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In the quest for better service design, hospitality and service firms have often been frustrated to find that service experiences that are based on what customers say they want are not always successful. A psychological analysis of this phenomenon suggests the following premises: (1) Customers' memory of an experience fades quickly; (2) customers' memory of an experience comprises many sub-experiences; (3) customers' memories of experiences are multidimensional and unintuitive; and (4) consumers cannot accurately predict what they will learn or remember. The goal of an experience design is to create a series of sub-experiences that will "stick" with the customer. This "sticktion" analysis is applied to the practical challenge of redesigning the customer experience at Pizza Hut UK. This consumer research provides a test of the four premises and an application of the underlying sticktion principles. Surveys of Pizza Hut customers found that the existing experience had its bright spots but was generally forgettable. Not only could customers not predict what they would remember about the experience, but one week after visiting the restaurant, the customers also filled in memory gaps with details that did not appear on their initial description of the visit. Even more troublesome was the fact that the invented details tended to be negative. To fill these gaps, the researchers tested specific aspects of the experience that would "stick" and included those in the new restaurant concepts. Using this approach, the chain was able to roll out new concepts that met with initial favorable results.

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# Sticktion: Assessing Memory for the Customer Experience

## Kathryn A. LaTour[1] and Lewis P. Carbone[2]

## Abstract

In the quest for better service design, hospitality and service firms have often been frustrated to find that service experiences that are based on what customers say they want are not always successful. A psychological analysis of this phenomenon suggests the following premises: (1) Customers' memory of an experience fades quickly; (2) customers' memory of an experience comprises many sub-experiences; (3) customers' memories of experiences are multidimensional and unintuitive; and (4) consumers cannot accurately predict what they will learn or remember. The goal of an experience design is to create a series of sub-experiences that will "stick" with the customer. This "sticktion" analysis is applied to the practical challenge of redesigning the customer experience at Pizza Hut UK. This consumer research provides a test of the four premises and an application of the underlying sticktion principles. Surveys of Pizza Hut customers found that the existing experience had its bright spots but was generally forgettable. Not only could customers not predict what they would remember about the experience, but one week after visiting the restaurant, the customers also filled in memory gaps with details that did not appear on their initial description of the visit. Even more troublesome was the fact that the invented details tended to be negative. To fill these gaps, the researchers tested specific aspects of the experience that would "stick" and included those in the new restaurant concepts. Using this approach, the chain was able to roll out new concepts that met with initial favorable results.

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> "Sticktion" is a term 3M engineers use to describe a design point between abrasion and slippage that should exist when a magnetic head "reads" information by sensing the magnetic particles on a tape. In the context of experience management, it refers to a limited number of special clues that are sufficiently remarkable to be registered and remembered for some time, without being abrasive. Sticktion stands out in the experience, but does not overpower it; well-designed, it is both memorable and related to the "motif" of the experience.
>
> —Carbone and Haeckel (1994)

Experience management is the process of designing and directing the entire experience to create specific outcomes, including emotions, meanings, and memories, based on an understanding of customers' deepest emotional needs and motivations (Carbone 2004). Unfortunately, few studies actually consider what customers retain about their experiences over time (Palmer 2010). The service design literature is forward framed and focuses on understanding customers' expectations (Zeithaml, Berry, and Parasuraman 1993). However, we have seen few reports that study how perceptions are formed and sustained (Boulding, Kalra, and

Zeithaml 1993), even though such perceptions clearly drive most repeat patronage decisions. In that context, research on memory has found that customers' memories are more tenuous than originally thought. This has a considerable bearing on service design assessment as most attitude surveys are taken immediately following the customer's experience. Instead, we believe that a service assessment method that considers customers' memory processes would be an important contribution to understanding how to design customer experiences. In particular, we seek to apply memory theory to determine what "sticks" with customers after their experience. That is why we are using 3M's "sticktion" term.

In this article, we start at the theoretical level by reviewing some of the methodologies for new product development, the issues that arise within service design assessment,

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and the theoretical premises for our sticktion methodology. We then present an application of this theory in which we used sticktion to help in the redesign of the Pizza Hut UK customer experience. Our goal is to share a framework for how firms can use a sticktion-based methodology to assess and redesign their services. Creating a detailed service blueprint is not possible for this purpose because each firm's experience is idiosyncratic. However, the analytical tools are applicable across many experiences.

As a background to this study, Jens Hofma, CEO of Pizza Hut UK, told us that the company was "creating more restaurants, not creating experiences." To move the company away from its product-oriented approach, our research was geared to help management focus on customer experiences as revealed through their customers' memories. As a test of four premises regarding customers' memories, we conducted a study to determine what Pizza Hut customers specifically remembered of their experience. We recommended experience approaches and clues that would be memorable and tested those in another study. We explain Pizza Hut UK's implementation of the new experience design that was based on this research and offer implications for hospitality firms that want to assess or redesign their customer experience.

## Issues with Current Concept Testing Designs

The service experience comprises a succession of sub-experiences, each one of which contributes a message that is supposed to build and influence a brand's storyline (Berry et al. 2002). Thus, unlike a product, which either fulfills its purpose or fails to do so, a service is assessed as the sum of its separate sub-experiences, each of which either contributes to or detracts from the holistic impression left by the service encounter. Effective design and integration of experience clues such as the visual, auditory, and tactile signals help build meaning and feeling for service offerings (Carbone and Haeckel 1994). By deconstructing a service into its components, designers can isolate each element of the service and ensure that each element and the service itself match customers' needs (Goldstein et al. 2002; Heskett 1986).

