Using Behavioral Research to Design Better Customer Experiences

Michael J. Dixon and Matthew C. Walsman

Cornell Hospitality Quarterly 2014 55: 221 originally published online 18 June 2014
DOI: 10.1177/1938965514538703

Cornell Hospitality Quarterly
2014, Vol. 55(3) 221–227

DOI: 10.1177/1938965514538703
cqx.sagepub.com
SAGE

Using Behavioral Research to Design Better Customer Experiences

Michael J. Dixon[1] and Matthew C. Walsman[2]

Abstract

In the recently published book—*The Customer Service Solution*—authors Sriram Dasu and Richard Chase write that successful operation of service firms is critically tied to the implicit, or psychological, outcomes of a service offering. Based on behavioral science and psychology research, they focus on ways that service providers can influence customers' affective response to service. They suggest ways to design services that are trusted, emotionally positive, and memorable by managing sequences, duration, choices, and attributions. Principles for sequencing services include getting unpleasant parts over with early on, segmenting pleasurable experiences, combining the unpleasant events, and building to a strong finish. Giving customers control over some parts of the service process improves their satisfaction, as does controlling the perceptions of a service's duration.

Keywords

operations management; operations; consumer behavior; marketing and sales; other operations

Operations management has long focused on efficient allocation of resources, streamlining processes, and relieving bottlenecks. In recent years, the focus of many academics and practitioners has turned to the subtle reactions that customers have to service offerings, as indicators of service success. In the academic models of the past, customers are often treated essentially as widgets in a factory: emotionless inputs into a system with little to no individual reaction to system designs. In reality, people are affected by the systems around them, and an operations manager would do well to try to anticipate human emotions and reactions.

This expansion in operational thinking is several decades in the making, with many different players recognizing the particular challenges of service operations; however, of recent, operations management academics have found themselves camping deep in the academic archives of psychology and behavioral sciences to consider operational applications of human behavior research. In their recent book, *The Customer Service Solution*, authors Sriram Dasu and Dick Chase (2013) provide operational guidance and classification for much of this effort (Exhibit 1). We will report on some of their guidance and provide examples of how these suggestions might influence the operations of hospitality businesses.

Service Operations Management Strategy

At the core of operations strategy is the idea that all operations receive some input, use resources to add value to the input, and create an output. As an academic field operations management (OM) has roots firmly planted in production and manufacturing. Traditional OM problems include such matters as production planning, optimal inventory levels, logistics routing, queuing, and throughput optimization. In the traditional model, inputs come from suppliers and tangible outputs go to customers. Traditional OM models teach that strategic advantages are realized when variation is reduced in both the inputs received and in the transformation processes used. This advantage might allow a company to create value more consistently, with less waste and in less time.

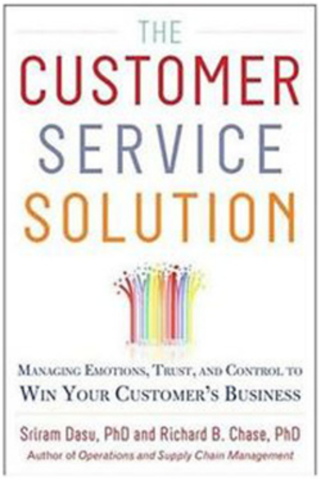
In this context, researchers have focused on the customers' role in providing inputs for service-based operations (e.g., Sampson and Froehle 2006). While preparatory work is often necessary for a service, no value can be created without some form of customer input. The traditional approach to operations management implies that the customers' role is to provide input into a system and leave it at that (Chase 1996). However, because this input is often the customers themselves (e.g., a night's stay at a hotel, a visit to the doctor), Dasu and Chase (2013) point out that it is

[1]Naval Postgraduate School, Monterey, CA, USA
[2]Cornell University, Ithaca, NY, USA

Corresponding Author:
Matthew C. Walsman, School of Hotel Administration, Cornell University, 455 Statler Hall, Ithaca, NY 14853, USA.
Email: mcw237@cornell.edu

Exhibit 1:

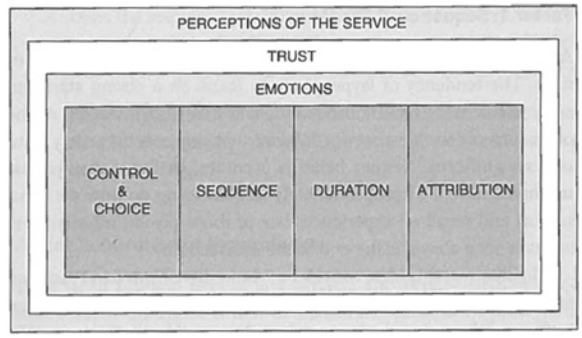
Dasu and Chase 2013: The Customer Service Solution.



