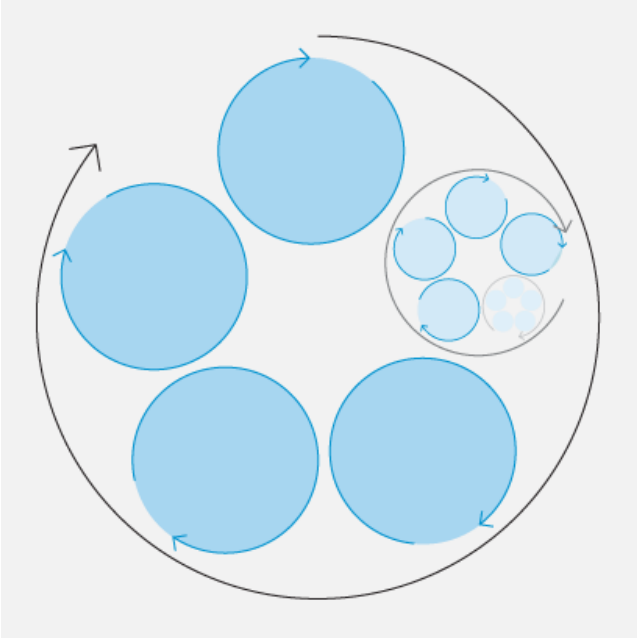
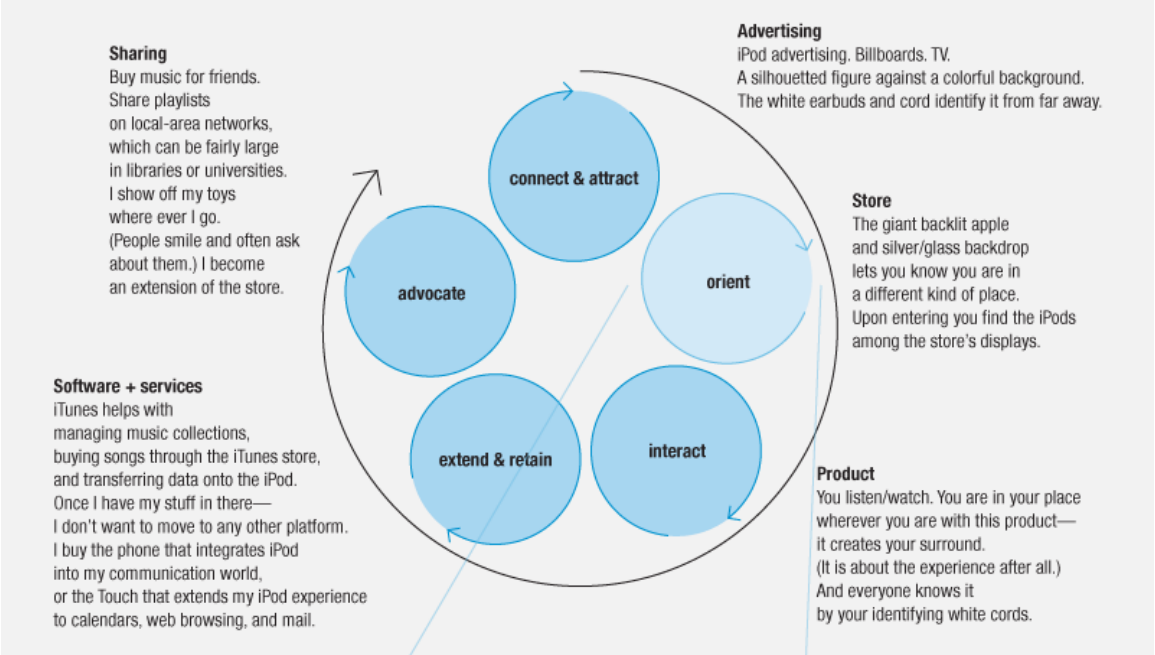
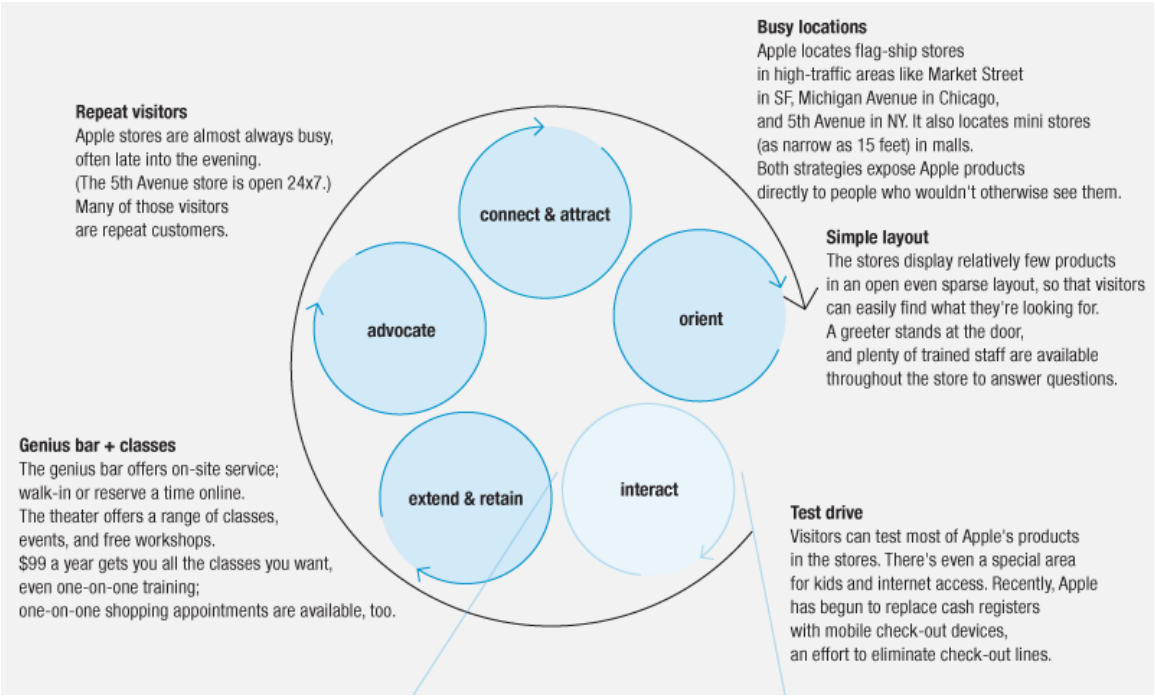


Figure 10. Fractal nature of the experience cycle (Dubberly & Evenson, 2008).

To illustrate the fractal nature of the cycle, the authors present a study of a customer's experience in an Apple store, demonstrating how an experience manifests itself over several nested cycles at the levels of the product, the overall in-store experience, and the purchase touchpoints inside the store:





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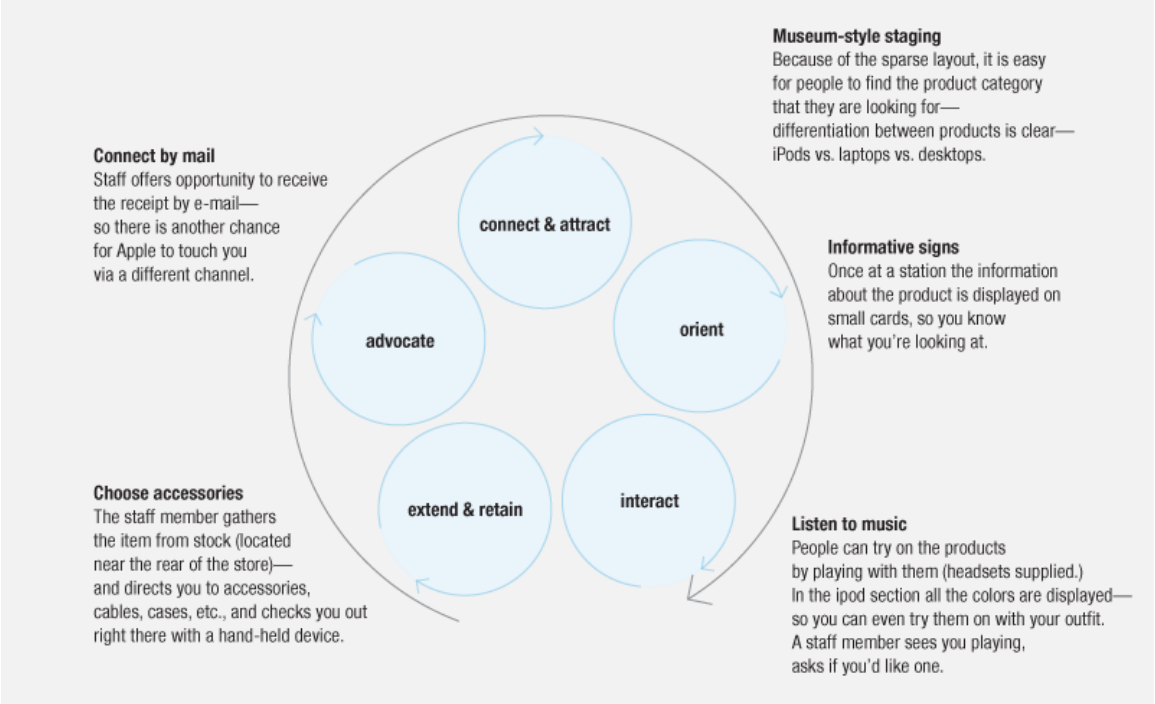

Figure 11. Experience cycle example for the Apple Store (Dubberly & Evenson, 2008).

While the experience cycle model does not provide insight on how various design elements (such as environmental factors) should be used to design for an experience, it offers a unique way to conceptualize the experience from the customer's point of view, and gives practical key performance indicators to help measure the effectiveness of the overall designed experience. The model's fractal nature, in which iterative experience cycles are embedded within each other, is particularly notable and inspire the nested structure of the new framework I will propose later in this paper.

Experience Design

In the previous section, I discussed scholarly literature on service design as it applies to in-person experiences. Experience design has also been discussed extensively outside the canon of service design literature, particularly in the popular business and design press. In this section, I review several notable popular works that address the conceptual and practical elements of experience design.

While none of these texts focus explicitly on *in-person* experiences, they approach the topic of experience design broadly, and are therefore applicable to the special case of physical experiences explored in this paper. Excluded from this literature review are sources that discuss experiences only abstractly—for example, in the context of a consumer's interactions with a brand's products, as explored in detail by Newbery & Farnham (2013)—unless they also discuss in-person experiences.

Finally, it is worth noting that there are probably many other relevant works in the popular press that relate to experience design in some way. To maintain a practicable scope, I have chosen sources that are cited in academic literature, and that present themselves as being directly relevant. "Experience design" does not have a single, precise definition, and although it is a new field, it is the "culmination of many, ancient disciplines" (Shedroff, 2001). It is related to a large number of fields—ranging from

psychology to technology to anthropology—which means that a broad range of works may be able to contribute to the discipline. I note this as an area for future, ongoing study.

The Experience Economy

Strategy consultants Pine & Gilmore drew attention to experience design in the business world with their seminal 1999 book, "The Experience Economy". They argued that the global economy was undergoing a shift from service-based to experience-based business (a view supported by Diller, Shedroff, et al. (2006) and others), and suggested that companies must look for ways to charge consumers explicitly for time spent undergoing experiences—not only as a means to generate new revenue streams, but also as a means of competitive differentiation.

To support their argument, they pointed to a number of leading retailers that had differentiated themselves by offering unique in-person experiences that extend beyond the mere provision of merchandise and service, thereby blending shopping with entertainment. For instance, Bass Pro Shops use atmospheric design and educational programming to prolong dwell time in stores, Build-A-Bear Workshops create an engaging and meaningful in-store experience to enhance the perceived value of its products, and American Girl stores explicitly monetize the in-store experience by charging visitors for access to participatory events. They coined a number of portmanteaus to describe the blending of shopping, entertainment, and engagement: "entertailing", "shoppertainment", "edutailing", and "shopperscapism".

Pine & Gilmore identified two dimensions to typologize the types of in-person experiences that might be offered commercially: First, whether the experience is active (i.e., requiring participation) or passive (i.e., simply being witnessed), and second, whether the experience leads to immersion (i.e., simply surrounding the visitor) or absorption (i.e., changing or affecting the visitor in some way). Together, these dimensions generate four "realms of experience"—entertainment, education, esthetics, and escapism:

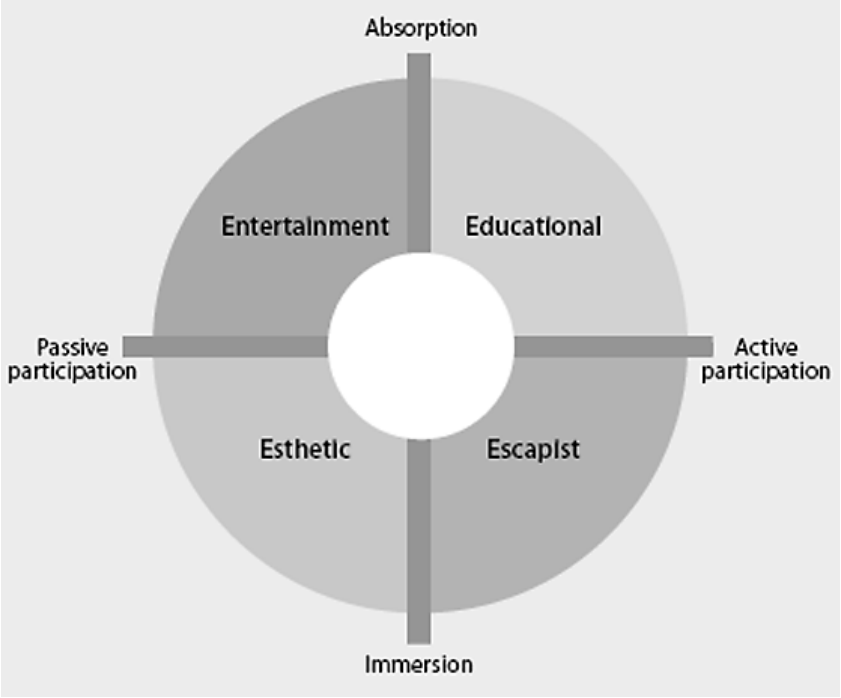

Figure 12. Four realms of experience (Pine & Gilmore, 1999).

Pine & Gilmore state that the richest and most compelling experiences encompass elements of all four of these realms. Specifically, they are entertaining enough to

encourage guests to spend a long time within them, educational enough to stimulate exploration and to provide them with knowledge that can be recalled after the experience, esthetically pleasing enough to make the guests feel comfortable, and escapist enough to allow guests to become fully immersed within them. Experiences that hit these marks, they argue, facilitate the creation of strong memories, which is the ultimate goal of any in-person experience, as it encourages a guest to return.

In providing guidance on how to design a memorable experience, Pine & Gilmore identify five key principles to follow:

Table 3. Experience design principles.