A problem arises in how to determine what clues or elements of the experience are necessary and aligned with the customer experience. Beyond that issue, as Verhoef et al. (2009) lament, the bulk of the customer experience research focuses on outcomes rather than elements of the experience—and results frequently are subjective rather than based on objective testing methods. Nor does the traditional product concept testing research shed light on service design as product concept testing often relies on consumers' intentions (Kalwani and Silk 1982) or uses fictitious products.

The well-known SERVQUAL scale has been used to measure the many dimensions of service quality assessment, but correlations between that measurement scale and future behavior are not always high and in any event SERVQUAL does not focus on customers' emotional outcomes. Pullman and Robson (2007) provide an excellent review of other methodologies used to assess services and suggest that imagery-based qualitative data can be insightful into customer satisfaction. While qualitative methods can shed light into the overall emotional experience desired by consumers and insights for effective positioning strategies (see Kwortnik 2003 for a review), they are also not designed to test the effectiveness of particular designs, nor sub-experiences, in delivering those desired emotional states.

Consequently, our study focuses on the customers' memory and what is retained over time, especially as we know that memory decays quickly, and what customers remember about an experience may be different from what they originally said was important to their visit (Braun 1999). For example, the objective information which managers generally believe consumers rate as important for their stay, such as room rate, are forgotten almost immediately upon leaving the site (Kotler, Bowen, and Makens 2003). Instead, guests' memories of their hotel visit are subject to biases both at the time of the service and thereafter, through cues provided after their stay. For this reason, different customers' perceptions and memory of the exact same service offering will vary substantially. Measurement, therefore, needs to reflect the customers' recollection of the experience rather than make an assessment based on pre-existing survey items. Managers thus must know what their customers retain (and what they forget) from their experiences to understand how to build experiences that create more positive memories. Before we demonstrate the principles for creating memorable service, we discuss the underlying research about memory, particularly long-term memory.

## Premises of the Sticktion Methodology

It is difficult to overstate the essential role of memory in people's decision making and experience assessments. In that regard, we agree fully with Alba, Hutchinson, and Lynch's (1991, 36) statement:

> We have taken the relatively extreme position that the effects of long-term memory are so pervasive and fundamental as to cast doubt on the existence of any purely stimulus-based decisions in the real world. The basis for our observation lies not only in the mundane observation that few consumer decisions take place in the presence of complete information, but also in the belief that memory exerts itself in even stimulus-intense environments through its effects on attention and perception.

Unfortunately, there are no good estimates as to what goes into long-term memory (LTM), despite the efforts of cognitive researchers (e.g., Landauer 1986). Nor are there hard and fast guidelines for the circumstances or type of content that has a high likelihood of remaining in memory. Psychological research suggests that information that is vivid, emotional, and personally relevant is likely to be remembered, and first and last impressions are found to be critical. These are just general principles, however, and no psychology research tells when these theories hold in real-world settings (see Cohen and Conway 2008).

To make matters more complicated, service researchers have found discrepancies in what constitutes an experience that is likely to be remembered. For example, one study found that experiences that customers believe to be memorable are associated with excitement, curiosity, joy, and surprise (Hanefors and Mossberg 2003). Similarly Barsky and Nash (2002) identify comfort and joy as emotions important to memory. Pullman and Gross (2004) suggest that while the emotional component is integral to a memorable experience, the type of emotion may vary across service contexts. Emotion and memory are tightly related (Zaltman 2003), but there is clearly more needed to understand customers' experiential memories of service encounters over time. Thus, we offer the following four premises regarding how various aspects of services remain in memory or are forgotten. We test these in the study described below.

## Premise 1: Memory for Experiences Fades Quickly

Psychologists have divided LTM into three different types based on content: semantic, which is general knowledge; episodic, which is experiential knowledge; and procedural, which is memory for skills and routines. Episodic memory fades most quickly but is also paradoxically the type of information given the most weight in customer decision making. Hoch (2002) explains that experiential information is vivid and engaging, and because it is personally derived, it appears nonpartisan.

These factors also make it seem like episodic memory should be relatively durable. This turns out not to be the case, although psychology researchers generally were under the belief that judgments based on an experience would continue to play an important role in decision making, even as details faded (Feldman and Lynch 1988). However, more recent marketing research (Braun-LaTour and Zaltman 2006) found that experiential-based attitudes are malleable, and now neuroscience research is demonstrating that attitude-based judgments have an episodic component involving the same brain regions involved in autobiographical recollection that allow distortions to occur (Johnson et al. 2011). The implication for customer experience design is that customers' overall impressions from an experience and their memories for specific design elements will decay and change over time.

This means that a well-designed experience must be resistant to fading—and that aspects of the experience must be "sticky" and memorable. Service design researchers have suggested different approaches to make services memorable, including emotions, which might be resistant to fading (Koenig-Lewis and Palmer 2008); providing customers with clues, such as a wine aroma wheel, during an experience (LaTour and LaTour 2010); and embedded clues that create more engagement and lead to longer term consequences such as loyalty (Berry, Wall, and Carbone 2006).