Source. Dasu and Chase (2013).

Exhibit 2:

Six elements of a service experience.



Source. Adapted from Dasu and Chase (2013, Figure 1.1, p. 9).

important to consider customers' psychological and behavioral responses to a service.

The contrast between a fine dining restaurant and a frozen-meal factory highlights this difference. In both cases, the customer receives a tangible meal; however, unlike in the frozen food factory, the customer in the restaurant dining room has psychological, emotional, and physiological responses to his or her surroundings. The operator of the factory needs to give little thought about how the operations of the factory might influence the customers, while the restaurant operation itself is a critical aspect of the product.

This approach to the effects of service on guests by no means rejects the traditional operations management model of meeting customer needs quickly, efficiently, precisely, and without defects, but it includes the essential element of customer affect. Many customer needs are subjective in nature, which means that the process must take into account customer inputs that are subjective and variable. In this regard, Dasu and Chase (2013) discuss the idea of *implicit service outcomes* that include the way the customers feel, their mood, their level of pleasure derived, and even their sense of status. Implicit outcomes are just as important to a service operation as the explicit goals, but the implicit outcomes are not always intuitive, universal, or logical. Behavioral researchers try to predict humans' responses to different stimuli; Dasu and Chase describe how a service operator can use this research to improve methods of predicting the implicit outcomes of a service.

The Rise of Behavioral Sciences

Starting with the behaviorism movement in psychology (Watson 1913), behavioral scientists have attempted to classify and explain human behavior. One outgrowth of this thread, behavioral economics, studies how human behavior influences economic decision making. Beginning with a seminal paper published in 1979 by psychologists Daniel Kahneman and Amos Tversky (Kahneman and Tversky 1979), much of what has been written on the topic of behavioral economics documents that depending on the context of economic decisions, people often make predictably irrational choices (e.g., Ariely and Jones 2008; Thaler and Sunstein 2008).

To study these decision-making mechanisms, researchers often conduct experimental studies and observe participants' actual behavior. Other tools to gauge customer satisfaction, such as surveys and focus groups, tend to be poor measures of actual customer behavior. A chief problem with surveys and focus groups is that customers have difficulty describing meaningfully how they will react (implicit outcome) until they actually do react. Furthermore, when people realize that their response to a service appears illogical, they find it even more difficult to admit to such a response. The truth is that in the complexity of real life, we often find ourselves reacting in seemingly unpredictable ways.

Dasu and Chase (2013) identify four areas where operators influence customers' affective response to their service: sequence, duration, control and choice, and attribution. If operators successfully influence customers in these areas, they must do it by gaining customers' trust and managing customers' emotions (Exhibit 2). In the rest of this article, we highlight strategies operators can use to improve service operations in each of these areas and give examples from the hospitality industry.

Sequence and Duration

Dasu and Chase (2013) identify the following principles relating to the sequencing of service segments: finish strong, get bad parts over with early on, segment the pleasure, and combine the pain. These timing principles originate from research by psychologists and behavioral economists interested in understanding the importance of the ordering of pleasure, pain, and other hedonic moments. Much of this work was initiated by the Nobel laureate Kahneman (Kahneman et al. 1993; Redelmeier and Kahneman 1996; Redelmeier, Katz, and Kahneman 2003) and has been followed up by other behavior economists including Dan Ariely (Ariely 1998; Ariely and Carmon 2000) and George Loewenstein (Loewenstein 1987; Loewenstein and Sicherman 1991, Loewenstein and Prelec 1993). The basic premise of sequence effects is that the order of the events during an encounter affects a participant's evaluation of the encounter. We tend to place heavier weight on the end of an encounter and on parts that are more hedonically extreme, that is, the most painful or most pleasurable part. Similarly, we prefer upward trends and favor separating highly pleasurable events from one another.