Principle	Description	Example
1. Theme	Instill the experience with a concise and compelling theme that sets it apart from other experience.	Caesar's Casino in Las Vegas has a distinctive and fully realized ancient Roman theme.
2. Positive Cues	Fill the experience with cohesive cues that reinforce the theme.	Rooms and restaurants throughout the casino are named and decorated in a manner consistent with the theme.
3. Lack of Negative Cues	Avoid any cue that would break the narrative.	Casino employees performing tasks not related to the guest experience, like answering phones, are hidden from view.
4. Memorabilia	Give or sell take-away artefacts that will remind visitors of the experience later.	The casino sells a variety of souvenirs, and features its branding on receipts, napkins, matchbooks, and other objects that are likely to be taken away.
5. Sensory Stimulation	Create a rich environment that appeals to all five senses.	Casino designers provide appropriate visual and auditory stimuli. Even the feel of tables and chairs, and the smell of the air, is considered and controlled.

(Adapted from Pine & Gilmore, 1999.)

Twelve years after the publication of their original book, Pine & Gilmore published a second edition of their work (2011) in which they report and address criticism of their model. Interestingly, two key pieces of this criticism are related to the tensions I identified in service design literature:

First, they address criticism about the ambiguity of how different elements of their model translate into specific design choices, and about their focus on creating memorable experience, by arguing that experiences are considered holistically by visitors, who only carry away their memories of the event: “Any dimension of enjoyment usually translates into the experience being more memorable—even if few or no details can be recollected.” (Pine & Gilmore, 2011)

Second, they address criticism that their work speaks of designing experiences deterministically, rather than designing *for* experiences that are co-created by audiences. They acknowledge their bias, and counter that “not all consumers want openly co-created offerings in every circumstance and in every category of good, service, and experience. (…) At issue is the intentionality of the stager and the adaptability for the guest in terms of the co-creation. We would welcome excellence in both dimensions.” (Pine & Gilmore, 2011)

Theatrical Elements

Like other authors in experience design and service design, Pine & Gilmore develop an extended metaphor of experience as a theatrical stageplay in their original work, describing employees in a venue as “actors” who help tell a story to visitors (the “audience”) by “performing” their roles in front of the audience (“on stage”) and carrying out necessary tasks away from view (“back stage”). The experience is revealed over a

period of time; although the length can vary based on the choices that the audience makes, the designers of the experience should ensure it has a cohesive beginning, middle, and end—like a play.

Theatre artist and computer interaction designer Brenda Laurel's text, "Computers as Theatre" (1993) also uses a theatrical metaphor to describe experience design. Her work centres on virtual experiences, rather than in-person ones, but her generalized conceptualization of experiences is nevertheless informative, and parallels have been drawn between her work and that of Pine & Gilmore (McLellan, 2000): After all, when she theorizes about virtual experiences, Laurel is applying a model that describes physical theatre, which is an in-person experience.

Laurel's view is that experiences are holistic and co-created. She argues that a successful experience is a "whole" that provides satisfaction and closure, and is actively shaped by those who experience it: "People who are participating in the representation aren't audience members anymore. It's not that the audience joins the actors on stage; it's that they become actors—and the notion of passive observers disappears." (Laurel, 1993)

Researcher Hilary McLellan (2000) aptly summarizes Laurel's work, and compares it to Pine & Gilmore's:

> Drawing upon drama, Laurel identifies the following elements of experience design:

- Dramatic storytelling: Storytelling designed to enable significant and arresting kinds of actions.
- Enactment: To act out, for example, playing a game or learning a scenario as performance.
- Intensification: Selecting, arranging, and representing events to intensify emotion.
- Compression: Eliminating irrelevant factors, economical design.
- Unity of action: Strong central action with separate incidents linked to that action, clear causal connections between events.
- Closure: Providing an ending point that is satisfying both cognitively and emotionally so some catharsis occurs.
- Magnitude: Limiting the duration of an action to promote aesthetic and cognitive satisfaction.
- Willing suspension of disbelief: In other words, cognitive and emotional engagement with the premise of the experience.

(...) Laurel's model adds to our understanding of the Pine & Gilmore model; for example, by articulating design considerations such as intensification, compression, magnitude, and closure.

(McLellan, 2000, pp. 64-65)

Pine and Gilmore's[3] model	*Brenda Laurel's[17] model*
Experience	Interactive drama
Entertainment	Dramatic storytelling
Escapist	Willing suspension of disbelief
Esthetic	Intensification, Compression, Magnitude, Closure
Educational	Active participation
Stage	Enact
Memorable	Dramatic
Personal	Interactive, cognitive and emotional engagement, personally challenging
Revealed over a duration	Unity of action, flow
Stager	Representational context and design of the interactive application
Guest	Audience/interactive particpant
Sensations	Multisensory and interactive

Figure 13. Comparison of Pine & Gilmore's vs. Laurel's experience models (McLellan, 2000).

Together, Laurel and Pine & Gilmore's work give us a rich and extensible theatrical metaphor that provides an easily understood design language that can be incorporated into other service and experience design frameworks, like Zomerdijk & Voss's (2010).

Experience Components

Theatrical metaphors can only be taken so far, and as was the case in my review of service design literature, I found a lack of practical guidance on how to construct experiences in the work of Pine & Gilmore and Laurel. For further insight, I turned to the popular writings of design professor Nathan Shedroff, which include several books exploring the nature and meaning of experiences.

In "Experience Design" (Shedroff, 2001), the author provides a broad-ranging, if somewhat unstructured, overview of various types of experience design. His book examines many forms, including in-person and digital experiences. Shedroff argues for a medium-agnostic study of experiences, since various media "compete with each other." To be successful, experiences of any sort must be "unique to their medium" and compare favourably to "all possible experiences around that topic or purpose." This means, for instance, that an in-person retail experience competes with online shopping experiences, and that amusement park experiences compete with other entertainment experiences, such as movie screenings and home video games.

What makes an experience successful? Shedroff identifies *usefulness* and *satisfaction* as key metrics, but does not define them. Presumably, usefulness is a measure of whether the experience addresses the need or expectation of its user, while satisfaction is a more holistic and subjective measure.

From a conceptual point of view, Shedroff (2001) offers a four-step model to describe the flow of any useful or satisfying experience:

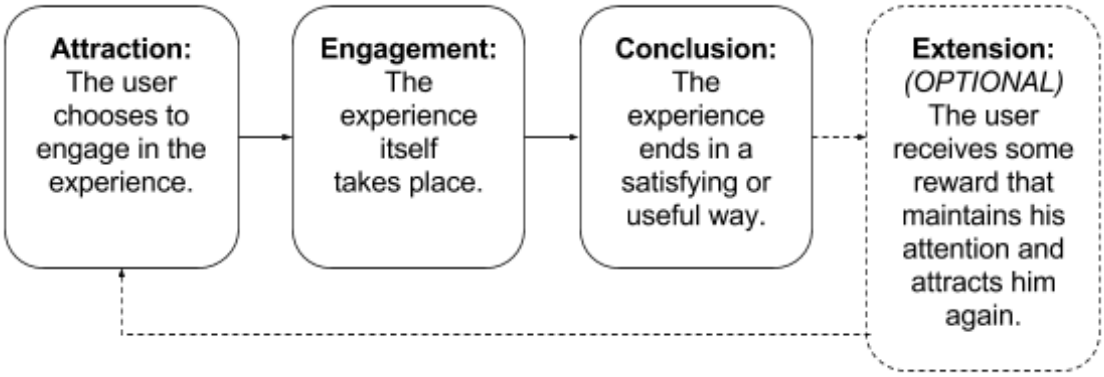

Figure 14. Experience flow (this author; based on Shedroff, 2001).

This radically simple model is reminiscent of Dubberly & Evenson's (2008), in that it describes the experience from the user's (or customer's) point of view, and includes a loop (optional, in this case) that leads to re-engagement in another experience. Also, the model could theoretically be nested such that, for example, the "attraction" phase consists of an entire experience in itself, although Shedroff makes no mention of this. Finally, the

model obviously follows a roughly theatrical structure, with a beginning, middle, and end, suggesting it is compatible with the work of Pine & Gilmore (1999) and Laurel (1993).

After proposing this general model, Shedroff defines a vast and unwieldy catalogue of attributes that might be considered when designing for an experience, from authenticity and storytelling to sensory appeal and community participation. Only a few of these attributes stand out as being clearly defined and practically applicable to in-person experience design. These are:

- Navigation: A means of finding a path through an experience based on the user's needs. This can be separate from its appearance or presentation. For example, a war memorial may be presented with the names of fallen soldiers listed in the order of their death to create an emotional impact; in this case, navigation might take the form of an alphabetical listing of the names that family members can use to locate a loved one.
- Usability: This attribute is a combination of an experience's usability (i.e., how easy it is to get started) and its functionality (i.e., how easy it is once learned). For in-person contexts, usability might apply to the navigation of the experience, or to the use of interactive technology like digital museum exhibits or self-checkout registers.
- Personalization: The ability of an experience to adapt to the needs and culture of those who use it. Shedroff gives the example of restaurants that are renowned for

reading and adapting to customer preferences and attitudes as a good application of personalization. To enable personalization, the experience must be able to do two things—to know or sense the needs of a visitor, and to adapt to them. These requisites might be achieved through a variety of means, including technology or simple employee interaction.

- Takeaways: Tangible objects that persist after the conclusion of an experience that can serve to extend the experience. These artifacts "become valuable to use because they serve to remind us and help us relive those experiences"
- Meaning: Among the most abstract of the attributes discussed by Shedroff, this one is also among the most strongly emphasized. It is defined as the ability of an experience to have "lasting impact" and is realized by allowing users to draw "connections to their own lives and values." It is defined in more detail in other works, discussed below.

Meaning

Shedroff (2001) emphasizes "meaning" as one of the most important attributes of an experience, but does not offer a framework to elucidate the concept until years later, in another work he co-authored, "Making Meaning" (Diller, Shedroff, et al., 2006).

Variously defined as a thing's "connotation, worth, or import" or its "connection and integration into a customer's life", meaning is important for businesses to imbue to products, services, or experience so they become a part of customers' lives and become

"more likely to be adopted and retained, not tossed aside when the next new sensation arrives. (...) Designing experiences that evoke meaning is the heart and soul of innovation." (Diller, Shedroff, et al., 2006)

How does one design an experience to evoke meaning? Diller, Shedroff, et al. (2006) suggest several means that are relevant to in-person design: triggers, intensity, and personalization.

Triggers are language, symbols, or sensations that "instantly, but often subconsciously, evoke an element of meaning." Most triggers are culturally significant, and cannot necessarily be applied across cultures. For example, the quaint small-town shops of Main Street that line the entrance to Walt Disney World are meant to evoke meaning in American visitors by prompting feelings of nostalgia, but lose meaning when transplanted to Disney theme parks in Asia (Hench, 2003).

Intensity is a measure of the frequency and level of engagement a customer feels with an experience. Experiences of different intensities can evoke different meanings; for example, a customer's frequent but low-engagement visits to a coffee shop chain might evoke feelings of belonging and familiarity, while a theme park visitor's infrequent but fully engrossing rides on a roller coaster might evoke feelings of accomplishment and wonder. The meanings imbued by these experiences would be completely different if,

say, the coffee shop customer had an engrossing and exhilarating experience every time he picked up his latte, or if the park visitor rode the coaster on a daily basis.

Personalization, as described earlier, is the ability of an experience to adapt to the needs and preferences of a customer. By having the experience reflect their desires, customers can make it more meaningful. For example, a car dealership that allows customers to choose the music they play while test-driving a vehicle elevate the experience beyond the act of evaluating a car, to an emotional experience that connotes personal meaning.

What process should designers follow to combine triggers, intensity, and personalization along with other elements to design for a meaningful experience? Diller, Shedroff, et al. (2006) propose a generalized five-step process:

1. Identify the opportunity, including the customer's needs and the meanings to be imbued
2. Define the scope and constraints of the experience
3. Shape and prototype the experience
4. Refine the experience based on feedback
5. Express the experience by releasing it for customers to establish, and see how they react to it over time

This design process is rather unremarkable, except for one thing: the first step suggests that the meanings to be conveyed should be identified upfront. Does this suggest a

deterministic design method? Not necessarily. If we assume that there exist only a finite and well-defined set of meanings, we can select the ones we wish to evoke, and then design for a co-creative experience by providing appropriate cues.

Although the meaning derived from an experience is a deeply personal thing, research does suggest that a universal set of meanings do exist. Consumer interviews across the United States reveal a consistent set of 15 meanings that emerge from various types of commercial experiences: accomplishment, beauty, creation, community, duty, enlightenment, freedom, harmony, justice, oneness (e.g., with nature), redemption (from undesirable state, e.g., through weight loss), security, truth, validation (commonly evoked by luxury brands and experiences), and wonder. (Diller, Shedroff, et al., 2006) Other researchers have also found consistency in meaning across time periods and geographies (Sheldon et al., 2001) suggesting that experiences can link to customers' lives in a limited set of ways. The ways in which designers invoke those connections, and the ways in which customers perceive them, can vary tremendously; designing for meaning, therefore, is best done as a co-creative process.

Exhibition Design

Over the course of my career and of this research project, museums and commercial exhibits frequently came up as ideal examples of in-person experiences to be studied. They were brought up by colleagues and experts, and also stood out in my mind as some

of the most memorable and meaningful designed environments I have visited. I became curious about the design of exhibitions of museums, and decided to explore relevant literature for practical insights on in-person experience from exhibition design practitioners.

Incidentally, while discussing this topic with my family, I was surprised to discover that my grandfather worked as a designer of educational and commercial exhibits for industry conventions and public fairs for his entire career. Before learning this, I had only heard his occupation described variously as artist, architect, builder, and salesman. Discussing this further with my family, it became clear that they had never conceptualized exhibition design as a single discipline, and that even my grandfather himself struggled with how to best describe his work. (I have certainly inherited that feeling in my own practice as an experience designer!)

Indeed, the practice of exhibition design is not entirely well-defined, and I could not find a substantive body of literature examining the field. Fortunately, several designers directed me to the helpful work of Philip Hughes, an established design instructor and director at Ralph Appelbaum Associates, a global firm "devoted exclusively to developing and designing exhibitions for museums" (Grimes, 1994).

To address the "[lack of] literature devoted to the process" of in-person experience design (Hughes, 2010), Hughes created a practical guide to exhibition design that contextualizes

and conceptualizes the discipline of creating in-person exhibits such as museums, educational displays, and artistic and promotional installations. The author draws on the history of the practice as well as several related design disciplines, such as architecture, graphic design, and instructional design, along with years of applied experience in the field, to guide readers through the theoretical and practical aspects of creating in-person experiences.

Hughes does not clearly define the scope of "exhibition design", but his work is compatible with the scope of this project. While his practice is centred on the design of museum exhibits, he also draws from examples of public exhibitions, educational displays, and commercial business-to-business and business-to-consumer exhibitions, and explains how design elements can impact the experience of a visitor in order to help achieve the objective of whomever is sponsoring the experience. For instance, he asserts the need to establish a clear understanding of the "objectives or institutional goals" of any exhibit, along with the "key messages" to be communicated, before design can begin. While he refrains from defining any general types of outcomes one might typically design for, he references several examples of exhibitions and the goals they were designed to achieve, such as:

- Allowing adults to admire and enjoy works of art
- Inspiring young children at a museum to want to learn more about dinosaurs

- Making consumers visiting a public faire aware of the breadth of products and services provided by a particular oil company, and the impact these have on consumers' lives

In each case, a goal is specified, and he describes how the designed environment (space, signage, content, etc.) attempts to realize the goal. I argue that this is the essence of in-person experience design.