These studies point to the idea that if experience designers identify "sticky" and memorable emotion-eliciting clues, they can design a service based on those aspects to help guide customers' learning and memory during their experience encounter. What constitutes a critical emotion and clue, however, remains an empirical question.

## Premise 2: Experience Memory Is Composed of Many Sub-experiences

Although there has been over a century of research on episodic memory, understanding how dynamic, ongoing experiences get transformed into meaningful units in LTM has not received much attention until lately. Just as service designers have begun breaking up experiences into component parts, we are now seeing psychological brain research validating the importance of sub-experiences. Ezzyat and Davachi (2011), for instance, find that event segmentation during encoding results in segmenting during retrieval. This means that information coded together as one segment of an experience, such as the arrival, is remembered best as a unit. Therefore, in addition to looking at memory for a holistic encounter, researchers ought to be looking at memory for the individual sub-experiences to determine what sections are better remembered than others. Experience designers need to identify the important sub-experiences in the overall experience, and then develop ways to make them memorable.

## Premise 3: Experiential Memory Is Multidimensional and Unintuitive

The problem for researchers interested in assessing customers' memory for experiences is that the dynamics of memory are complex and unintuitive (Metcalfe and Shimamura 1994). In short, customers do not understand the workings of their own memories (see Kornell and Bjork 2009 for a review). Although people readily acknowledge that they forget some details of an experience, most people overstate the stability of their memories (called a stability bias) and

fail to appreciate the degree to which their memory can change over time (Koriat et al. 2004). As one example of stability bias, in looking at memory for semantically related or unrelated words, people think that it will be easier for them to remember word pairs that are semantically associated. That is true for short-term memory (STM), but the empirical evidence suggests recall is better for unrelated words in the long term (Carroll, Nelson, and Kirwan 1997)

To complicate matters, not only do people usually overpredict what they will remember but also they typically underpredict learning. As a consequence, clues that are actually well learned (or noticed) during an experience and are therefore an important aspect of the experience design can go undetected with immediate evaluations (Kornell and Bjork 2009). This finding is in line more generally with the belief that people have little access to their own thought process (Nisbett and Wilson 1977). Consequently, looking at the outcome, such as memory recall, is the best way to assess learning.

### Premise 4: Consumers are Bad Predictors of Learning and Memory

This premise expands on the memory-prediction issues we identified above. Psychology researchers have studied consumers' judgments of learning (JOL), by comparing what people believe they have learned with their actual learning retention, based on tests (Vesonder and Voss 1985). In a typical study, participants learn some associations (such as words presented together) and then they are asked to make a JOL (predicting how likely will they remember the word again at a later point). The main finding from this research stream is that people are generally not accurate in predicting what they will later remember. In a study by Vesonder and Voss (1985), correlations between prediction and later memory ranged from $r = .09$ to .48, and other researchers have found similar low correlations between JOL and later recollections (Bower and Winchester 1970).

Several explanations have been developed to account for people's poor prediction ability regarding their own memory. One view is that JOL represent a metacognitive process that depends on different cognitive factors than those involved in memory retrieval. Later memory is affected even when people are asked to project what they will remember immediately after a learning session. The information available in short-term memory adds noise to people's ability to predict what will remain in LTM. In contrast, people make better predictions about LTM if there is a delay between the learning and questions about what they will retain. This phenomenon calls into question the hospitality industry's common approach of asking customers for immediate evaluations. This also means that people may not know right away what they will remember after a new concept has been presented (or experience consumed).

Instead, an effective way to assess experiential memory retention is to use an objective testing method after some time has passed.

In the next section, we demonstrate how we tested and applied these premises in our sticktion case studies for Pizza Hut UK. In those instances, we tested memory recall and recognition of experiences a week after the experience occurred as a means to assess what was consolidated and retained in customers' LTM.

## Sticktion Studies

We have seen no consumer research into the four premises that we have proposed. Moreover, the cognitive and neuropsychological research on which these premises are based involved remembering word lists rather than complex experiences. Bettman (1979, 38) warns against directly applying such memory findings to the consumer arena because "consumers also may deliberately try to remember things but in many situations what consumers remember may be incidental."
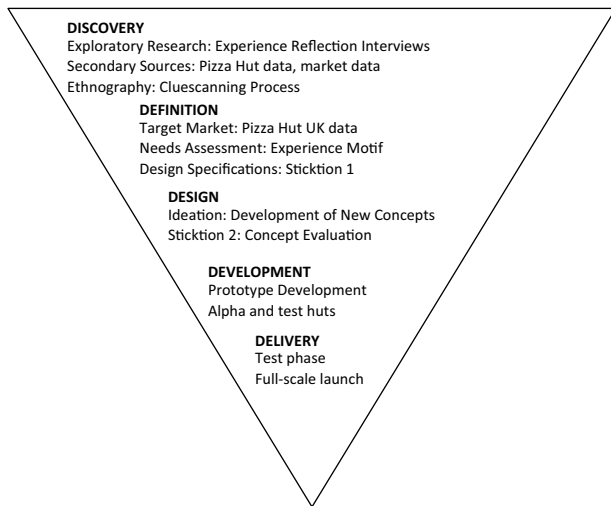
The case of Pizza Hut UK gave us the opportunity to test these premises and their effects. While these are not controlled scientific studies, they nevertheless break new ground. Our first study explores customers' accuracy in their overall memory and prediction of what they feel they will retain (similar to the JOL research). In our second study, we apply the sticktion principles to test how well new restaurant concepts will stay in memory. As we explain below, we find that customers' initial evaluation and memory measures offer different views of the effectiveness of the experience design concepts.