These ideas can be used to design service operations, including planning and scripting an encounter or multiple encounters to follow a specific sequence. For example, Dixon and Verma (2013) found evidence that within a classical music venue, the sequence attributes described by Dasu and Chase (2013) influenced the repeat purchase of season subscription ticket packages. Holding other aspects constant, people were most likely to purchase packages that included an exciting concert at the end and that had scheduled concerts with an upward trend of popularity.

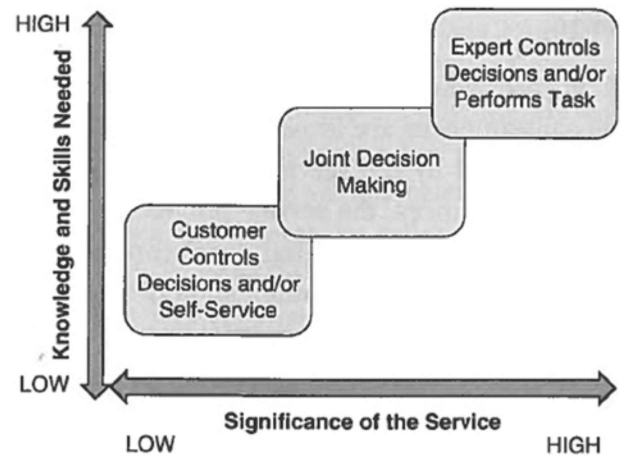
The key principle of duration management is that time is not always perceived consistently in service encounters. Factors that influence customers' perception of duration include emotional state, evidence of progress, uncertainty, and engagement. Duration management is particularly important when customers are made to wait. In this case, operators should design waits to feel as short as possible. For example, restaurant operators can make a wait feel shorter by allowing customers to shop in nearby stores and notifying them with pagers or text messaging when it is time to return to be seated. Similarly, amusement parks and airlines attempt to "shorten" waits by distracting customers in areas where waiting is comfortable or even enjoyable at times.

Control and Choice

A service encounter necessarily involves customers' giving up at least some control to a service operator, which, due to the resulting uncertainty, can cause the customer to frame the experience in a negative light. Dasu and Chase (2013) suggest offsetting this concern by allowing customers to retain at least the perception of control by giving customers' choices. For example, choices as simple as allowing customers to either have traditional valet service or self-service can elevate their perception of control.

Exhibit 3:

Tradeoff between customer skill and task significance in a service encounter.



Source. Adapted from Dasu and Chase (2013, Figure 4.3, p. 103).

> In virtually every service encounter, customers must relinquish some actual control to the service firm in order to get the job done. Yet we as customers prefer situations in which we perceive that we have control. (Dasu and Chase 2013, 12)

Some choices are essentially "free" to service providers, like a doctor allowing a patient to decide from which arm to draw blood (Mills and Krantz 1979). However, other choices might require expanding the resources necessary for the service. In that case, a service designer must balance their desire to give customers choices (and thus control), with the operational implications of doing so. Of particular concern are situations where customer control means that customers need a certain level of knowledge or skill. In addition, efficiency can be maintained and control bounded by designing mistake-proof processes or "poka-yokes." For example, an amusement park might allow young guests to "drive" a car on a ride. The car would react to the rider's steering giving a sense of control to the rider, but the control is bounded by a track that protects the rider and others. Dasu and Chase (2013) describe a framework for sharing control with customers and enhancing their perception of control (Exhibit 3).

We see an example of this in the hospitality industry with rental car companies. Many rental car companies have increased customer choices by allowing loyalty program members to choose any car on the lot that suits them. Keys are already in the car, and customers check out at the gate. This system drastically reduces the wait time for high-value customers and gives them greater perceived control. It also eliminates the operational complexity of assigning specific inventory to customers and guaranteeing availability. This approach does require the rental car agency to accurately forecast customer demand so that customers have sufficient options, but paradoxically, too many options can overwhelm customers. The options built into *prix fixe* menus, similarly, are designed to give customers a perceived choice while capitalizing on operational efficiencies.