Despite the lack of clear scope and definitions, Hughes begins his work with a historical overview of exhibit design. He points to the "display of artefacts" as the essence of the practice, and describes this as an "innate element of human behaviour" practiced for thousands of years by "shopkeepers", in personal homes, and in "religious buildings". Continuing to focus on artefact display as the essence of exhibition design, he describes the mid-19th century as a golden age of exhibits, as European museums began to display historical and artistic treasures more publicly and to take on an educational and curatorial function, and as World Expositions increased in popularity.

Curiously, Hughes does not reference the retail store renaissance that took place at the same time, despite the obvious connections between exhibitions and modern department stores like Selfridge's that began using architecture, displays, entertainment, and education to attract and engage customers in 19th century Europe. While this may simply be an oversight, it may hint at an artificial separation that exhibition and retail designers impose between each other's fields. Indeed, Hughes defines two categories of exhibit

designers—those who work on museum displays and those who work on corporate or promotional displays—and while he acknowledges that barriers between those two camps are disappearing, he does not acknowledge that they may overlap with designers who work in retail, hospitality, or other business-to-consumer environments.

Hughes continues to trace the history of exhibition design to the 1960s, when "a new revolution in exhibition display was brought about by the growth of the hands-on revolution, developed and adopted by institutions such as the Exploratorium in San Francisco." (Hughes, 2010; p.17) He attributes the rise in interactive experiences to two factors: that they are more engaging and thus better suited to education, and that they reflect a broader societal trend of democratization and personalization. He extrapolates these trends to the current state of exhibition design, where he highlights several current trends including:

- Giveaways and take-home elements (either physical, like a pamphlet, or digital, like an app) to extend the impact of the exhibition beyond the time spent in the museum
- The use of digital technology and virtual reality to increase interest in and traffic to in-person experiences, rather than to replace them
- A branching structure that allows visitors to delve into various tangential subjects or deeper levels of information if they wish
- An openness by the exhibitors to solicit feedback and adjust experiences

Hughes' text also provides a comprehensive applied guide to designing and construction an exhibition. While a comprehensive summary of this guide—which focuses on many technical aspects such as the selection of construction materials—is not relevant to the scope of this paper, some elements are worth highlighting.

In particular, understanding visitors is considered a critical focus of the exhibit design process. Ultimately, the goal of any exhibition is engagement, which is defined as: "...the process of addressing visitors directly, stimulating them, turning their attention towards something, creating lasting positive memories of a display and giving them new insights. Significantly, there is a real difference between showing exhibits to a visitor and engaging him or her with them. Engagement is a much deeper and more profound experience that changes and deepens understanding and is the aim of good exhibition design. [p36]"

Hughes argues that engagement can only be realized if an exhibition is designed to reflect the needs, interests and motivations of the visitor. He argues that extensive visitor research should be conducted before design begins to identify varying needs and preferences, and that elements of the experience should be "layered" (e.g., with different lengths or levels of detail) to appeal to different audiences. He does not prescribe how the research ought to be conducted, but alludes to three types of characteristics to be understood, as they will influence how the exhibition will be experienced by the visitor:

- The physical (e.g., visitor's ability to move about the space or see different exhibits)
- The mental (e.g., visitor's expectations, prior knowledge of the subject matter, and level of desire to learn more)
- The social (e.g., people with whom the visitor will attend the exhibition, and social/cultural biases brought in by the visitor)

To illustrate the varying needs of different visitors, he provides an example of how museum guests might fall into four categories that would influence how they would navigate the exhibit:

Table 4. Museum visitor segmentation.

Segment	Description	How exhibition might cater to them
The Expert	Knows the exhibition topic very well, but wants to deepen knowledge of a particular area	Provide ability to dive into deeper material, perhaps with a touchscreen database interface; provide seating as they may spend a long time reading
The Frequent Traveller	Is somewhat familiar with the exhibition topic, but is curious about possibly learning more	Provide explanatory text to supplement exhibits if visitor wishes to learn more; provide a website for the visitor to refer to for additional details about the subject matter
The Scout	Does not know the topic, but wants to pick up the key points	Provide a highly organized and rigorous "top layer" of information; prescribe a clear path through the exhibit with legible signage
The Orienteer	Does not know where to go in an exhibition; looks for elements that are personally meaningful to help navigate the experience	Provide a wide range of activities relating to the exhibition topic that are thrilling or amusing but also convey subtle messages (e.g., simulated ride on the back of a dinosaur at a paleontology exhibition)

(Adapted from Hughes, 2010)

While this is just one example of a potential visitor segmentation, two things are worth noting. First, the segments are delineated by a variety of concrete and attitudinal factors, which are directly relevant to the exhibition being designed. This illustrates the complexity of visitor segmentation. While the segmentation in table 4 may be generalizable to any museum exhibit, it would be very difficult to envision a set of

segments that apply universally to any type of environment. (These segments, for example, would not apply to guests at a theme park or customers visiting a bank branch.)

Second, the last column of table 4, suggesting ways in which a designer might cater to each segment's needs, combines a variety of different design elements: written content, navigational signage, interactive technology, post-exhibition marketing materials, furniture, etc. This illustrates the sheer complexity of the design task. There is no one-to-one mapping between visitor needs and design elements. How to address a need remains a question best left to the experience and creativity of a designer.

Beyond the visitor, Hughes discusses other elements of exhibition design. He gives particular attention to navigational elements, including signposts and the design of different paths that a visitor might take (whether the path is explicitly prescribed or chosen by the visitor). Several reasons are given why navigation is important; chief among them, it helps orient the visitor, and it helps tell a story that will engage the visitor and make the experience memorable.

Hughes covers several other elements of exhibition design, such as lighting, typography, and the use of audio-visual effects, at length. But he does not provide a comprehensive framework to tie these elements together, nor does he discuss direct links between these elements and the impact of the experience on a visitor. Reading this work, one cannot

immediately envision a generative framework that could help with the design of these experiences, beyond serving merely as a checklist of technical areas to explore.

Finally, Hughes does not provide much guidance on how visitor engagement or exhibition impact might be measured, beyond suggesting that: “Visitor outcomes can be tested through audience surveys, which can help designer and client understand how close they are to reaching their targets.” (Hughes, 2010; p.26)

To summarize, this detailed analysis of one piece of literature from the exhibition design domain suggests that:

- Exhibition design is not a well-defined discipline, but has natural similarities and linkages to generic in-person experience design.
- The discipline is a creative one; there is no comprehensive framework that guides the design of experiences to elicit specific outcomes.
- Nevertheless, key parts of the exhibition design process include understanding visitors’ desires and mindsets, enabling navigation through the experience, and using environmental design elements to create an engaging experience that changes the visitor.

Theme Park Design

As a child, my family visits to theme parks like Walt Disney World had a profound influence on me. I was impressed by their elaborate environmental design and their innovative use of technology to create magic, all in service of telling a cohesive story to guests. In my career, I've had the privilege to work with iconic theme parks in several capacities, including as a design and innovation consultant. Collaborating with the designers and engineers who bring these experiences to life only furthered my admiration for their work. Many guests don't appreciate all the subtle elements presented to them in theme parks—like the themed costumes and patter of employees that reinforce the environment's story—and the invisible skill with which park operators blend entertainment, operations, and commerce—for example, by planning the paths taken by traveling food merchants to maximize revenue and to ensure that guests are never too far from the opportunity to buy a refreshment or souvenir.

I am not the only one to recognize the excellence of theme park experience design. Several authors in academic and popular literature use case studies of Walt Disney World and other parks to study and illustrate design principles. (Pine & Gilmore, 1999; Zomerdijk & Voss, 2010)

In the course of researching this paper, I wanted to include input from professional theme park designers. Unfortunately, most of them work under restrictive nondisclosure

agreements and are not authorized to participate in research interviews. So, as part of my literature review, I turned to various publications written by these designers, or by academics studying their work, to look for key insights about experience design in theme parks.

Theme park experiences are highly narrative-driven, telling stories that unfold over time (Pine & Gilmore, 1999). This is not surprising, since visitors are often attracted to parks by their love of the films, stories, and characters depicted there. While some experiences in parks consist of a linear, pre-planned narrative, like a dark ride that tells a story, other experiences are co-created, allowing visitors to co-create the narrative as they move about the park, inferring elements of the story from various cues. These cues might be offered by environmental elements, which can convey story information directly—for example, Cinderella's castle on the horizon signals that a guest has entered a magical kingdom—or indirectly, through the use of what I term "emotional affordances"—for example, the eerie silence surrounding a haunted mansion, signalling that something is not quite right. (Of course, many of these cues are culturally-specific, requiring designers to research how they might be interpreted when opening an attraction in a foreign country.) Cues might also be offered by employees (or "cast members", to emphasize their role in conveying the story), through their words, actions, and costumes. Designers consider these narratives and supporting cues to form a holistic experience, where "everything speaks." (Disney Institute, 2001) By interacting with the environment and employees, and by choosing their path through the park, guests encounter a large number

of cues that let them co-create their experience, making them "both spectators and participants." (Hench, 2003)

Immersing guests in this kind of immersive environment heightens their engagement, excitement, and detachment from the outside world. Great care is taken to avoid what Pine & Gilmore would term "negative cues"—elements that distract from the story being presented. "If something about a costume seems wrong, it tells the guest that the experience is not real." Even practical elements, like garbage cans and water fountains, "must also be themed to blend into their environment." (Hench, 2003)

Instead of the stageplay metaphor often used to describe experience design, theme park designers often use the metaphor of immersing guests in a film. (Disney Institute, 2001) Environmentals are often described as "long shots" or "close ups", demonstrating how designers consider different contexts in which guests might view and interact with park elements (in this case, from a distance vs. in close proximity). But designers must go beyond filmmaking techniques in their work, as "the three-dimensional illusions of the parks offer more meaningful experiences and infinitely more sensory information than a two-dimensional film." (Hench, 2003)

One area of particular concern to park designers is how guests will navigate these three-dimensional environments. Their paths are not always predictable or controllable, since guests' mindsets, expectations, reactions, and even cultural associations shape the paths

they take and the experiences they have: “Guest’s spontaneous decision making—where they choose to go in the parks, and what they choose to do—is influenced by all kinds of personal and collectively shared memories, as much as by the sensory stimuli around them. As designers, we need to understand the role of memory as we seek to engage the imagination in visualization and play.” An example of a tactic used by Disney designers to aid guests’ navigation is the “hub: an open, essentially circular space that affords views in many directions to facilitate decision making”. (Hench, 2003) One can imagine how this approach might be generalized to other venues and forms of navigation—for example, a hub in a retail store might inspire shoppers to explore different departments.

While some service design and experience design researchers have analyzed Disney parks and other theme parks as examples of holistic, co-creative design (Zomerdijk & Voss, 2010), others have attempted to apply a more mechanistic analysis to these experiences. For instance, Dong & Siu (2012) have used data from hundreds of theme park visits to create a quantitative model explaining how park servicescapes are perceived.

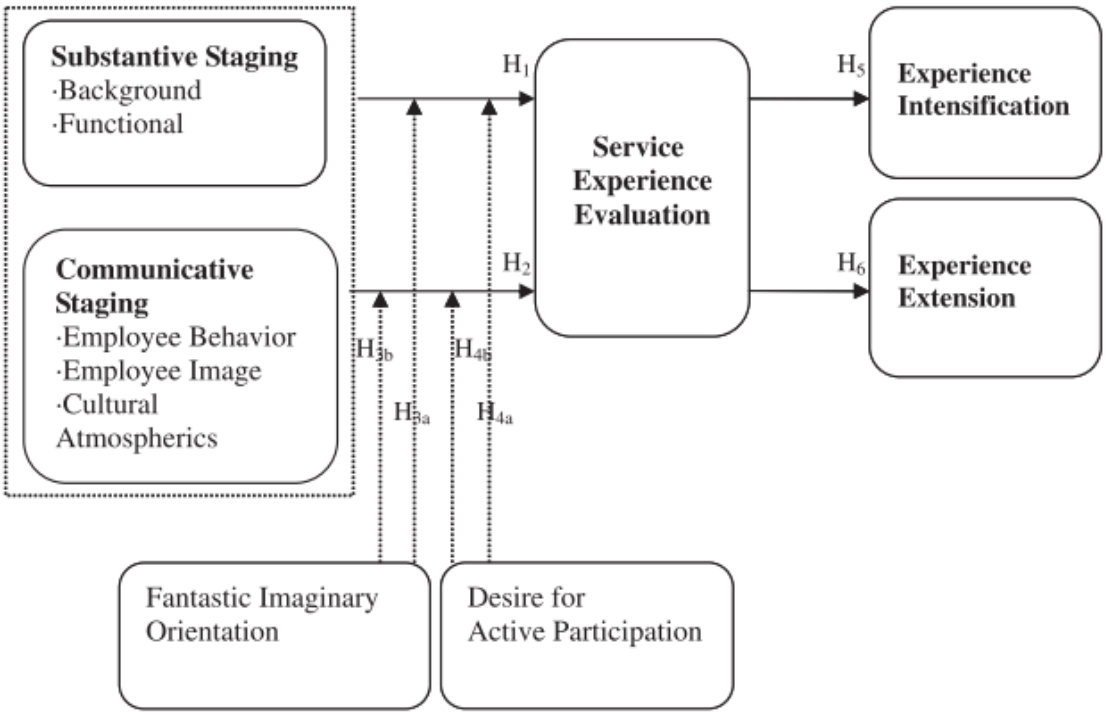

Figure 15. Conceptual framework for theme park experience design (Dong & Siu, 2012).

Dong & Siu (2012) used their data to create a modified version of Bitner's servicescape model with slightly different components. They found that a guest's overall experience could be described with two elegant measures: its "intensity" (i.e., whether it was memorable) and its "extension" (i.e., whether guests wished to come back). Guest's perception of the experience was heavily influenced by two factors present before they set foot in the park: their "desire for active participation" (i.e., whether they wanted to enjoy the park themselves, or simply chaperone their children) and their "fantastic imaginary orientation" (i.e., whether they were willing and able to immerse themselves in the stories presented). Finally, all aspects of the theme park experience (including service

and environment) could be lumped into two separate, but individually holistic categories: the “substantive staging”, which includes only the practical elements of the design (such as the location of restrooms, and the length of ride queues), and the “communicative staging”, which includes all the storytelling components (such as atmospheric design and employee behaviour).

This remarkably elegant analysis shows the value that can come from successfully bridging mechanistic and holistic, co-creative approaches to experience modeling. By keeping their analysis at a high level and using only a handful of variables to model the overall experience, the authors were able to generate insights that are useful to theme park management (for example, data that can be used to target marketing efforts to potential guests with the right mix of “desire for active participation” and “fantastics imaginary orientation”) and that support giving designers creative freedom over the holistic “communicative staging” design elements.

3. Analysis: A New Model

Qualitative Analysis

The previous chapter reviewed key contributions and themes in the experience design literature, which lay the groundwork for a new, generative, conceptual model for in-person experiences.