We applied our four premises in connection with an experience redesign for Pizza Hut UK, which had been experiencing a sales decline for several years before parent company Yum! Foods bought out their local venture partner in 2006. Yum! attempted to reverse the slide with textbook marketing approaches. They attempted a rebranding effort in 2008 to "Pasta Hut" but discontinued that the next year. They then revamped the menu by adding healthier and upscale offerings in 2009-2010. At that point, Pizza Hut's management concluded that the restaurant experience itself needed revitalization.

Pizza Hut engaged co-author Lou Carbone and his Experience Engineering (EE) group in 2010. EE has a "customer back" philosophy that requires all important decisions to be made based on an understanding of what customers want to feel as a result of participating in an experience. The "New" New Product Development Funnel from Katz (2011) depicts this approach (Exhibit 1). Working with Pizza Hut personnel and Yum! representatives, the EE team first conducted in-depth experience reflection interviews with Pizza Hut customers. They learned that while the brand was fading, many customers were rooting for the brand to find relevance and survive. The interviews also revealed that striking a

DISCOVERY
Exploratory Research: Experience Reflection Interviews
Secondary Sources: Pizza Hut data, market data
Ethnography: Cluescanning Process

DEFINITION
Target Market: Pizza Hut UK data
Needs Assessment: Experience Motif
Design Specifications: Sticktion 1

DESIGN
Ideation: Development of New Concepts
Sticktion 2: Concept Evaluation

DEVELOPMENT
Prototype Development
Alpha and test huts

DELIVERY
Test phase
Full-scale launch

balance was essential. Customers sought dietary balance (meaning that the chain was correct to offer healthy menu options), monetary balance (value for the money), family balance (safe place to take kids but also a need to keep them contained), and emotional balance (an experience that was simultaneously nurturing and innovative). EE also led the Pizza Hut team through a "cluescanning" exercise, where members went to different stores and observed the different experience clues (including service personnel and the physical atmosphere). The team realized that the experience clues revolving around customization and the buffet were perceived poorly by customers, many of whom seemed to be just coming for the low price. Together with Pizza Hut's prior extensive data on their customers and secondary market data, an experience motif was chosen to drive the new experience concept: "uninhibited, embraced, and light-hearted."

With that background, the team used the first sticktion study to develop empirical evidence on their experience offering, which they found was not particularly memorable. The study would also identify sub-areas that were more memorable and "sticky" that ought to be included in the final design concept. This process offered us the opportunity to test premises 1 and 4 by observing how much customers in a real-world setting retain about an experience (premise 1), as well as observe customers' ability to predict what they would later remember (premise 4).

## Sticktion 1

To determine customers' impressions and memory of their Pizza Hut experience, we asked customers at six Pizza Hut locations to provide feedback about their dining experience.

Over a two-day period, we collected 142 surveys by inviting everyone who entered one of the six restaurants to complete the survey. To reduce bias, we told participants that the study was being conducted by an academic and outside agency and that their responses would be anonymous to Pizza Hut.

The survey began with an open-ended question where customers related their experience in paragraph format. Following a judgment of learning approach, we then asked the respondents what five things most stuck in their mind about the experience that they would later remember, and we asked specific questions about various aspects of their experience (such as location, service, food, and atmosphere). We asked for details on each experience, such as how long they waited for their food. Participants were given a £15 gift card for their participation, and we asked them to participate in our second survey.

A week later, we were able to contact 125 of these customers for the follow-up online survey. This survey was designed to assess what they remembered from their earlier experience. We asked them about their experience and for specific details of that experience (as a memory test). Seventy customers who had completed the initial in-restaurant survey also filled out the follow-up online survey, representing a 56-percent response rate. Another £15 was added to their gift card for completing the online survey. Our analysis focuses on the recollections of the 70 customers who filled out both surveys.

*Analysis.* For the sticktion analysis, we are interested both in customers' initial experience report and how the recollection of that experience changed over time in terms of what is retained and what is forgotten. Thus, we compared what participants wrote in the initial survey with what they reported in their online survey a week later. We also examined their ability to identify what they felt would "stick" in their memory by comparing their predictions of the experience with what they actually remembered.

Throughout this analysis, we focused on the sub-experiences that were best remembered and thus important to include in the new experience design. Thus, we tested for specific details of their experience, such as whether they could remember their server's name after a week. We also wanted to learn what areas of the experience are most forgotten and offer opportunities for creating more engagement.

*Results*
*Fading memories.* To make it possible to assess how well the customers remembered their experience, we coded their initial reports for the overall number of discrete thoughts and the proportions of those thoughts that were positive or negative. For the memory report, we coded the number of the thoughts that were correctly recalled and any new thoughts that were included in the later questionnaire. We

were watching for added thoughts because of the longstanding psychological principles that memories can be shaped and that people may "recall" things that were not initially present (Bartlett 1932). Such additions particularly occur in line with the general script or semantic expectations for an experience. In the case of Pizza Hut, for instance, customers might not have mentioned the host taking them to their table in their initial report, but they may have added that in their memory report, based on their semantic knowledge that this typically happens in most restaurants.