Attribution

Much of how customers judge a service experience is based on their memories, which rapidly deteriorate and often distort what actually happened (see LaTour and Carbone 2014). A goal for service firms is to reinforce and take credit for the good memories and deflect bad ones. Faced with solving a customer's problem, service representatives, who are often given little authority to affect outcomes but are expected to alleviate customer pain points, should make clear that they are doing as much as they can to help, even if they cannot solve the problem—thus blunting a negative memory. For example, customers respond more positively to customer service agents who say, "I cannot do," rather than "I will not do." Dasu and Chase (2013) provide the following guidelines about how to develop the cognitive connections between good memories and the service firm's effort: celebrating the customer's success, emphasizing the customer's role in the company's success, personalizing service delivery, and making pathways to success evident.

As an example, a hired fishing guide might personalize the service delivery by taking time to connect with all the fishermen; the guide could make the pathways to success evident by describing how fish in the specific waters are usually caught and how fishermen are usually successful; when fish are caught, the guide could emphasize the role the customer had in reeling it in; and last, the guide could celebrate with the customer at the end of the trip by taking pictures and bragging about the trip to others. Even when the "catching" is not going so well, a successful guide can explain that the conditions for success might not be optimal (bad weather) and still make a memorable trip by commenting on customers' improved skills with other aspects of the trip (e.g., casting, navigating). Finally, the guide could congratulate the fishermen for a good day on the water by reminding them of the fishermen's adage that a bad day fishing is better than a good day working.

Emotions

Emotionally charged events are the most memorable, and Dasu and Chase (2013) suggest that "emotions define the importance of an experience" (p. 24). Managing sequence, durations, choice and control, and attribution all help in creating specific emotions. Adding to those points, firms can build a concept or service around an emotional theme. One example of this concept is the Joie De Vivre Hospitality firm, which creates entire boutique properties around a specific emotion, whether it be rebellious (Phoenix Hotel), relaxed (Dream Inn), or energized (Hotel Del Sol).

Operations must not only reinforce the brand's emotion but also keep pace with the customers' emotions. Considering how customers' emotions may change throughout a service encounter, responding to these emotions is not trivial. Dasu and Chase (2013) describe how a service firm might anticipate the customers' changing emotions at different stages of the service. They recommend plotting emotions along a timeline and considering ways to manage negative emotions (Exhibit 4).

Trust

As we mentioned in connection with control, trust is at the root of customers' emotions because customers "must relinquish some actual control to the service firm in order to get the job done" (p. 12). Thus, gaining customers' trust is critical to success. While service providers are employed for their skills, resources, and knowledge, it is often difficult for customers to measure those things. Because competence is often difficult to measure, customers instead observe subtle cues to determine whether a service provider can be trusted to perform adequately.

When customers trust a brand the firm does not have to explain as much (or provide as much reassurance on-site). For example, if a passenger trusts that an airline will handle rebooking a canceled flight in the best way possible, the passenger does not require lengthy personal attention from a gate agent covering all possible options. If, on the contrary, the passenger suspects that the airline is just trying to get out of doing the right thing, much more operational effort will have to be put forward to convince the passenger otherwise.

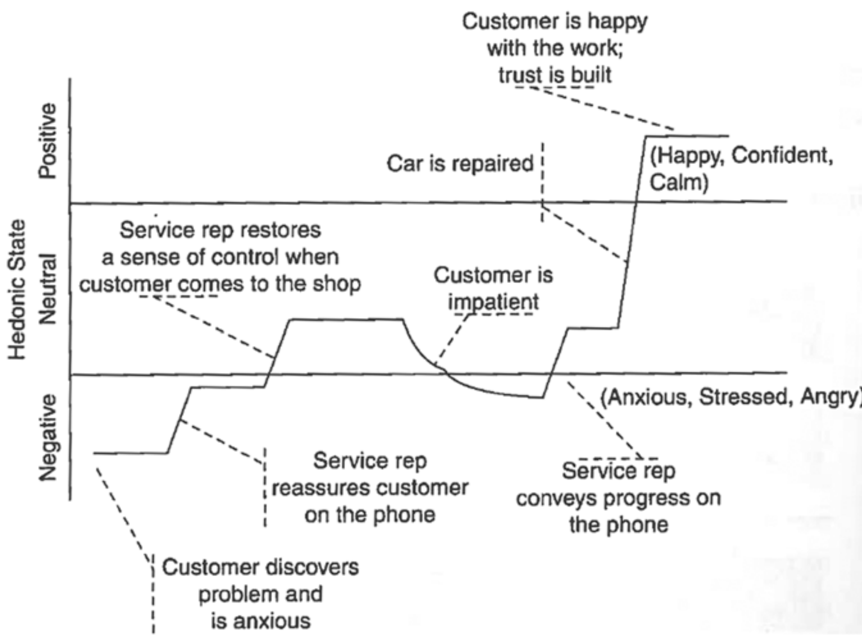
The vulnerability of giving up control and possible risk associated with a service are the major obstacles to trust. Dasu and Chase (2013) describe what they call "Cues of Trustworthiness" that a service firm can develop to help build trust, including exploiting social media to highlight vivid descriptions of your service, demonstrating effort, adhering to norms and rituals, demonstrating knowledge about your customer, informing customers about the possible risks, and creating impressive tangible physical surroundings.