Before presenting this model, I will discuss a qualitative analysis of the literature review findings in three parts: First, I will use a systems mapping technique to reconcile different design objectives found in practice and in the literature. Second, I will summarize key tensions present in the literature, and propose a set of design principles to resolve them. Third, I will identify the key components of in-person experiences identified in the literature, which will form the building blocks of my new model.

Reconciling Objectives through Experience Value Chain Mapping

What is the goal of an in-person experience, from the designer's point of view? And what constitutes a "good" experience, from the point of view of the designer or the visitor? It stands to reason that, if we hope to create a new model to help generate in-person experiences, we must have a clear view of what an experience should aim to do.

In my decade of work contributing to experience design efforts across industries, I have found that teams frequently struggle with expressing the desired outcomes of a project. Often, they have difficulty defining what they want to do from a consistent point of view—for instance, they might describe qualitatively how customers should feel when they walk into a store, and also set goals for the increased sales that should result—and are unable to rationalize these disparate objectives. This can lead to frustration if the team is not able to reconcile what they are trying to do in a self-consistent way: Evoking a feeling and hitting a sales target may seem related, but if the relationship is not clear, this raises questions about how the project outcomes should be measured. (Patricio et al., 2011; Zomerdijjk & Voss, 2010)

The literature does not help solve this problem. Links between emotional and business objectives are discussed in many of the mechanistic service design articles reviewed in the previous chapter (Rosenbaum & Massiah, 2011; Teixeira et al., 2012), but these papers rarely offer clear heuristics for what designers and managers should strive for. Even when they do, their view is predominantly focused on business metrics—such as how long visitors might spend in a theme park, how much money they are likely to spend, or how much word-of-mouth promotion they are likely to engage in—without considering what would make the experience notable from the customer's point of view. (Dong & Siu, 2012)

Other sources, mostly from experience design literature, try to conceptualize what makes for a "good" experience from the visitor's point of view (Laurel, 1993; Shedroff, 2001), and also suggest some links to business outcomes (Pine & Gilmore, 1999; Diller et al, 2006). There are three such views, summarized in table 5:

Table 5. Measures of good experiences.

Good experiences are...	**Which means they...**	**Which can benefit the organization by...**	**According to...**
Engrossing	Capture visitors' attention and entertain them	Increasing visitor dwell time	Pine & Gilmore (1999)
Satisfying	Address specific needs of visitors, leading to a sense of closure	Leading to sales and other transactions, and to visitor satisfaction	Laurel (1993), Shedroff (2001)
Memorable & Meaningful	Relate to visitors' lives and identities, and live on in their memories	Inspiring return visits and generating word of mouth	Diller, Shedroff & Rhea (2006)

In my view, these characterizations of "good" experiences are helpful in that they express objectives from the visitor's and organization's points of view, but they are neither mutually exclusive nor collectively exhaustive. Also, they do not square completely with all the metrics a business might use to measure the impact of a complex experience, leaving questions about the right measures of return on investment (ROI).

So, how might we reconcile different views of an in-person experience's objectives? Visual systems mapping is a useful tool to explore the relationships between

interconnected elements in a complex system (Gharajedaghi, 2011). Figure 16 shows a systems map I have constructed to illustrate the various outcomes that in-person experiences might generate for visitors and organizations, as suggested in various sources, and how these outcomes are related. (Bitner, 1990, 1992; Bitner et al., 2000, 2002; Chebat & Michon, 2003; Diller et al., 2006; Johnston & Kong, 2011; Laroche et al., 2005; Mattila & Enz, 2002; Pine & Gilmore, 1999; Turley & Chebat, 2002; Zomerdijk & Voss, 2010, 2011)

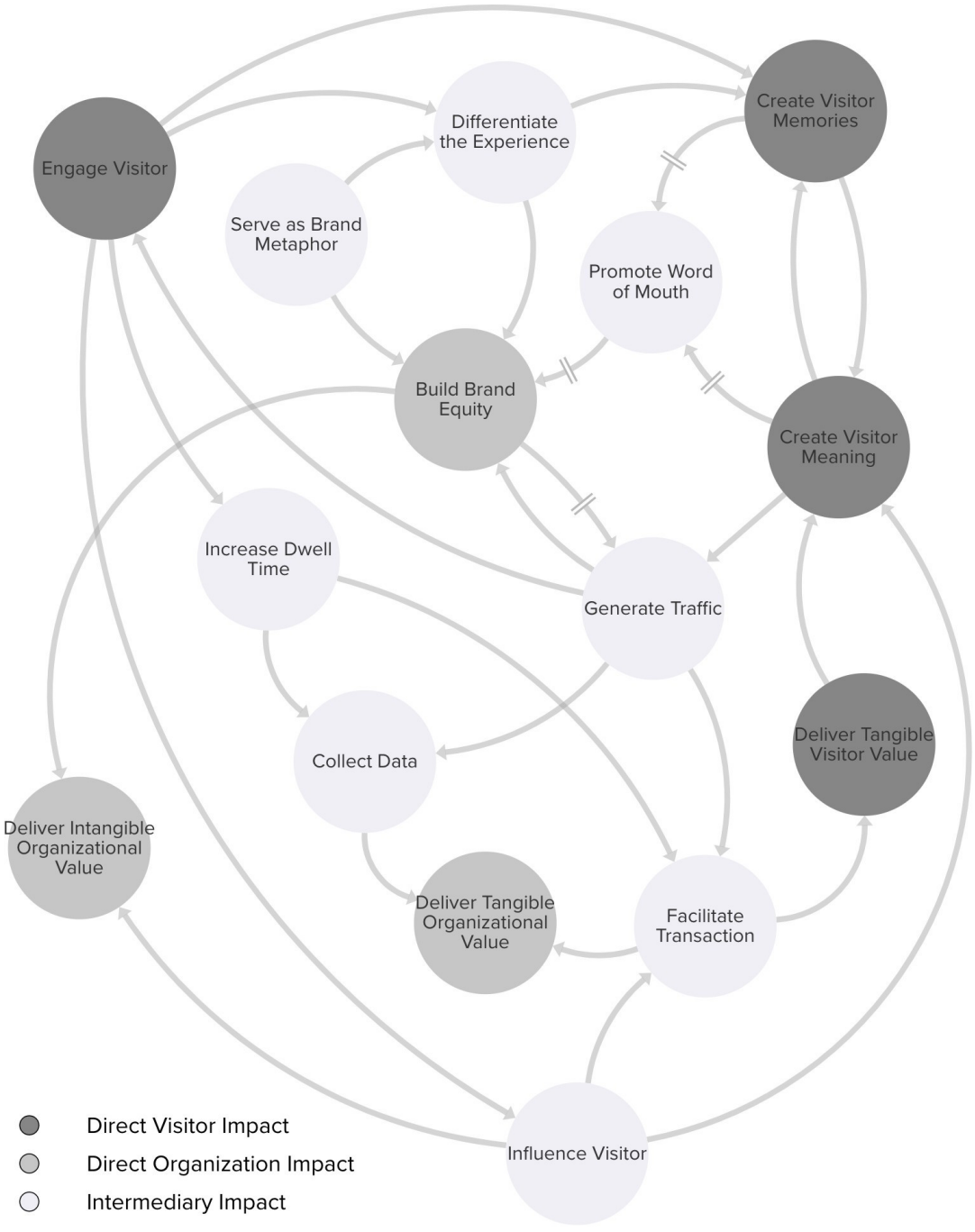

Figure 16. Systems map of experience value chains.

Every node in the graph represents a means of value creation. I have divided them into three categories based on my own analysis:

1. Direct Visitor Impacts: Types of value ultimately derived by a visitor from an experience, or in other words, why a visitor might choose to participate in the experience. These include engagement (e.g., the entertainment value of going to a sports game), tangible value (e.g., the inherent value of a good or service received as part of the experience, such as a medical procedure received in a hospital or merchandised purchased in a store), and the memories and meaning generated from the experience (e.g., the sense of togetherness after a family outing to a theme park). (Pine & Gilmore, 1999)

2. Direct Organization Impacts: Types of value ultimately derived by an organization staging the experience. These impacts typically correspond to some measure of ROI, and include both tangible value (e.g., weekly sales generated by a store) and intangible value (e.g., the number of visitors to a museum who have learned about the exhibition topic). (Hughes, 2010; Pine & Gilmore, 1999; Turley & Chebat, 2002)

3. Intermediary Impacts: Outcomes of experiences that are not inherently valuable on their own, but that serve as intermediary steps in the creation of direct value for the organization and visitors. One example is the "dwell time" or length of

> time visitors spend in an experience. Retail designers often create experiences they hope will increase dwell time, since more time spent by customers in a store provides more opportunities for sales to take place or for data to be collected about customer behaviours and preferences. While this is an important and easily quantifiable type of value created by a retail experience, it is not an end unto itself; it is only valuable in the context of the direct impacts it will ultimately produce (e.g., increased sales). (Turley & Chebat, 2002)

As in a typical systems map, the arrows in the graph indicate relationships between elements, as identified by my analysis. For example, if a grocery store succeeds in influencing a visitor (e.g., through a cooking demonstration that shows how easy it is to prepare a delicious dish at home), this may lead to the facilitation of a transaction (by persuading the shopper to buy the necessary ingredients) and to the creation of visitor meaning (by giving the shopper a sense of confidence and pride from knowing that he has the ability to be a good cook). Broken arrows indicate relationships where a temporal delay takes place. For example, a hotel may allow visitors to create vivid memories of their stay, which may lead to increased word-of-mouth about the venue, which in turn could boost the hotel's brand equity and ultimately drive additional traffic to the hotel—but it could take weeks or months for this cycle to complete.

As illustrated in the preceding example, by visualizing pathways through which value is created for both visitors and organizations, the systems map allows us to identify

experience value chains of varying levels of complexity. Whether an organization hopes to achieve a simple outcome from an experience, such as allowing people to buy a product, or a more complicated outcome, such as creating a sense of wonder and excitement that strengthens a relationship between a store and its shoppers, the outcome can be traced as a value chain along this map.

Thus, the experience value map proposes a language that designers and organizational managers can use to express various desired outcomes, and suggests the sources of value that can be used to measure the ultimate impact of an experience, both quantitatively (using metrics related to the "direct organization impacts" in the value chain) and qualitatively (by interviewing or observing visitors with regards to the "direct visitor impacts" in the value chain).

But more fundamentally, the systems map reconciles the different experience goals found in the literature (Diller et al., 2006; Gentile, 2007; Hughes, 2010; Pullman & Gross, 2004; Shedroff, 2001; Teixeira et al., 2010). It demonstrates how different sources of value are tightly interconnected, regardless of whether they are expressed in terms of the organization or the visitor. So, we do not need to worry about picking a single definition of a "good" experience, and we can move the discussion forward to *how* we might create and conceptualize experiences.

Addressing Tensions with Design Principles

My next step in creating a new experience model was to identify a set of design principles to guide its development. (In this case, "design principles" refer to the design of my new conceptual model, not to the design of experiences.)

Based on a review of consistent themes in the literature and my own experience as a practitioner, I asserted the following list of principles to guide the creation my new framework. The framework shall:

- Be generative, but not prescriptive. This means that it should inspire thinking on how experiences might be designed, without imposing a restrictive design process or specifying particular solutions. (Patricio et al., 2011; Zomerdijk & Voss, 2010, 2011)
- Be qualitative and conceptual, without needing to be supported by quantitative analysis. (This does not exclude the possibility that a quantitative dimension could be added or that the model could be empirically tested in further research.) (Bitner, 1992, Zomerdijk & Voss, 2011)
- Be industry-agnostic. It should be general enough to apply to any in-person experience. (Bitner, 1990, 1992)
- Be technology-agnostic. It should accommodate the possibilities brought forth by any new technology, without specifying which technologies should be used or whether any should be used at all. (Shedroff, 2001)

- Acknowledge that experiences are not necessarily linear and discrete. From the points of view of both a stager and an audience member, some experiences can extend in time, blend into each other, and include multiple iterative sub-experiences (e.g., the experience of an amusement park visit might include the sub-experiences of embarking on each ride in the park). The framework should be flexible enough to support this. (Dubberly & Evenson, 2008; Shedroff, 2001);

The literature review identified several key tensions between different approaches to experience conceptualization and design. Before designing my new model, I must assert additional principles to resolve these tensions, or at least to choose consistent positions on contentious issues. Table 6 summarizes some of the key tensions from the literature along with the position my framework shall take on each one.

Table 6. Tensions in the literature and principles to resolve them.

Tension (From the Literature)	**Resolution (Principle for New Model)**	**Rationale**
Practitioners often describe mental models rooted in practice (i.e., how they design experiences) while academics often favour more conceptual models of experiences. (Zomerdijk & Voss, 2011)	My model shall provide an abstract and generalized conceptualization of in-person experiences, and the elements involved in designing and delivering them.	The right level of abstraction can provide a basis for discussion of generalized experiences, while keeping the elements recognizable to practitioners.
Experiences can be conceptualized from the point of view of either the stager or the audience. (Pine & Gilmore, 1999)	My model shall present conceptualizations from both stager and audience points of view, and offer a means to connect the two views.	Both views are important, and are not necessarily in conflict with each other. Innovation requires consideration of both views.
Objectives of the experience are often expressed in conflicting terms (business outcomes vs. visitor perceptions). (Kimbell, 2011; Teixeira, 2012)	My model shall be objective-agnostic. It will nevertheless be compatible with any business- or design-focused metric.	The Value Chain Mapping I developed in the previous section shows that business and design outcomes are tightly interlinked, so there is no need to focus exclusively on one set of metrics.
Some models conceptualize experiences as mechanistic and deterministic, while others emphasize they are unpredictable and co-created by visitors. (Kimbell, 2011)	My model shall follow the co-creative philosophy, but will attempt to delineate which elements are controllable vs. unpredictable.	The mechanistic school of thought is rooted in empirical study and quantitative modelling, which is beyond the scope of this paper.

Identifying Components through Synthesis

My final step in creating my new experience model was to identify the specific elements it should include. Every model reviewed in the literature conceptualizes experiences somewhat differently: they analyze experiences at different levels of detail and from different points of view (i.e., organization vs. visitor), identifying many similar elements, but defining them in inconsistent ways. (Kimbell (2011) and McLellan (2000) corroborate this insight.)

To identify a consistent and comprehensive set of elements that would serve as the building blocks of my new model, I set out to rationalize the set of components identified in the different models reviewed in chapter two. Using a clustering exercise, I grouped together similar elements and synthesized my findings. The mechanics of this laborious exercise (partially illustrated in figure 17) are not insightful and will not be described here; its outputs can be seen in the new model described in the following section. Finally, to ensure the model was sufficiently robust and comprehensive, I tested it against a broad range of exemplars and past cases from my professional practice.

Figure 17. Partial illustration of the component clustering exercise.

New Model

I will now unveil and elucidate my new model for in-person experience design. It consists of two distinct conceptual frameworks, each serving a different purpose: the first framework presents the elements of an experience from the point of view of an organization designing for it, while the second presents the stages of an experience from the point of view of a visitor who lives it. As I will explain below, each of these frameworks can be used independently as a means to conceptualize an in-person experience, which can be a useful aid in analysis. However, the full potential of my

model is only realized when the two frameworks are combined together to form a single *generative* model that can inspire and guide the design of new experiences. I will demonstrate this generative use in the following chapter.