Customers wrote on average 6.5 discrete thoughts about their Pizza Hut experience in their initial survey. A mean of 3.7 of these thoughts were positive and 2.1 were negative. The overall accuracy of the customers' recall of what they initially reported was 57 percent. Of particular interest, the respondents added an average of 3.8 ideas or thoughts about their experience, of which 2.0 represented general script information. A mean of 1.9 added "recollections" were positive, while 2.1 additions were negative. Given the fairly substantial amount of generic script information that crept into recollections, it is clear that Pizza Hut was not creating an overall memorable experience, especially given that the added "memories" tended to be more negative than positive.

In addition to comparing the initial experience with the remembered experience, we also looked to see what specific qualitative aspects of the experience people remembered. The overall content was not particularly surprising given other research findings; "family," "shared experience," "comfort," "kid-friendly," and "busy" were all terms that reoccurred in the stories. We also analyzed the way our respondents discussed the flow of the experience. This flow analysis was revealing. Although our respondents spent the most time in the restaurant during the meal itself, they were more likely to mention their feelings as they entered, such as being excited or receiving a high-energy greeting upon arrival. In contrast, they reported few memories about leaving the restaurant. This finding was of interest both theoretically and practically. It stands in opposition to research that finds final stages of an experience dominate memory (Chase and Dasu 2001). We would have expected that the exit would receive more of a bump in reports. As a practical matter, the fact that many stories ended abruptly without a strong finish suggests something was lacking in the conclusion of Pizza Hut's experience design.

*Failed memory predictions*. Let us return now to the discussion of premises 1 and 4. In short, our analysis indicates that the experiences the customers initially noticed and expected to remember were different from what they later remembered as being important. To begin with, our respondents could remember only half of the five things they initially predicted they would remember. They matched an average of 2.5 of the items matched they had originally predicted they would remember, and the rest were invented memories. Of the five

"recalled" items, on average three were positive and two were negative. The problem with this exercise is that customers "forgot" many more positive elements of their experience, an average of 1.6, than negative elements, a mean of 0.83. The fact that our respondents essentially could not predict what they would remember is also consistent with the judgment of learning literature, as summarized in premise 4. Once again, we see that people are not good at reporting what they will later remember about an experience.

Setting theory aside, this analysis held bright spots for Pizza Hut. Even if the recollections were not exact, the elements that consumers reported sticking in their memories revolved around four main areas: the emotion experienced during the visit, the atmosphere of the restaurant, the food, and the service staff and service-related issues. In general, the emotion associated with the restaurant was "full-up" and relaxed, the atmosphere of the restaurant was warm and calm, servers were seen as helpful and smart, and remembered food items were of the "favorites" like the pan pizza and salad buffet. These are clues for the restaurants' product redesign.

*Items customers got right*. To find out which specific aspects of the restaurant experience remained accurately in memory, we compared the information from the online survey with the initial essays. See Exhibit 2 for the content areas, questions, and accuracy results. As shown in that exhibit, few people could recall their server's name, but they otherwise had a good memory of the server and interaction; they had a good memory what they ate (mostly the buffet, Ice Cream Factory, salad bar, and more traditional pan pizzas); customers remembered their personal conversations but not their interactions with others; the atmospheric elements were not well remembered, especially music and lighting, although the red color "popped" in customers' memory; and the emotions people initially reported were different from those they remembered having felt. On balance, though, what stayed with people was a bland, almost emotionless feeling of "being full-up."

*Summarizing sticktion 1*. Before we continue to sticktion 2, let us summarize the theoretical and practical aspects of sticktion 1. The study provided empirical evidence in support of premise 1, that experiential memory fades, and premise 4, that customers are not good at predicting what they will remember. Unlike most psychological research on memory, this study offers important insights into what real customers remember in an actual restaurant environment. It also provides insight into why efforts to predict customers' behavioral intentions fall short—customers actually do not know what they will remember and use to make future purchase decisions. On average, our customers remembered a little more than half of what they initially thought they would remember—and they filled in with other aspects that they may not have personally experienced.

## Exhibit 2:
**Accurate Recall of Pizza Hut Experience.**

| Area | Topic | Question | Accuracy (%) |
|------|-------|----------|--------------|
| Baseline | Weather | What were the weather conditions as you visited Pizza Hut last week? | 77 |
| | Transportation | How did you get to Pizza Hut last week? | 96 |
| | Time entered | What time did you enter the restaurant last week? | 67 |
| Server | Acknowledgment | Approximately how long did it take for your server to acknowledge you? | 88 |
| | Name | What was your server's name? | 43 |
| | Interaction | Describe any interaction you remember having with your server | 85 |
| | Demeanor | Describe your server's overall demeanor | 91 |
| | Appearance | Describe how your server looked (in terms of uniform, tidiness, etc.) | 94 |
| Food | Menu | What do you remember about the menu? | 65 |
| | Order | What did you order? Please write as much detail as possible | 97 |
| | Delivery time | After placing your order, how long did it take you to receive your food? | 87 |
| | Food description | What do you remember about the food (inasmuch detail as possible) | 90 |
| Social | Own interaction | What was the topic of your conversation(s) as you dined at Pizza Hut? | 83 |
| | Other interaction | Describe any interaction you may have had with other customers at the restaurant | 15 |
| Atmosphere | Table | What do you remember about the table setup? | 77 |
| | Music | Describe the music that was playing during your visit | 36 |
| | Lighting | How was the overall lighting during your visit (high, medium, low)? | 74 |
| | Decor | What do you remember about the overall decor to this restaurant? | 78 |
| | Color | What color(s) stand out in your memory of the restaurant's decor? | 92% and 66% *red* |
| | Smell | What smell(s) do you remember experiencing at Pizza Hut? | 89 |
| Emotion | | What emotion best captured how you felt during your experience at Pizza Hut? | 63 |