Considering Behavioral Ideas in Process Improvement Projects

Dasu and Chase (2013) have identified several organizations that are successfully implementing these concepts to improve their processes. For example, a computer company's margins were eroding because of the inbound calls inquiring about the progress of sales orders. After

Exhibit 4:

Example of an emotion print for a car repair shop.



Source. Adapted from Dasu and Chase (2013, Figure 2.5, p. 48).

they discovered that many of their customers were older or first-time purchasers, the firm improved their process by sending out a post-purchase e-mail that demonstrated competence, highlighted the positive emotions a customer felt with the purchase, and outlined the delivery process customers could expect. Many in the hospitality industry are also benefitting by paying closer attention to customers' behaviors and designing processes to improve outcomes, given the variability in customer inputs.

The growth of the vacation rental market, supported by the internet, demonstrates the principles we have been discussing. It used to be that property owners had limited access to customers, and customers had difficulty trusting advertisements in magazines or travel agents' recommendations. Customers trusted established hotel brands far more than a one-off bed and breakfast. Now with internet sites like VRBO (Vacation Rentals by Owners), HomeAway, and Airbnb, vacation homeowners and customers have a platform to transact and a mechanism to establish trust. Boutique vacation rental providers can take advantage of technological advances and implement some of the concepts from Dasu and Chase (2013) to grow their business in the vacation rental market, as follows.

Emotion

Vacations are almost by definition fraught with both positive and negative emotional experiences. To highlight positive emotions, vacation rental properties can adopt a similar strategy as Joie De Vivre Hospitality and create emotional themes. A geographical focused boutique vacation rental provider can set the tone on its website by showing skiing in the winter and outdoor recreation in the summer. They can focus on managing property inventory to match the theme and include extras that supplement the theme (e.g., discounts on ski packages).

Trust

This is perhaps the most import application for online vacation rental sites. Individual vacation homeowners that join online distributors effectively become part of a brand and network. Providers should carefully select every property in their portfolio to match their brand image. Customers as a result will learn that they can trust the brand, regardless of which home they stay in.

Choice and Control

An online vacation rental site can offer customers a controlled set of choices. For example, a theme-based provider should not be open to all would-be renters. Instead, they can limit their scope to target specific customers (e.g., cabin properties close to ski resorts or beach properties within walking distance of the ocean). This way, they can capitalize on efficiency by managing similar properties but still offer customers a choice.

Sequence

By requiring full payment prior to the vacation, a provider shifts the "pain" of payment away from the end of the experience. Guests can be checked in one week in advance and given access codes so there is no need to check-in at arrival. Early check-in provides a quality check and adds to the guests' sense of control and level of trust.

Duration

Because vacation homes must be booked far in advance, customers' excitement and anticipation can build in the interim. Providers should reinforce the excitement that anticipation brings, but they can also use the time to take care of necessary administrative work and ensure the quality of the service. When guests finally arrive, all the formalities are taken care of and vacationers find the house and facilities waiting for them.