First Framework: Stager View

My first framework (fig. 18) conceptualizes the elements and activities that compose an in-person experience from the point of view of the organization designing the experience.

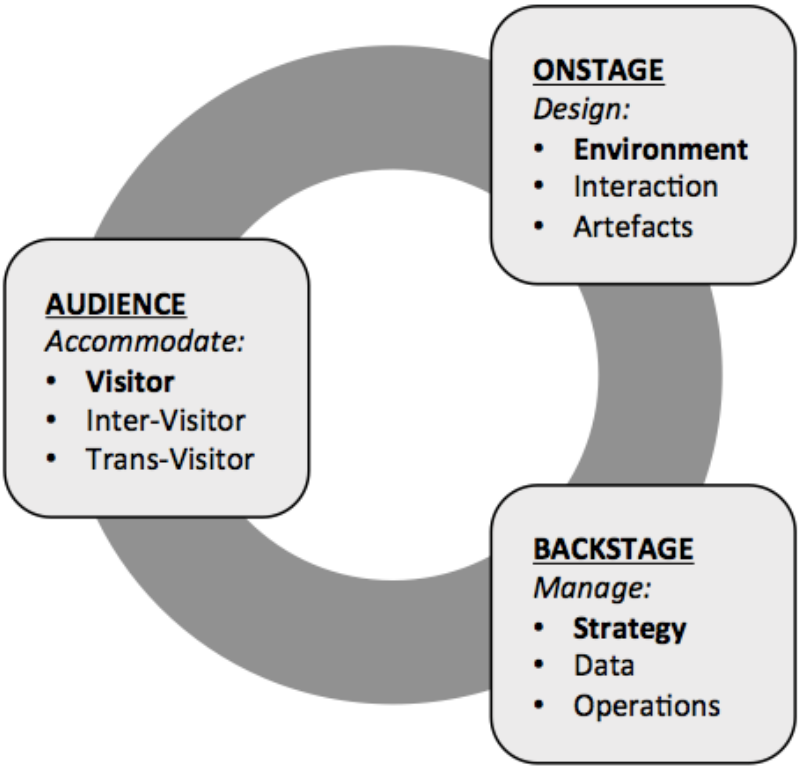

Figure 18. Experience elements framework from the stager's view.

Purpose

This framework provides an overview of all the building blocks of in-person experiences. It addresses the design elements and management practices controlled by the organization, as well as the factors dependent on visitors, which the organization cannot design or manage, but must accommodate (Bitner, 1992).

The framework elements are presented at a high level of abstraction to avoid the complexity of the mechanistic experience models found in the literature that, as discussed in the previous chapter, are too detailed to be applied in practice. (Mattila & Enz, 2002; Patricio et al., 2011; Voss & Hsuan, 2009) For example, the framework identifies environmental design as one key element of experiences, but intentionally refrains from prescribing further layers of detail (e.g., space layout, colour scheme, ambient sound, lighting), acknowledging that these details are highly context-dependent and best left to a design team to work out. (Patricio et al., 2011; Zomerdijk & Voss, 2010, 2011)

By focusing only on high-level factors in an experience, I intend for the framework to offer designers and managers a set of tractable, mutually exclusive, and collectively exhaustive categories to keep in mind when crafting or analyzing an experience.

The framework can be used in several ways. For instance, it can be used when studying an in-person experience, to inventory its various elements. In this case, it provides a

language to define the different components of the experience, and a structure to ensure no elements are overlooked. Or, the framework can be used when designing for a new experience, as a means to oversee and coordinate different streams of work, like the Customer Experience Model (Teixeira et al., 2012). In this case, it suggests a comprehensive set of factors to be addressed by the organization, and offers a structure for segmenting and connecting workstreams (e.g., it suggests that design teams might take on the comprehensive design of the environment, interactions, and artefacts, while coordinating closely with a business and technology team that might address the data, operational, and strategic elements).

Structure

The framework is organized using the familiar "theatrical metaphor" model, with three broad sets of elements: those onstage, those backstage, and the audience (Laurel, 1993; Pine & Gilmore, 1999). Within each of these sets are several interlinked elements that organizations must accommodate (audience), design (onstage), or manage (backstage). Each element is important, but one element within each set (visitor, environment, and strategy) is considered particularly important and is therefore bolded. Finally, while the elements within each set are most closely related to each other, the three sets must come together to form the experience. Below is a description of each set and its elements.

Audience Elements

The audience is a critical element of the experience, since it participates in co-creating it. However, the characteristics of the audience are largely out of the stager's control. Instead of designing or managing these characteristics, organizations must understand and *accommodate* them (Bitner, 1992). In practice, an experience design process often begins with research aimed at better understanding the audience (Teixeira et al., 2012); to emphasize the importance of this as the first step; the set of audience elements appears at the left side of the framework. Within this set, I propose three types of audience characteristics to consider:

- **Visitor**: These are the characteristics associated with each visitor. I propose that understanding them is a key part of the design process; to emphasize this, I have bolded this element in the framework. There are two types of visitor characteristics to understand: fixed traits (e.g., sociability, language fluency, physical abilities), which are generally immutable over the course of an experience, and contextual attributes (e.g., mood, expectations, desires for the experience), which can be influenced by the experience. These characteristics matter because they influence how visitors will interpret and react to an experience (Bitner, 1992; Rosenbaum & Massiah, 2011). Generally, organizations cannot gauge the characteristics of each visitor (especially when it comes to innate traits like personality), but through clienteling or profiling efforts, they can gather data and begin to develop an understanding of repeat visitors and tailor the

experience as needed (Tulip Retail, 2015). Still, it is important for stagers to design experiences that will accommodate the needs of different kinds of experiences. One way to do this is to develop a customer segmentation, through which different visitor personas or archetypes are identified and designed around (Hughes, 2010).

- **Inter-Visitor**: Social interactions between visitors can impact an in-person experience (Bitner, 1992; Zomerdijk & Voss, 2010). These dynamics can take place between visitors who know each other (e.g., a couple who need time apart mid-way through a stay in an uncomfortably cramped hotel room), or between strangers (e.g., audience members marveling together at an acrobatic display at a street fair). Interactions can be overt (e.g., shoppers discussing products in a store), or covert or subconscious (e.g., shoppers avoiding a crowded aisle in the supermarket). Social dynamics are not always predictable, and usually not controllable, so designers must anticipate different scenarios and provide onstage elements to accommodate them. For example, this could include designing private areas in a hotel lobby, or instructing employees in a bar to draw nearby drinkers into conversation as a cue to encourage interpersonal interaction.

- **Trans-Visitor**: These interactions take place through a visitor, and involve a person who is not physically present in the experience (Rigby, 2014b; Sorescu et al., 2011). They can take place before or after an experience, or even during an

experience, if moderated by telecommunications technology (e.g., social media, smartphones). Designers should not ignore these interactions, as they can have a powerful impact on the visitor's experience, help build meaning for the experience in the visitor's mind, and can even draw in the remote party. Organizations can find ways to accommodate these interactions functionally (e.g., by providing smartphone charging stations, or postcards as souvenirs) and immersively (e.g., by providing hashtags and other cues suggesting how to use social media as part of the experience).

Onstage Elements

The onstage elements of the experience include everything that the organization presents to the visitor (Pine & Gilmore, 1999). These are the elements that should be *designed* to enable the desired experience (Bitner, 1992). They can be divided into three mutually exclusive and collectively exhaustive categories:

- **Environment**: This most critical element of the experience includes all the physical aspects of the space where the experience is set. Like Bitner's (1992) *servicescape*, I include both functional and symbolic elements here—from the layout of the space, to its decoration, to the signs and cultural cues that are embedded within it. I make no distinction between different elements of the environment to emphasize that it should be designed as a cohesive whole (Hench, 2003; Pine & Gilmore, 1999; Zomerdijk & Voss, 2010). In my experience, the

broad environment is usually designed before the other onstage elements; to reflect this, I have bolded the environment element in the framework.

- **Interaction**: This includes all service aspects of the experience. I define interaction as any element or process through which the experience responds, adapts, or provides tangible value to the user. Interactions may involve employees, or they may be facilitated by technology (e.g., in a self-serve situation) (Bitner et al., 2000). They are not always overt; they may happen in response to visitors without their knowledge (e.g., a store opening additional checkout lanes if lines get too long). To avoid creating "negative cues" (Pine & Gilmore, 1999) that would detract from the experience, interactions should be presented using a language and tone that are consistent with the theming of the overall experience. The decorative aspects of any objects or employees involved in the interaction (e.g., the appearance of a self-service kiosk, or the uniform of an employee) should also be consistent with the environmental design (Hench, 2003).

- **Artefacts**: These include any tangible element that the visitor takes away from the experience. I place artefacts at the same level as the environment and interaction to emphasize their importance, since they serve to extend the experience in time, help generate meaning and solidify memories in the visitor, and can inspire a return visit to the experience (Shedroff, 2001). Examples include souvenirs,

products, guidebooks, maps, or even mobile apps or websites. Artefacts are generally used by visitors during the experience, afterwards, or both. Artefacts may be designed entirely by the organization, or co-created in the space with the visitor (e.g., a children's museum might encourage kids to build their own souvenir). Generally, artefacts should be designed to be consistent and cohesive with the other experience components (Pine & Gilmore, 1999).

Backstage Elements

Backstage elements are more abstract enablers of an experience that are not visible to visitors. Nevertheless, they are of great importance to the organization and must be *managed* appropriately to deliver strong experiences (Pine & Gilmore, 1999; Zomerdijk & Voss, 2010). I propose three broad categories of backstage elements:

- **Strategy**: This category represents all the higher-level decision-making that the organization must consider. This may include, for example, questions relating to finance (e.g., how much to invest in various components of an experience) or competitive differentiation (e.g., how to ensure the experience stands out from that offered by competitors), which can have a direct influence on the experience. Generally, strategic factors are not in play on a day-to-day basis, but are considered by designers and managers when the experience is created, and at periodic intervals thereafter. Nevertheless, these considerations are critical to successful experience design (L.E.K., 2012; Pine & Gilmore, 1999; Turley &

Chebat, 2002). Therefore, I have bolded the strategy element in the framework, and propose that it should be considered before the other two backstage elements.

- **Data**: In-person experiences offer an incredibly rich source of data, as they allow organizations to observe and monitor visitors. Data is generally collected invisibly, by human observation (e.g., watching customer behaviour, listening to their conversations) or by technological means such as cameras or sensors (e.g., smart store shelves that track how long customers spend looking at them, theme park admission bands with RFID tags that can be used to track crowd movements). (Hui et al., 2009; Rigby, 2014b) Data can be used to modify the experience in real-time (e.g., by signaling when additional check-out lanes should be opened) or over time (e.g., by revealing patterns that can be used to optimize the environment), or for other uses unrelated to the experience itself (e.g., an electronic manufacturer can study how customers respond to various products in a showroom to improve the design of future products). (Shedroff, 2001; Tulip Retail, 2015)

- **Operations**: This category refers to the day-to-day delivery of the experience. Various elements must be coordinated and managed for an experience to run smoothly: employees must be trained and scheduled, venues must be cleaned, technological elements must be maintained, and so on. Operations can consist of roles, processes, and tangible infrastructure (Song et al., 2009; Sousa & Voss,

2009; Zomerdijk & Voss, 2011). When operations run smoothly, they are invisible to the visitor, and can even create a sense of awe and magic by reinforcing the onstage elements. (For example, Disneyland's famed use of underground passageways for staff means that guests never see employees hauling garbage across the park.) But when operations go awry, the experience is negatively impacted. (A malfunctioning self-service kiosk, for example, can frustrate visitors and shatter the overall experience.)

Second Framework: Audience View

My second framework (fig. 19) provides a complementary model of an experience's components, this time from the point of view of the visitor or customer. Unlike the first framework, which describes the design and service elements that enable an experience, this framework takes a cognitive and affective view of an experience, by modelling the mental and emotional states that a visitor undergoes during the experience in chronological order.

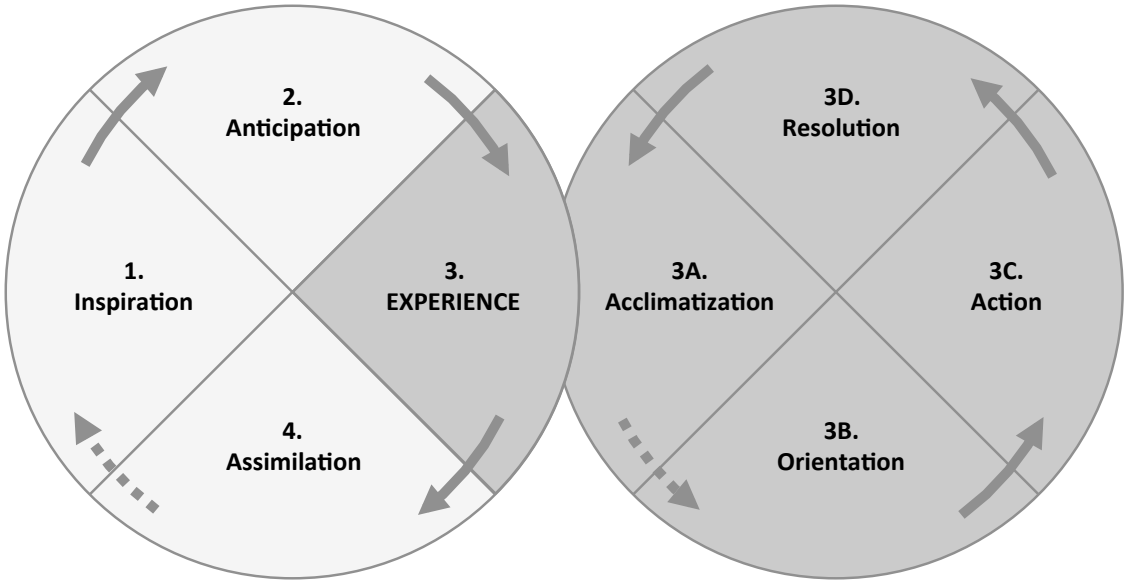

Figure 19. Experience stages framework from the audience's view.

Purpose

A framework of this sort can be useful when designing for a new experience. It allows stagers to map out the mental and emotional journey of a visitor, and to identify desired states that could be triggered using a variety of design elements (Zomerdijk & Voss, 2010). (For example, designers could use the framework to lay out the experience of cruise ship guests. They might surmise that guests may feel intimidated by the sheer scale of the vessel upon boarding it for the first time, but later take pride in learning how to navigate inside it. This could prompt designers to think about how to facilitate wayfinding on board the ship, while still leaving it somewhat obfuscated in some areas so that guests can feel proud of being able to get around without clear signage.)

Similarly, the framework can be useful when auditing an existing experience to identify areas for improvement. I propose that the steps outlined in the framework can form the basis for a questionnaire or interview with a visitor, to ensure no portions of the experience are overlooked, and to organize and communicate insights from the audit.

Structure

As shown in figure 19, the framework bookends the core experience being described (step 3) by extending backward (steps 1 and 2) and forward (step 4) in time. This permits modelling of the events and emotions that lead into and out of the experience. As discussed by Shedroff (2001) and others, this is crucial to understanding the context and impact of the experience.