This poor recall was disconcerting to management but it helped lead the way to developing and testing a new experience design concept. In connection with the product redesign, the insights from sticktion 1 formed the basis of idea-generating sessions for designing a new experience. Those insights are as follows: first, while Pizza Hut appears to be creating excitement on entry, the restaurant fails to hold that excitement through the meal to the exit; second, management had viewed the servers as a minor aspect of the experience, but this survey demonstrated that servers play an important role and could have greater involvement in a co-produced experience (also, they may need better name tags); third, rather than developing an upscale menu, Pizza Hut should instead return to its popular, traditional items like pan pizza, salad bar, and the Ice Cream Factory, all of which play more prominent roles in customers' memory; fourth, despite those standouts, the menu itself needed to be a more engaging aspect of the experience; fifth, customers were coming to socialize with their individual groups rather than to be seen and interact with others, which meant that seating and design should allow for more privacy while other areas of the floor should allow for more directed co-production (as in the salad bar); and sixth, the current lackluster atmosphere needs to be brighter, with integrated music and featuring the red signature color.

The idea-generating sessions led to the development of the following four testable new experience design concepts (see Exhibit 3): (1) My Pizza Hut (which centered on customers' being able to individualize their pizzas to their personal specs, from crust to sauce and toppings and to share their recipe with others with social media); (2) Pizza Hut Family Style (where meals are served in large portions to be shared, in a family-driven ambiance); (3) Italian Twist (playing off Americanized Italian style, with different pastas and pizzas in a distinctive atmosphere); and (4) Walkabout (rodizio or dim sum style, buffet to you concept, all you can eat, each server specializes in a different food item). Narratives were written for each of these concepts, taking the participant through the new design from entrance to exit (a "blueprint" similar to that suggested by Kingman-Brundage 1989 and in narrative format as suggested by Deighton 1992). Each narrative covered the same sub-experiences and had the same number of clues embedded in each part of the service journey. In addition to providing specific insights to Pizza Hut regarding their prototype, this study also is used to verify premise 2, that experiences are made up of sub-experiences (each with its own memory trace), and premise 3, that memory is multidimensional and can offer greater insights into new product design than just evaluation measures.

### Sticktion 2

For this study, we worked with an online survey firm to recruit four hundred people who represented current and past customers in the United Kingdom. A market research

## Exhibit 3:
**Example Narrative: Walkabout.**

Driving by, you notice that the neighborhood Pizza Hut has changed its sign to Pizza Hut: Buffet to You . . . It looks different and feels different. As you approach the restaurant, the doors have a message on them that announces: Craveable food served with abundance and generosity. You grab a sample of a new pizza from the server as he passes out samples to guests waiting in the queue; you are informed that this is a one payment for all you want to eat and servers will continue to bring around similar items to your table.

Your host brings you to your table and gives you a device that lights up to alert the servers that no more food is required—you are full. You pass a server that has several different kinds of pan pizza on her tray that look very enticing—she smiles and says she's heading your way.

Your server comes to the table and is wearing a red polo shirt with a name tag while the servers who are passing around and delivering the food are wearing black chef attire and wear a ribbon indicating what type of food they carry, that is, pizza, pasta, dessert, etc. The fixed price includes endless pizza, salad, and pasta choices. Each server has a different food item—pizza, pasta, salad—that they parade around the restaurant. You just point and select what you want, when you want it. You can mix and match and feel free to try any new combination. Your main table server helps you navigate through the various options and handles your drink orders. There is a server wearing a slice of pizza on their head that is carrying around kid items and also playing games/doing tricks at the tables.

Your family immediately begins to "flag" down different servers so your table is filled with an array of different pastas, pizzas, and salads. Your table server continues to check on you—removing items when finished, asking preferences regarding next choice; it is a very informal service style, and you feel very taken care of. There is no reason to leave your seat—everything is taken care of. There is a special "cheese" server offering grated cheese to everyone —with a flair!

The servers seem to have a rhythm to their delivery and that provides an upbeat background to your experience. Parents and kids are all given bibs so that they can enjoy the food without any mess. The kids think it's funny to see their parents wearing bibs.

The servers bring by slices of chocolate chip pizzas and other baked items like a fresh blueberry crumble, and you choose from . . . another brings platters of different ice cream selections. You finally need to press the indicator light that tells the servers you are full.

The bundling of products allows the fixed price to be more than fair, you're pleasantly surprised with their price assurance. Your server has drawn a little pizza character on the bill, which your child enjoys.

As you leave Pizza Hut, your server says "Hope you enjoyed your experience, please come again." When you are leaving, you notice there are special exclusive Pizza Hut items like the cheese grater, available for sale. It's raining and you forgot your umbrella so the host offers to walk you and your party to your car under a huge umbrella.