Attribution

Some providers even take a hand in the management of the owners' properties, thus gaining attribution from both owners and guests. When customers have fabulous experiences, they are likely to give some of the credit to the provider and rent again. When there is an unanticipated negative experience, however (like a pipe bursting in the house), the provider has an opportunity for service recovery by quickly repairing the problem. If done properly, the guest will probably blame bad luck or the house itself but remember the provider as stepping in and helping taking care of them. At the same time, when homeowners have success renting their homes, they will likely give credit to the provider. When they get bad renters (e.g., dirty house), the provider has another recovery opportunity by setting things right. The negative attribution will likely be pinned on the bad guest, and the provider will be remembered favorably.

Conclusion

In addition to paying attention to efficiency and effectiveness, service operations managers must consider customer-induced variability and co-production as part of their service process. Drawing from behavioral science, service operators can create better customer-facing processes, and researchers can develop explanations of customer behavior. The service operations management field can learn from these theories of human behavior when they are designing service experiences, as explained by Dasu and Chase (2013) in their recent book—*The Customer Service Solution*.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, or publication of this article.

References

Ariely, D. 1998. Combining experiences over time: The effects of duration, intensity changes and on-line measurements on retrospective pain evaluations. *Journal of Behavioral Decision Making* 11 (1): 19-45.

Ariely, D., and Z. Carmon. 2000. Gestalt characteristics of experiences: The defining features of summarized events. *Journal of Behavioral Decision Making* 13 (2): 191-201.

Ariely, D., and S. Jones. 2008. *Predictably irrational*. New York: HarperCollins.

Chase, R. B. 1996. The mall is my factory: Reflections of a service junkie. *Production and Operations Management* 5 (4): 298-308.

Dasu, S., and R. Chase. 2013. *The customer service solution: Managing emotions, trust, and control to win your customer's business*. McGraw Hill Education New York City, NY.

Dixon, M. J., and R. Verma. 2013. Sequence effects in service bundles: Implications for service design and scheduling. *Journal of Operations Management* 31 (3): 138-52.

Kahneman, D., B. L. Fredrickson, C. A. Schreiber, and D. A. Redelmeier. 1993. When more pain is preferred to less: Adding a better end. *Psychological Science* 4 (6): 401-405.

Kahneman, D., and A. Tversky. 1979. Prospect theory: An analysis of decision under risk. *Econometrica* 47 (2): 263-91.

LaTour, K. A., and L. P. Carbone. Sticktion: Assessing memory for the customer experience. *Cornell Hospitality Quarterly*. Published electronically before February 13, 2014. doi:10.1177/1938965514521689.

Loewenstein, G. 1987. Anticipation and the valuation of delayed consumption. *The Economic Journal* 97 (387): 666-84.

Loewenstein, G., and D. Prelec. 1993. Preferences for sequences of outcomes. *Psychological Review* 100 (1): 91-108.

Loewenstein, G., and N. Sicherman. 1991. Do workers prefer increasing wage profiles? *Journal of Labor Economics* 9 (1): 67-84.

Mills, R. T., and D. S. Krantz. 1979. Information, choice, and reactions to stress: A field experiment in a blood bank with laboratory analogue. *Journal of Personality and Social Psychology* 37 (4): 608-20.

Redelmeier, D. A., and D. Kahneman. 1996. Patients' memories of painful medical treatments: Real-time and retrospective evaluations of two minimally invasive procedures. *Pain* 66 (1): 3-8.

Redelmeier, D. A., J. Katz, and D. Kahneman. 2003. Memories of colonoscopy: A randomized trial. *Pain* 104 (1-2): 187-94.

Sampson, S. E., and C. M. Froehle. 2006. Foundations and implications of a proposed unified services theory. *Production and Operations Management* 15 (2): 329-43.

Thaler, R. H., and C. R. Sunstein. 2008. *Nudge: Improving decisions about health, wealth, and happiness*. New Haven: Yale University Press.

Watson, J. B. 1913. Psychology as the behaviorist views it. *Psychological Review* 20 (2): 158-77.

Author Biographies

Michael J. Dixon, PhD. is an assistant professor at the Graduate School of Business and Public Policy at the Naval Postgraduate School. His research interests are in service design and service sequencing.

Matt Walsman is a doctoral student at Cornell University at the School of Hotel Administration. His research interests are in professional services and the behavioral implications of service operations.