Also, like the experience model of Dubberly & Evenson (2008), this framework is *iterative* in several respects.

- First, it is iterative in depth. The left side of the framework consists of four steps, the third of which is the core of the experience. The model can be used at this level of detail or, optionally, the third step can be described in greater detail using the four sub-steps on the right side of the framework.
- Second, it is iterative in scope. The framework can be used to describe an entire experience at a high level (e.g., visiting an art museum), which can be divided into sub-experiences (e.g., exploring a particular wing of the museum, buying lunch in the museum cafeteria) to which the framework can also apply. This

process can be repeated indefinitely at increasing levels of detail (e.g., seeing a specific painting in the wing, paying for a sandwich at the cafeteria).

- Third, it is iterative in time. Experiences can "piggyback" on each other, triggering another loop immediately. This can happen on both sides of the cycle: On the right, the resolution of an experience (stage 3D) can either lead to assimilation of the experience (stage 4) or trigger another experience loop starting with acclimatization (stage 3A). Similarly, on the left, assimilation of an experience (stage 4) can conclude the cycle, or trigger another cycle by inspiring ongoing participation in the experience (stage 1). The possibility of these iterations is indicated visually by the dotted arrows in the cycle.

Below is a description of the framework. Each step is illustrated by two contrasting narrative examples showing the different scales at which the framework can be applied: Example (i) will illustrate the long, large-scale experience of a traveler going to a resort for a vacation.

Example (ii) will illustrate the short, micro-experience of a customer exploring a specific aisle in a grocery store as part of her broader shopping experience.

Step 1 - Inspiration

Something triggers the visitor's desire to participate in the experience, or in part thereof. The inspiration can be external (something the visitor sees or hears, for instance) or internal (a memory or thought). (Dubberly & Evenson, 2008; Shedroff, 2001)

Example (i): Traveler recalls in conversation that it's been a long time since his last vacation at his favourite resort, and starts thinking about booking another trip there.

Example (ii): Shopper is walking down an aisle, sees ice cream in someone's shopping cart, and decides to visit the frozen desserts aisle.

Step 2 - Anticipation

The visitor looks forward to the experience. Expectations emerge, and planning might happen. (Bitner, 1992; Pine & Gilmore, 1999)

Example (i): Traveler books his trip online. He spends the next month thinking about how much fun he'll have at the resort. The night before, he packs his suitcase.

Example (ii): Shopper wonders if ice cream is on sale, and what flavours are available, as she approaches the freezer case.

Step 3 - Experience

The experience takes place: the visitor engages with the onstage elements (Pine & Gilmore, 1999; Shedroff, 2001). Optionally, this step can be modeled in more detail using the right side of the framework (steps 3A-3D).

Example (i): Traveler goes to the resort and experiences his vacation there.

Example (ii): Shopper obtains ice cream from the freezer case.

Step 3A - Acclimatization

The visitor enters the experience and adjusts to the sensory stimuli that are present there. This step represents the transition into the experience, during which the visitor may be temporarily unable to make sense of all the experience components. (Hench, 2003)

Example (i): Traveler arrives at the resort. He is still adjusting to jet lag and to the warm temperature, and is not yet ready to enjoy his vacation.

Example (ii): Shopper arrives in the freezer aisle. She notices it's colder than the rest of the store, and is briefly and slightly overwhelmed when she notices a traffic jam of customers and shopper carts halfway down the aisle.

Step 3B - Orientation

The visitor looks for cues to help navigate the experience and explore how to accomplish his or her goals, if any. The cues can be embedded in the environment or provided by interaction with or observation of employees or other visitors. The visitor may also rely on artefacts or memories he or she brings into the experience to help with orientation. (Hench, 2003; Hughes, 2010) Orientation does not only refer to physical navigation (i.e., where to go within the environment); it also involves the visitor determining what possibilities are afforded by the experience (e.g., what services are offered, what elements appear stimulating), and what behaviours are necessary and acceptable (e.g., how to line up for service, whether speaking in a loud voice is permissible).

Example (i): Traveler re-familiarizes himself with the activities and amenities available at his favourite resort, by looking at signs, reading brochures, speaking with staff and other guests, referring to the notes he took on his phone while planning his trip, and recalling what he enjoyed on past trips.

Example (ii): Shopper looks at the freezer shelves to locate the ice cream. She spends a moment unconsciously building a mental model of the options in front of her (frozen yogurt on the right, full fat ice cream on the left; name brands at eye level, store brands below; products grouped by flavour). She notices that other shoppers are opening the freezer door to look at the products before making a selection, signaling that this behaviour is appropriate or at least tolerated.

Step 3C - Action

The visitor, having developed some understanding of how to navigate the experience, takes action and transacts with the experience in some way. This could be a service action (e.g., making a purchase, speaking to an employee, using a digital kiosk) or an environmental action (e.g., admiring a painting, embarking on an amusement park ride, choosing to walk down a store aisle).

Example (i): Visitor spends several days enjoying the resort by making use of the recreational facilities, going on a guided excursion, and eating at its restaurants.

Example (ii): Shopper picks up a type of ice cream she's never tried before. She asks another shopper beside her whether it's any good; the other shopper says yes. She decides to purchase the ice cream.

Step 3D - Resolution

The visitor experiences the conclusion or consequence of the action (Shedroff, 2001). This could be a neutral, positive, or negative feeling. After this step, the visitor might continue to engage in the experience immediately by acclimatizing to this feeling (step 3A), or might withdraw from the experience and assimilate its impact (step 4).

Example (i): Visitor feels refreshed and reinvigorated by his vacation activities. If he feels sufficiently re-energized, and has time remaining during his vacation, he might acclimatize to his new state (step 3A) and seek out more adventurous activities.

Example (ii): Shopper places the ice cream in her shopping basket. She might immediately decide to buy a second flavour, but after acclimatizing (step 3A) to her new context of already having a pint in her basket, she might decide to buy a smaller amount or to make her next selection more quickly so her first pint doesn't melt.

Step 4 - Assimilation

After the experience, the visitor assimilates the memory and impact of the experience into his or her life, ascribing meaning to it. This stage may trigger inspiration for another experience, either immediately or at some time in the future. (Diller et al., 2006; Dubberly & Evenson, 2008)

Example (i): Traveler, now back at home, looks back fondly on his vacation. He daydreams of moving to the tropical venue permanently, and reflects on his overall satisfaction living and working in his city. As a result, he may feel inspired (step 1) to book another trip to the same resort, or to another destination, immediately or in the future.

Example (ii): Shopper feels a small sense of accomplishment for having picked up the ice cream, and may feel inspired (step 1) to seek out other complimentary products, like ice cream cones and whipped cream. She looks forward to enjoying the ice cream later that day.

Having outlined the two frameworks that compose my model, I will demonstrate how they can be combined and applied in practice in the next chapter.

4. Application of the New Model

The previous chapter introduced my new model for experience design, and explained how each of its two frameworks can be used independently to conceptualize an in-person experience from different points of view: The first framework, providing a stager's view of the experience, can help designers think through the elements that should be taken into consideration during the design process. The second framework, providing a visitor's view of the experience, can help designers map the journey and impact of the holistic experience over time.

In this chapter, I will demonstrate the application of this model. By combining the two frameworks together, designers can draw connections between an experience's elements (the first model) and its impact (the second model). This can serve as an analytical tool, by offering a framework to identify and categorize these connections. But more importantly, it can also serve as a *generative* tool for innovation, by prompting designers to think about new ways to use various elements to enable and support desired outcomes of the experience.

The Experience Matrix

The two frameworks in my model can be combined into an *experience matrix* (figure 20), with the elements of an experience (from the first framework) listed along the side, and the stages of an experience (from the second framework) listed across the top:

		STAGES						
		Pre-Exp		Experience				Post-Exp
ELEMENTS		1 Inspiration	2 Anticipation	3A Acclimatization	3B Orientation	3C Action	3D Resolution	4 Assimilation
Audience	**Visitor**							
	Inter-Visitor							
	Trans-Visitor							
Onstage	**Environment**							
	Interaction							
	Artefacts							
Backstage	**Strategy**							
	Data							
	Operations							

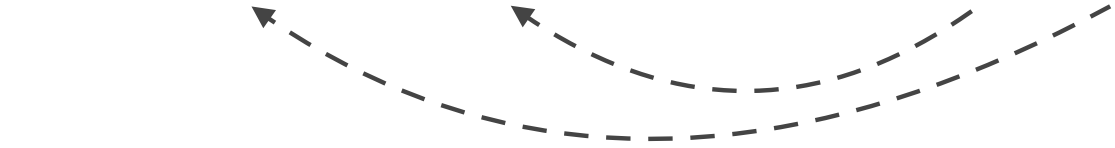

Figure 20. Experience matrix.

The matrix provides a comprehensive structure for analyzing or ideating how an in-person experience might be realized. Each cell represents the intersection of an experience element and stage, prompting questions about how each element could support—or hinder—a successful experience at each stage.

Using the Matrix

This template can be used in two ways. Firstly, it can be used as an analytical tool when studying existing experiences. In theory, it provides a comprehensive basis to dissect and index every aspect of an experience. Over time, a designer can use this framework to build a repertoire of successful tactics specific to his or her industry, organization, or project. This can support innovation by inspiring the reuse and adaptation of established approaches, much like Doblin's "Ten Types of Innovation" model does (Keeley et al., 2013). Secondly, the template can be used as a generative tool. Much like the "Business Model Canvas" (Osterwalder & Pigneur, 2010), a blank version lets organizations sketch out a vision for the experience they are crafting, and prompts them to think through all the important aspects of the design.

In the generative mode, I propose that each cell in the matrix can prompt a general question that begins with "How might we…?" In the analytical mode, of course, the same questions begin with "How does the experience being analyzed…?" The form of the rest of the question is dictated by the row (element). The questions in each cell (in this case, phrased in the generative mode) are:

- Audience:
    - Visitor: "How might we **accommodate the different characteristics, needs, contexts, attitudes, and preferences of different visitors** during the [column] stage of the experience?"

    - Inter-Visitor: “How might we **mediate interactions between visitors** to support the [column] stage of the experience?”
    - Trans-Visitor: “How might we **facilitate and leverage interactions between visitors and other people outside the experience** to support the [column] stage of the experience?”
- Onstage:
    - Environment: “How might we **design environmental elements** to support the [column] stage of the experience?”
    - Interaction: “How might we **design interactions** to support the [column] stage of the experience?”
    - Artefacts: “How might we **design artefacts** to support the [column] stage of the experience?”
- Backstage:
    - Strategy: “How might we **differentiate ourselves** during the [column] stage of the experience?”
    - Data: “How might we **collect and use data** to understand and support the [column] stage of the experience?
    - Operations: “How might we **manage and maintain the elements of the experience** to support the [column] stage?”

The grid in figure 21 provides a simplified summary of these questions:

HOW MIGHT WE... [or] ***HOW DOES A GIVEN EXPERIENCE...***

		STAGES						
		Pre-Exp		Experience				Post-Exp
ELEMENTS		1 Inspiration	2 Anticipation	3A Acclimatization	3B Orientation	3C Action	3D Resolution	4 Assimilation
Audience	**Visitor**	***ACCOMMODATE DIFFERENT VISITORS during...***						
	Inter-Visitor	***MEDIATE, FACILITATE, AND LEVERAGE during...***						
	Trans-Visitor							
Onstage	**Environment**	***DESIGN to support...***						
	Interaction							
	Artefacts							
Backstage	**Strategy**	***DIFFERENTIATE ourselves during...***						
	Data	***COLLECT AND USE to support...***						
	Operations	***MANAGE to support...***						

each stage of the experience?

Figure 21. Questions prompted by the experience matrix.

Early in the process of developing this matrix, I hypothesized that only some cells in the matrix would make sense. For example, the intersection of interaction elements and the action stage (e.g., a cashier service a shopper), or of artefact elements and the assimilation stage (e.g., a tourist bringing home a souvenir to embody the memories of her trip), clearly make sense. But what of less obvious intersections, like artefacts in the acclimatization stage, or trans-visitor interactions in the orientation stage? Upon further reflection, I realized that the more easily-understood intersections simply represent more *conventional approaches* to experience design. The more obscure cells in the matrix might correspond to examples of truly innovative experience design tactics, and offer an area in which designers with fertile innovations might innovate further.

Keeping it Manageable

With nine rows and seven columns, the matrix poses a total of 63 questions, which may be too many to address in a reasonable time in most situations. Fortunately, each question does not need to be addressed individually. Obviously, designers and researchers are free to identify and focus on the questions most relevant to their work. For a practitioner, this can be done by first identifying which experience stages are the most impactful to the organization's desired goals (for example, a store manager trying to increase repeat customer visits might choose to focus on the assimilation and inspiration stages), and then identifying which elements are addressable (which may depend on the scope of the project and the resources assigned to it). The practitioner can then focus on the questions at the intersection of these columns and rows.

Additionally, some adjacent cells may be combined depending on the context of the experience. For instance, an ice cream shop designing its overall customer experience might, when examining inter-visitor interactions, find it more practical to group the seven stages into four broader steps and brainstorm the inter-visitor elements accordingly, as illustrated in figure 22:

	STAGES						
	Pre-Exp		Experience				Post-Exp
ELEMENTS	1 Inspiration	2 Anticipation	3A Acclimatization	3B Orientation	3C Action	3D Resolution	4 Assimilation
(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)
Inter-Visitor	Direct satisfied customers eating delicious-looking ice cream cones to exit the store through the front door, so they will be highly visible to passersby (inspiring them to get ice cream) and to customers waiting in line outside (building their anticipation).		Provide cues inside the store to suggest how customers might interact. For example, a communal table and signs asking "we have 100 flavours - which one is your favourite?" signal that customer interaction is an accepted norm in the store.		The clerk can ask each customer "Are you having the same thing [as the last guest]?" to prompt discussion.	The ice cream might be served in take-home cups designed to spell out a message or to complete a picture when placed next to each other, again encouraging guest interaction.	
(...)	(...)	(...)	(...)	(...)	(...)	(...)	(...)

Figure 22. Stage clustering example for inter-visitor elements at an ice cream shop.

Because the clustering of stages is highly context-dependent (for example, the inspiration and anticipation stages would not be combined for an experience that requires advance planning, like a vacation on a cruise ship), I will not propose which specific cells should be clustered together.

Furthermore, cells may also be combined across rows when a particular design tactic spans multiple elements. To illustrate this, figure 23 shows a partially completed matrix for a fictional retailer designing its overall in-store experience. In this example, several tactics span two elements or two stages. This example also shows how the matrix may be templatized as a worksheet that serves as a “canvas” for experience designers:

EXPERIENCE MATRIX CANVAS

Experience: MegaMart Retail Store

Scope: Overall In-Store Experience

		STAGES						
		Pre-Exp		Experience				Post-Exp
	ELEMENTS	1 Inspiration	2 Anticipation	3A Acclimatization	3B Orientation	3C Action	3D Resolution	4 Assimilation
Audience	Visitor					Express checkout for impatient shoppers		
	Inter-Visitor	App to coordinate shopping trip with a friend						
	Trans-Visitor						Call to action to "Tweet your bargain"	
Onstage	Environment			Seating at entrance				
	Interaction			Greeter	Digital map kiosks			
	Artefacts	Receipt puzzle (to put on fridge)	Signature warm cookies free in store				Receipt showing total saved	
Backstage	Strategy	Position MegaMart as the most efficient, fun, value shopping experience						
	Data					Staffing linked to predicted traffic levels		
	Operations		Parking lot jockeys to help shoppers find a spot easily					

Figure 23. Experience canvas example, partially completed by a fictional retailer.