Overall, you think it was relaxing to not have to worry about what to order and no need to keep the kids entertained while waiting for food—delivery was immediate and the servers were well informed.l

firm in the United Kingdom worked with Pizza Hut to identify the participants so the panel met the firm's ideal customer profile. These participants were randomly assigned to read one of the four Pizza Hut concept narratives. After reading the scenario, they provided comments and rated their overall attitude toward the new concept they read about, as well as their likelihood of visiting if the concept were adopted. They were then re-contacted a week later to see what they remembered about the restaurant concept.

### Results

*Initial evaluations of the concepts*. To assess customers' overall attitude toward the new concept, four 7-point semantic differential scales were averaged for this analysis: unfavorable–favorable, bad–good, unpleasant–pleasant, and negative–positive. The proposed concepts scored as follows: 5.5 for My Pizza Hut, 5.2 for Walkabout, 5.2 for Family Style, and 4.5 for Twist. A generalized linear model (GLM) analysis was run with the concept as the independent variable and attitude as the dependent variable; it was significant at $F(3, 399) = 4.9$, $p = .002$; the Twist concept was significantly lower than the other concepts.

Participants gave similar responses to how likely they would be to try each new concept within the next three months: 5.5 for My Pizza Hut, 5.4 for Walkabout, 4.9 for Family Style, and 4.6 for Twist. Again the overall model was significant at $F(3, 399) = 4.1$, $p = .007$; and post hoc comparisons using Tukey analysis found My Pizza Hut significantly higher than Twist (but no other comparisons were significantly different).

Although the ratings indicate that My Pizza Hut was well received, both Walkabout and Family Style also rated well. Here is where the sticktion analysis departs from typical concept testing. We wanted to determine what sub-elements of these concepts would be recalled over time. For this test, we again contacted the four hundred respondents by e-mail for a follow-up survey. This time, 179 of those initial participants completed the survey.

The second survey began with a free recall task where we asked our respondents to describe the new concept scenario that they had read to the best of their ability. We then reviewed their experience step-by-step, and they were given a list of clues to identify from their experience. Last, they were given brief descriptions of the four new concepts and

**Exhibit 4:**
**Sticktion 2 Concept Retention Results.**

| | My Pizza Hut (%) | Walkabout (%) | Twist (%) | Family Style (%) | Statistics |
|---|---|---|---|---|---|
| Approach (three items— sign, door message, pizza smell) | 57 | 31 | 33 | 50 | $F(3, 178) = 9$, $p < .0001$; My Pizza Hut significantly higher than Twist and Walkabout; Family Style significantly higher than Twist and Walkabout |
| Arrival (four items, what they see as they enter, what happens as they are taken to their table) | 51 | 43 | 24 | 47 | $F(3, 178) = 5.1$, $p = .002$; My Pizza Hut and Family Style significantly higher than other two concepts |
| Service details and food presentation (five items) | 35 | 42 | 23 | 24 | $F(3, 178) = 4.97$, $p = .003$; Walkabout significantly higher than Twist and Family Style |
| Uniform (one item) | 57 | 56 | 32 | 45 | $F(3, 178) = 2.3$, $p = .07$, no significant group differences |
| Menu (two for main menu, one for kid menu) | 66 | 53 | 39 | 42 | $F(3,178) = 2.7$, $p = .04$, no significant group differences |
| Environment/atmosphere (one item) | 17 | 10 | 32 | 62 | $F(3, 178) = 13.8$, $p < .001$; Family Style higher than all others |
| Dessert (two items) | 22 | 35 | 27 | 32 | *ns* |
| Payment (one items) | 20 | 20 | 13 | 31 | *ns* |
| Exit (one item) | 52 | 54 | 45 | 40 | *ns* |
| Overall memory | 41 | 37 | 25 | 35 | $F(3, 178) = 3.6$, $p = .01$; Twist and My Pizza Hut significantly different |

asked to pick which one they most preferred (or they could choose the status quo) and explain their choice.

*Analysis.* Unlike sticktion 1, where their initial experience within a restaurant may have varied (based on who they were with and what they ordered), the participants in each of the four concept groups were exposed to the same experience. This made our memory test more objective as we looked at overall memory accuracy for the remembered clues in each concept, as well as the memory accuracy within the different sub-experiences.

*Results*

*Accuracy.* Our tests contained a total of twenty clues per scenario, with the results shown in Exhibit 4. Respondents who read My Pizza Hut recorded the highest overall accuracy, but their recall was significantly different only from Twist, which was the lowest concept. However, when it came to sub-experiences, memory accuracy varied. Two of the other concepts performed better than My Pizza Hut on some of the sub-experiences, providing support for premise 2. For instance, Walkabout scored highest on the service and food delivery, while Family Style had the highest recollection accuracy in terms of the atmosphere and mood. Additionally of note is that all concepts remedied the exit issue identified in sticktion 1. All four had exits that were memorable, indicating that this part of the service experience should receive attention. It also indicates that diners'

failure to remember Pizza Hut's concluding steps in sticktion 1 was probably due to the poor design of the exit rather than people not being able to remember endings well. For example, in My Pizza Hut, customers remembered visiting the Facebook page with their recipe displayed; in the Family Style scenario, they remembered the child receiving a balloon.

*Preferred concept.* Finally, we asked participants to read a short description of each of the four new concepts and indicate which one they most preferred, with the status quo also as a choice. My Pizza Hut was the most preferred at 42 percent, Walkabout was second at 23 percent, Twist was lowest at 3 percent, and Family Style and status quo tied at 16 percent. Our respondents liked the idea of My Pizza Hut because of the ability to customize the experience. Said one participant,

> I like the idea of creating my own style of pizza etc. so I can have more of my favorite foods—although I may be a bit spoilt for choice. Having something a bit different means there will be something for everyone. Pizza Hut is a brand which I associate with the young so I think this approach would work well and children would enjoy designing their own pizzas.

Those who chose Walkabout thought it would be a fresh, modern, fun alternative (though some mentioned it might

be a bit chaotic). Others said it could be more relaxing as they are waited on and would not need to get the food themselves.

*Discussion.* Before we conclude this article with a postscript summarizing Pizza Hut's experience with the four concepts we tested, let us summarize the sticktion 2 study. Based on customers' uneven recollections in sticktion 1, we assessed new experience design concepts using immediate evaluations. In the initial survey, we neither found much differentiation between the ratings of the different design concepts nor could we determine the clues that might become most memorable over time. When memory was assessed a week later, however, two concepts stood out for overall highest evaluation and most memorable designs—My Pizza Hut and Walkabout. In keeping with premise 2, we see that each of these is composed of numerous sub-elements, but we also note that guests' assessments of these potential concepts were multidimensional, as suggested in premise 3.

## Epilogue: Testing the New Concepts

The sub-elements of the My Pizza Hut and Walkabout concepts became the guides for the design of the final prototype. From My Pizza Hut, the importance of customization came through, with a menu where customers can now design their own pizzas (pick crust, sauce, and toppings). The Walkabout concept would replace the lunch buffet to enhance co-production (to emphasize the quality of the experience where previously customers had focused on volume). Because of concerns regarding the potentially chaotic atmosphere of the Walkabout concept, however, management decided that this concept would not be appropriate for the dinner crowd, which is generally seeking a more relaxed atmosphere. The company also promoted the new design on their website, which gave them more customer comments to help them redesign the new Pizza Hut experience: http://www.pizzahut.co.uk/restaurants/fresh-changes/new-flagship-huts.aspx. Other design aspects included promoting a warm, family-oriented atmosphere as well as some aspects that had been uncovered in sticktion 1, such as featuring a modern red decor with private seating booths. As the website described it, "Iconic seating booths allow customers to relax with some privacy, while feature lighting and stylish wall displays provide the perfect atmosphere." The website also focuses on providing a complete experience, by highlighting the traditional products and end of the experience: "Our spectacular Salad Station and Interactive Ice Cream factory deliver the finishing touches to a stand-out experience."

The final prototype was rolled out in four "alpha" huts, in Enfield, Northampton Sixfields Leisure Park, Northampton Riverside Business Park, and Solihull Touchwood Shopping Center. Initial sales estimates showed more than double-digit increases. For example, comparing sales year on year (January-July 2010, January-July 2011): Enfield was up 153 percent; Northampton Sixfields, 118 percent; Northampton Business Park, 196 percent; and Solihull, 180 percent. Sales growth continues and the company is currently considering whether to roll out this new concept throughout the United Kingdom, as well as other markets(Baker 2011).

## General Implications

The importance of creating memorable experiences is at the heart of the experience design literature. For this reason, the sticktion method is based on the belief that understanding customers' long-term retention of their service experience is critical when designing or redesigning an experience offering. As we indicated at the outset, when we began the development of this methodology, we had hoped to develop an overall blueprint that could be easily adapted to any experience design. After considering the nuances involved in the Pizza Hut case, and attempting to design a sticktion study for an entirely different product category, we do not feel that a blueprint is a realistic output. Instead, each service will have a different flow and different elements. Even so, our methodology provides a framework for identifying the elements of memorable service.

This framework begins with the question, how memorable is my experience offering? As with our Pizza Hut demonstration, changing managerial thinking toward what customers remember about the experience offering over time is an important first step. Doing a quick survey, as in sticktion 1, would provide management an initial read on their experience memorability. Devising a more detailed analysis process and identifying important sub-experiences would be the next diagnostic step for experience redesign. By asking questions in an appropriate way and sequence, it is possible to gain insights into consumers' memory processes that if not taken into account can bias the outcome. Thus, we encourage managers to seek assistance from a memory expert if they decide to embark on a sticktion-type study.

It is important to realize that experience design is a continuous process whereby managers learn what customers want in their experience and then help that service evolve as their customers' needs change over time. In addition, once the larger experience is understood, the design of specific sub-experiences can be fine-tuned. After its concept test rollout, for example, Pizza Hut UK focused on how to manage different sub-experiences of their restaurant offering to be more "sticky" and memorable. As a consequence, they redesigned the salad bar to increase the focus on experience rather than value. The salad bar has been viewed as "free" and more of a long assembly line for self-service. With the redesign, the bar itself is now round and built into the wall to make it appear more comfortable within the restaurant setting and encouraging socialization.

Future research in customer experience might consider developing benchmarks for customer experience memory across different types of services. The role of brand and its interaction with experiential memory ought to be investigated, answering questions such as Do stronger brands foster stronger memories? For example, does having a widely known brand help drive customers' memories for a specific hotel location? Or, alternatively, might the semantic component of brand knowledge overwhelm memory-making, and are experiential memories for well-known hotel brand properties more likely to fade over time? Sticktion represents an important step into understanding customers' everyday memories of their service experience encounters, but future research in this area is needed.

## Declaration of Conflicting Interests

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