Reflections on the Original Frameworks

The study and application of the experience matrix highlight some important attributes of its two underlying frameworks (the element framework and the stages framework) that warrant brief discussion.

The elements framework (illustrated again in figure 24) states that the onstage, backstage, and audience element sets are all interlinked, but for the sake of simplicity, it does not illustrate the detailed connections between the elements. In fact, these connections are often highly-context dependent (Gentile et al., 2007), so it would not be practical or informative to document them all. However, when using the experience matrix in a generative way, many examples of inter-element connections come to light. For instance, when considering the patient experience at a medical clinic and examining the anticipation phase, an organization may need to consider how the layout of the waiting room (an onstage, environmental element) may affect the level of privacy afforded to patients (an audience, inter-visitor consideration), and how wait times (a backstage, operational consideration) might be perceived differently by patients based on their expectations and levels of anxiety (both audience, visitor elements). Clearly, these elements are all inter-related.

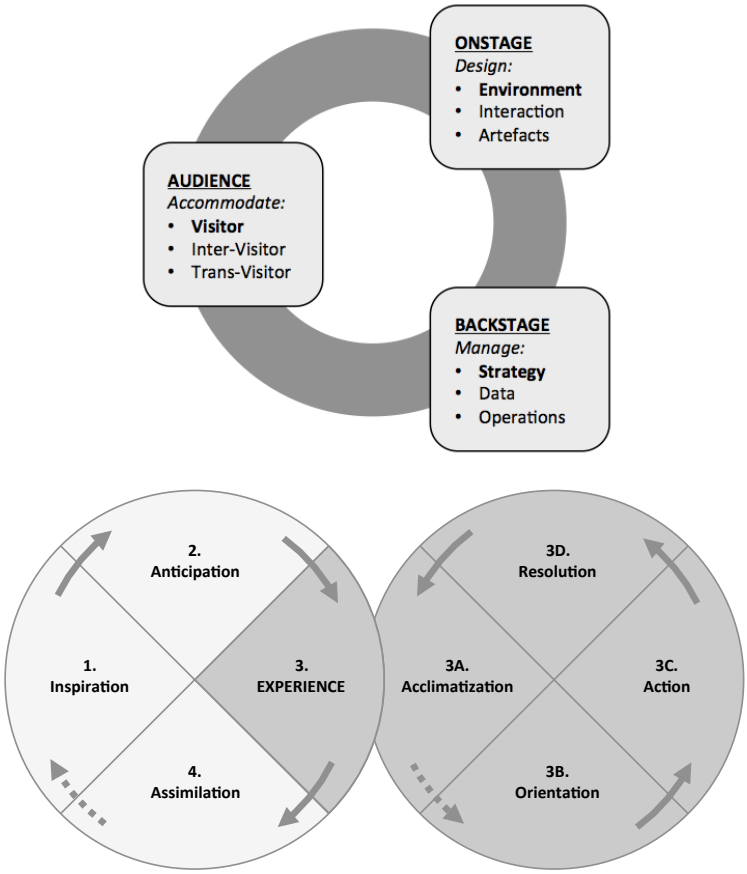

Figure 24. Recap of the experience elements and experience stages frameworks.

As for the stages framework (illustrated again in figure 24), the cyclical nature of its stages emerges when working with the experience matrix. The transitions from stage 3D to 3A and from stage 4 to stage 1, which are highlighted visually in the stages framework but not in the matrix, often manifest themselves when contemplating design tactics. When considering the environmental aspects of a museum lobby, for example, designers may choose to create an uncluttered "transition zone" with seating to accommodate visitors who are just entering the museum (stage 3A, acclimatization), or who are leaving

(stage 3D, resolution), or who have just left the exhibit hall and need a moment to gather their thoughts and belongings before heading to the museum restaurant (transition from 3D to 3A in a new sub-experience). The same design elements can accommodate all these scenarios. As another example, the museum might leverage inter-visitor and trans-visitor elements by encouraging guests to post about their experiences to social media. This tactic might support a visitor's assimilation of the experience's meaning (stage 4) and also inspire him and his social media followers to visit the museum in the future (stage 1), illustrating the transition from stage 4 to 1. Whenever practitioners use the experience matrix, it is important for them to keep the cyclical nature of the cycles in mind to ensure that transition opportunities are not overlooked. The dotted arrows at the bottom of the matrix serve as a reminder of this property.

Implementation Plan

Like many influential experience models (Bitner, 1992; Rosenbaum & Massiah, 2011), the new model described in this paper is based on a robust synthesis of available literature. In addition, it was informed by and tested against numerous case studies from my professional experience in the field. Nevertheless, I must note that the model has not been tested empirically through structured primary research and quantitative analysis. Neither has it been applied in practice to a full-scale, real-world experience design problem. Such testing would be beyond the scope of this project.

How might this model be used and evaluated in a real-world setting? Here, I propose a brief, step-by-step implementation plan to guide an organization in the use of my model:

1. **Define the problem to be addressed.** The model can be used in many different ways, so organizations must be clear on how they intend to apply it. For example, do they intend to analyze a competitor's experience? Model and improve their current experience? Or design a new experience from scratch? This implementation plan proposes an approach for the latter goal.
   Suggested framework to use: Experience Value Chain Map

2. **Assemble the team.** This step is not just about securing resources to execute the project. A cross-disciplinary team must be thoughtfully assembled to support every aspect of the experience. Ideally, the team will be aligned with the three nodes of the element framework: designers to design the onstage elements, technologists and business representatives to construct and manage the backstage elements, and researchers to understand the audience elements.
   Suggested framework to use: Elements Framework

3. **Set the design objectives.** The team must agree to a set of design objectives that will guide their work and allow them to gauge the success of the resulting experience. The Experience Value Chain Map can serve as a useful tool to facilitate team discussion across disciplines and to reconcile different objectives.

Key performance indicators (KPI's) and success metrics should be defined.

Suggested framework to use: Experience Value Chain Map

4. **Choose a scale.** Since the experience stage framework can be used to model an entire, large-scale experience (e.g., a visit to a store) or a small sub-experience (e.g., a trip down an aisle at the store), teams must be clear on the scale and scope of the experience they will work on. Generally, teams should begin by selecting the broadest, highest-level experience.

   Suggested framework to use: Stages Framework

5. **Map the desired experience stages.** Using the experience stage framework, the team can map out the desired physical, mental, and emotional journey of a visitor at each stage of the experience. Then they should identify the most important aspects they wish to influence and the stages at which they occur. This step can be done through qualitative reasoning and team discussion, or it can involve primary research techniques, such as customer interviews, shadowing, and journey mapping.

   Suggested framework to use: Stages Framework

6. **Identify the available design elements.** The team should then list out the design elements that are currently at their disposal—whether they currently exist, or could be created—across the onstage and backstage element sets, as well as the

insights they have (or need to collect) in the audience element set. Cross-disciplinary representation on the team is particularly important at this step.

Suggested framework to use: Elements Framework

7. **Use the generative matrix.** To facilitate innovation, team can then use the matrix to generate a set of "how might we" questions for each cell in the matrix, and brainstorm tactics accordingly. To make the process more manageable, the team can prioritize or limit themselves to the most relevant cells—that is, those at the intersection of the most important experience stages and available elements. However, in the earliest stages of this process (when the team is looking at the experience at the highest level), care must be taken to consider as many cells as possible, to avoid dismissing elements and stages that may not immediately appear promising but could have a significant impact on shaping the overall experience.

   Suggested framework to use: Experience Matrix

8. **Repeat steps 4-7 at increasing levels of detail.** The team can then focus on lower-level sub-experiences (e.g., moving from the overall in-store experience, to the sub-experiences within each of its departments).

9. **Implement the design, learn, and iterate.** The steps above will generate ideas for experience design. As in any design process, these ideas must be prototyped

and tested (using the KPI's from step 3), iterated, and refined.

Suggested framework to use: Experience Matrix

Figure 25 provides a visual summary of the steps described above and the suggested frameworks for use at each step:

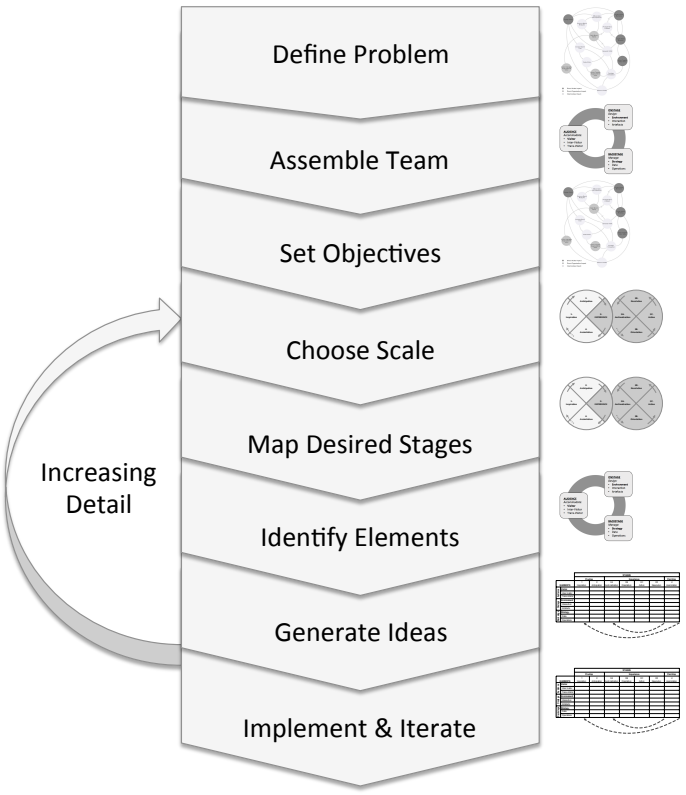

Figure 25. Proposed implementation plan with suggested frameworks.

Downloadable Toolkit

To facilitate the sharing and use of the various frameworks discussed in this paper, I have compiled the following items into a publicly downloadable toolkit:

- An overview of the implementation plan
- A copy of the experience value chain map for reference
- A copy of the elements and stages frameworks for reference
- A copy of the experience matrix and associated questions for reference
- A blank copy of the experience matrix, presented as a full-page "canvas" to encourage ideation

This toolkit—entitled the *Model for in-person eXperience Design* or MiXD—is included as an appendix to this report, and will be available for download from the OCAD University research repository under a Creative Commons license.

5. Conclusion

In summary, this project sought out to find a clear and comprehensive framework to help designers and other practitioners conceptualize the elements of an in-person experience, and identify new opportunities for innovation therein. A comprehensive review of academic literature in the domains of service design and experience design, as well as the writings of experience design practitioners from several industries, revealed several tensions in how experiences are defined, studied, and created. Furthermore, it failed to identify a clear and comprehensive definitional model that could provide a practical basis for analyzing and innovating in-person experiences—a conclusion supported and lamented by several sources in the literature.

In response, I developed such a model based on a synthesis of previous frameworks. This contribution to the field provides a basis for practitioners and researchers to analyze the elements and stages of in-person experiences, from the perspectives of the stager and the audience, respectively, and offers a generative matrix that can be used to catalog and inspire new and innovative tactics for in-person experience design. Additionally, the "Experience Value Chain Map" tool I created in the development of my model allows organizations to identify systems of value creation, which can help them understand relationships between the design-based and business based objectives and identify

appropriate key performance indicators. Finally, I proposed an implementation plan to guide organizations in the application of my framework.

Experience design is a complex and rapidly-evolving field, inviting contributions from practitioners from a wide range of disciplines. Having personally played many roles as a designer, manager, and engineer in experience design projects across industries, I learned first-hand the importance of having a clear, consistent basis for describing and modeling experiences, as well as the value of having a generative tool to inspire innovative thinking. I hope my contributions in this paper will help other practitioners and researchers, as I'm sure they will help me in my future experience design projects.

Directions for Further Research

Over the course of this project, I identified many topics that warrant further investigation. Some of these were broad, tangential research questions that emerged as I was conducting my research, such as:

- How might we segment the attitudes and personalities of visitors in an experience? Businesses often construct customer segmentations to help them adapt to the needs and preferences of different groups. Might it be possible to identify a generic visitor segmentation that could be applied across industries and used to inform experience design?

- What role does technology play in experience, and how might this change in the future? For reasons described throughout this report, I chose to create a technology-agnostic model, but further research into the unique applications of specific technologies may prove insightful. A great deal of literature explores this topic, albeit with a service-delivery focus (Bitner, Ostrom et al., 2002; Curran, Meuter et al., 2003), which was beyond the scope of this paper. In particular, the impact of technology on the "trans-visitor" aspect of my model is of particular interest, since recent and emerging technological innovations such as photo-based chat (e.g., Snapchat) and consumer-generated three-dimensional videos are blurring the line between *hearing* about an experience from a friend, and *being there* with them.

Finally, I identified a number of directions for further research relating to the validation and extension of my model:

- How might the model be tested through empirical analysis and modeling? A thorough experimental analysis of this model, similar to that carried out in much of the mechanistic literature reviewed in this paper, would be expensive and time-consuming, but may serve to strengthen the model by quantifying the importance of each of its components. In particular, researchers could seek to measure, in a variety of contexts, the level of influence that each experience element (on the left

side of my matrix) has on each stage of a visitor's experience (along the top of my matrix). These levels of influence could be visualized as a series of "heat maps" revealing the most and least important relationships in various contexts, which would help experience designers focus their resources on the most impactful elements.

- Could the model be used to create an experience design "playbook"? Since my matrix provides a comprehensive basis for indexing various tactics used in experience design, researchers and practitioners could use it to document various tricks of the trade. Such a playbook—which might be organized by industry, technology, level of detail, or other means—may be useful to designers as a means to quickly locate inspiring examples of what others have done (e.g., "how have other fashion retailers used technological artefacts to help orient shoppers during the in-store experience?"). Such a playbook could even form the basis for an ongoing dialogue, perhaps in an online community, where experience designers can trade tips and war stories from the field.

- How might the model be extended or adapted to conceptualize other kinds of experiences? It would be interesting to test the limits of my model's applicability and identify what changes might need to be made in various situations. For instance, the model could be tested against:

- Experiences in physical environments where the environment is not designed or controlled (e.g., encounters in nature, or in public settings not affiliated with an organization)
- Experiences where the visitor is not there by choice (e.g., in prison facilities)
- Purely digital experiences with no physical manifestations (e.g., websites, apps)
- Virtual reality, which blurs the line between in-person and digital experiences

This final point alludes to a great source of uncertainty for the future: How will virtual elements affect in-person experiences in the future? Signals of change abound. To name a few: The convenience and pervasiveness of online shopping is changing retail customer behaviours, as shoppers increasingly engage in "showrooming" (i.e., visiting a physical store to view merchandise, then buying it online) and "webrooming" (the reverse, i.e., selecting merchandise online and visiting a physical store only to complete the purchase). Telepresence and social media technologies, including photo and video chat applications, are letting consumers share experiences with family and friends vividly and in real-time. And virtual reality technology is advancing at such a rapid pace that consumers may soon be able to visit fantasy worlds or experience sporting events at nearly the fidelity—and at a fraction of the cost or hassle—of a trip to a theme park or stadium. (Avery et al. 2012; D'Emidio et al., 2015; Dusto, 2013; Pine & Korn, 2011; PwC, 2015; Sekula, 2014)

These signals raise many questions: How will in-person experiences evolve? Will it be possible to neatly distinguish a virtual experience from a physical one? How might physical experiences attempt to compete with entirely digital ones? These are already pressing questions for experience designers and organizations: In my own professional practice, three of my last five in-person experience design projects involved significant virtual components—ranging from pre/post-visit digital experiences to augmented-reality apps—and several clients have confided in off-the-record conversations that, as they evaluate their competitive landscapes, they are no less worried about new and purely virtual experiences than they are about rival physical experiences.

As discussed throughout this paper, the onstage and backstage elements of my framework can include digital technology—such as computerized kiosks, interactive environments, and data-collecting sensors—and the trans-visitor element of my framework acknowledges how social media, mobile devices, and other technologies can extend an experience to include virtual guests across space or time. Nevertheless, this project was rooted in research about in-person experiences, and my model was intended for the analysis and generation of experiences in predominantly physical environments. As experiences evolve, and my model is tested against them, it remains to be seen to what extent this research is applicable to virtual experiences, and how it might be extended or adapted for the analysis or generation of new kinds of experiences.

In any case, I hope that the model proposed in this paper—like the many experience design frameworks that came before it—will provide a fertile basis for discussion and further research. I look forward to seeing how it is used, critiqued, and enhanced by other experience design researchers and practitioners.

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Appendix A:
Model for In-Person Experience Design (MiXD)

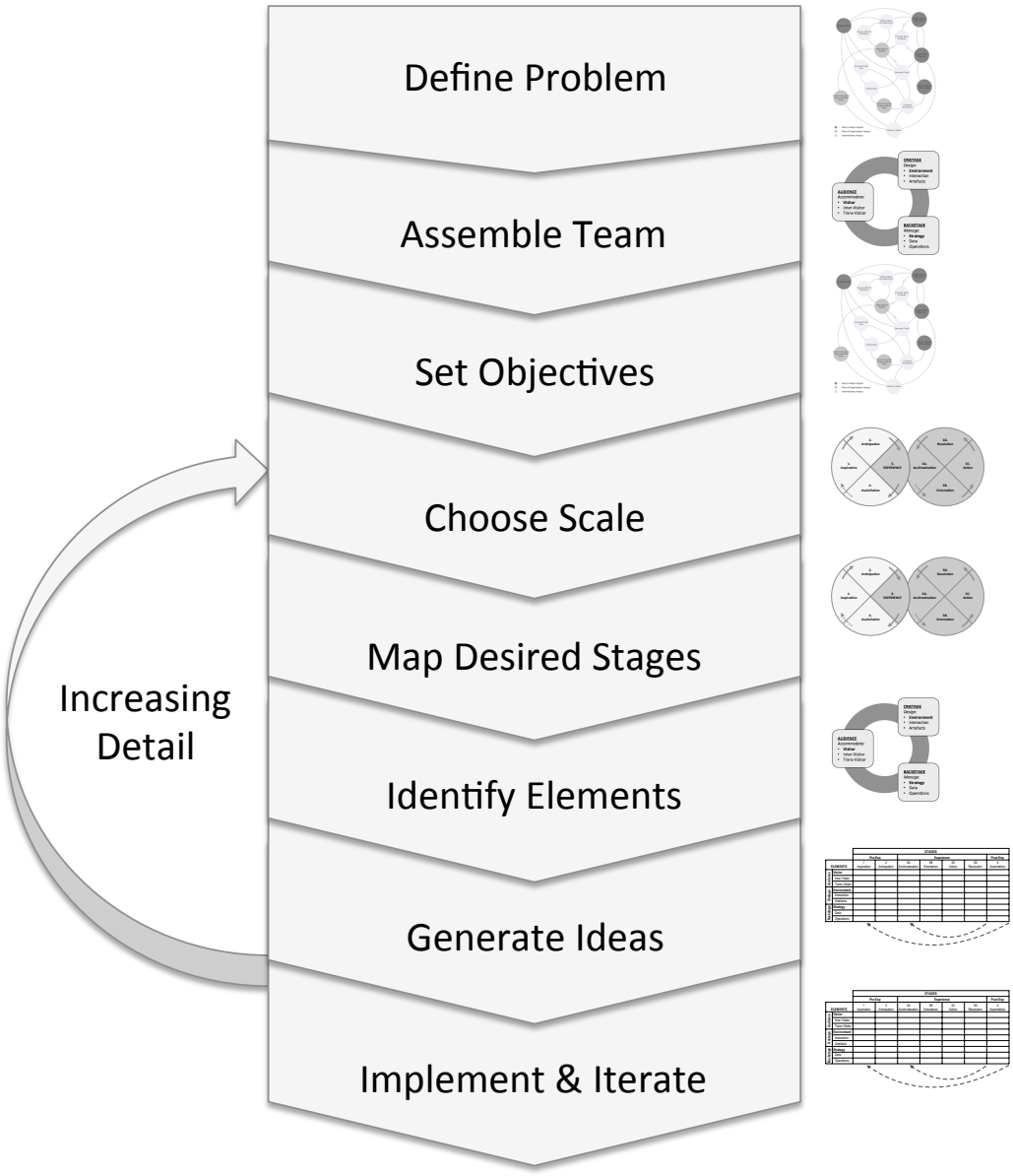
MiXD—or the Model for in-person eXperience Design—is a downloadable toolkit comprising the following frameworks:

- An overview of the implementation plan
- A copy of the experience value chain map for reference
- A copy of the elements and stages frameworks for reference
- A copy of the experience matrix and associated questions for reference
- A blank copy of the experience matrix, presented as a full-page "canvas" to encourage ideation

Intended to be downloaded, used, and adapted by experience design practitioners and researchers, MiXD is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

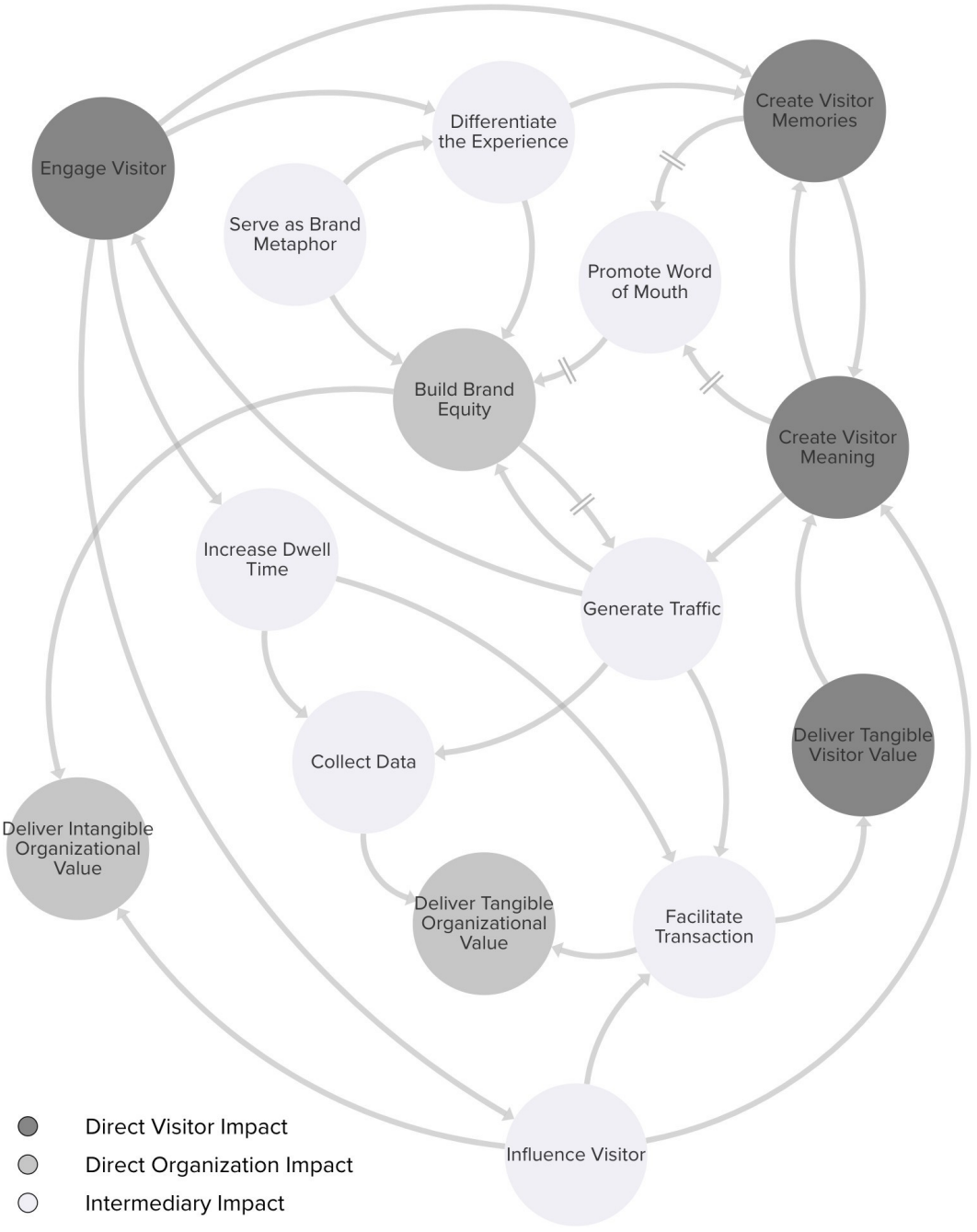
MiXD: Model for In-Person Experience Design

Process for Designing an In-Person Experience



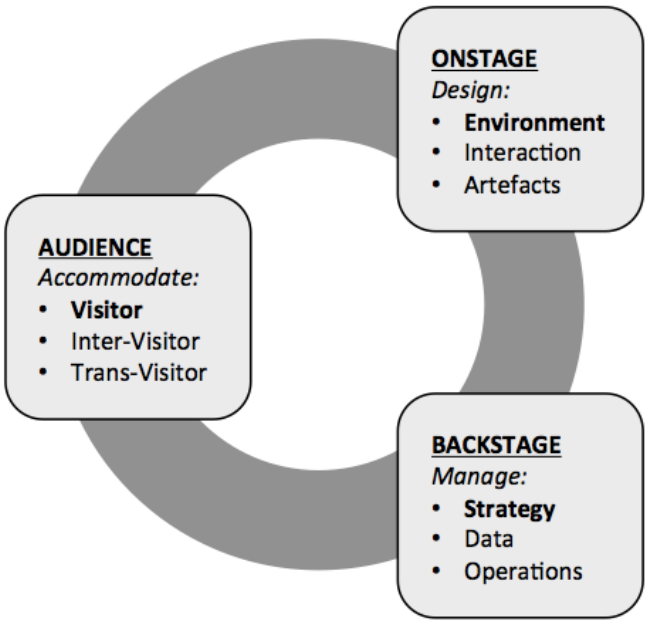
MiXD: Model for In-Person Experience Design

Experience Value Chain Map

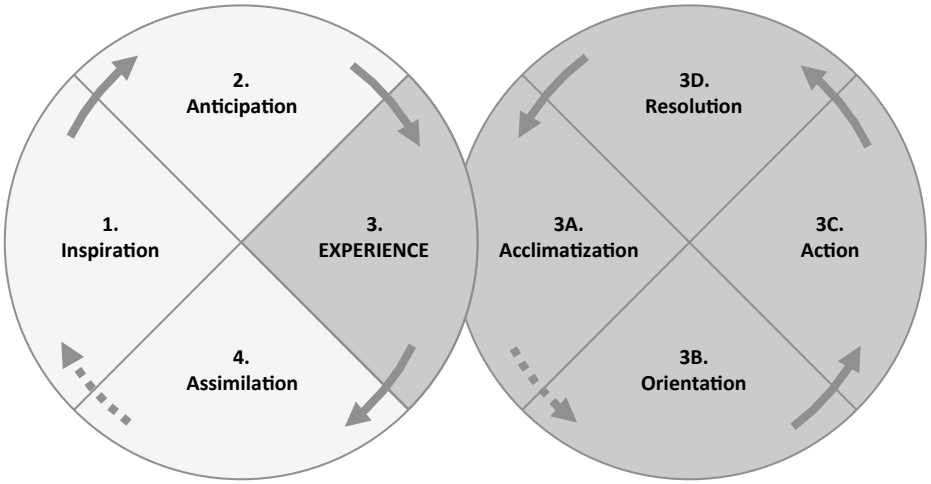


MiXD: Model for In-Person Experience Design

Elements of an Experience



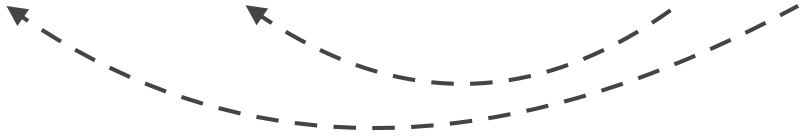
Stages of an Experience



MiXD: Model for In-Person Experience Design

Experience Matrix

		STAGES						
		Pre-Exp		Experience				Post-Exp
ELEMENTS		1 Inspiration	2 Anticipation	3A Acclimatization	3B Orientation	3C Action	3D Resolution	4 Assimilation
Audience	**Visitor**							
	Inter-Visitor							
	Trans-Visitor							
Onstage	**Environment**							
	Interaction							
	Artefacts							
Backstage	**Strategy**							
	Data							
	Operations							



Questions to Consider

HOW MIGHT WE... [or] ***HOW DOES A GIVEN EXPERIENCE...***

		STAGES						
		Pre-Exp		Experience				Post-Exp
ELEMENTS		1 Inspiration	2 Anticipation	3A Acclimatization	3B Orientation	3C Action	3D Resolution	4 Assimilation
Audience	**Visitor**	***ACCOMMODATE DIFFERENT VISITORS during...***						
	Inter-Visitor	***MEDIATE, FACILITATE, AND LEVERAGE during...***						
	Trans-Visitor							
Onstage	**Environment**	***DESIGN to support...***						
	Interaction							
	Artefacts							
Backstage	**Strategy**	***DIFFERENTIATE ourselves during...***						
	Data	***COLLECT AND USE to support...***						
	Operations	***MANAGE to support...***						

each stage of the experience?

MiXD: Model for In-Person Experience Design

Experience Canvas

Experience Name:	Scope for this Iteration:

		STAGES						
		Pre-Exp		Experience				Post-Exp
ELEMENTS		1 Inspiration	2 Anticipation	3A Acclimatization	3B Orientation	3C Action	3D Resolution	4 Assimilation
Audience	**Visitor**							
	Inter-Visitor							
	Trans-Visitor							
Onstage	**Environment**							
	Interaction							
	Artefacts							
Backstage	**Strategy**							
	Data							
	Operations