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Full Length Research Paper

Innovation in services: Design and management

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Development in technologies, economic institutions, demographics and globalization drive the scale, complexity and interdependence of today's service systems. Ideas of services are not new but the rapid increase in economic significance and the greatly accelerated rates of change mean that understanding and improving service systems in a sustainable way have become a major challenge. From a statistical perspective, modern economies primarily comprised services. Innovation is one of the five drivers of productivity growth alongside skills, investment, enterprise and competition. Firms do not consider themselves to be 'services' or 'manufacturing' units, but providers of solutions (that involve a combination of products and services) for customers. Improving understanding of services innovation complements the better-established knowledge of manufacturing innovation. The paper tries to develop an understanding of the change in innovation in services from technological adoption to complex complementary changes in technologies, skills and organization. An attempt has been made to look at the managerial perspective of services innovation and the infrastructural setup needed for an optimal system.

Key words: Technologies, economic institutions, demographics, globalization, management.

INTRODUCTION

Highly respected scholars like Peter Drucker and Theodore Levitt published their classical writings on these subjects as early as 1974 and 1975, respectively. Drucker (1974) argued that the only purpose for a business is to create a customer and that it could be achieved through marketing and innovations (in this particular order). Levitt (1975), in marketing myopia, argued that marketing is largely ignored because top management is wholly transfixed by the profit promises of technological R and D. Levitt also argued that product-orientedness in high technology works well where firms are pushed into new frontiers where they did not necessarily have to find markets, but to fill them.

It is widely acknowledged that there are different forms of inventive activity with different contextual origins and there has been substantial effort ever since the work by Schumpeter (1934) in defining common elements of a wide range of innovations (Dosi, 1988). The nature of innovations has been studied as well as different kinds of innovations (product, process, business concept, incremental, radical, architectural, disruptive, and value innovations) (Van de Ven, 1986; Henderson and Clarke, 1990; Henderson and Cockburn, 1994; Chan and Mauborgne, 1997, 1999; Russell, 1999; Leifer et al., 2000; Christensen and Overdorf, 2000; Hamel, 2000).

Numerous classifications of services exist in the literature (Chase, 1978; Thomas, 1978; Lovelock, 1983; Zeithaml and Bitner, 2000; Grönroos, 2000). There are categorizations of industries within which services exist (Zeithaml and Bitner, 2000). These could be high-touch/high-tech services or discretely/continuously rendered services (Grönroos, 2000), professional services often rendered within the health care, IT consultancy, banking/ finance units among others. In fact, it is relevant today to ask if manufacturing has become the "add-on" which services once was. Services have become a fundamental means of competitive advantage and profit for firms, not just in retailing and hospitality, but also in technology. It has become necessary for all types of firms to understand the service processes. Service competition is partly customer-driven, competition-driven, and partly technology-driven. Services are no longer add-ons to products provided by a certain type of firms. Services have become an inherent part of all goods manufactured and can occur before and during manufacturing, as part of selling, during consumption, and after consumption and usage. More importantly, service can be a critical

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part of the value capture process within a functioning business model. By adopting a service perspective to R and D emphasis is made on relations as R and D services (Grönroos, 2000).

UNDERSTANDING SERVICE INNOVATION

The study of services innovation immediately poses the question of how a 'service' should be defined. From a conceptual standpoint there are a variety of views. Crespi et al. (2006) review the literature and concludes that '...it is often useful to think of services as either intermediation activities, such as transport, that arises because consumers want to separate production and consumption, or contact services, such as haircuts or medical services, where production involves the consumer directly and where the output of the activity is embodied in the consumer ... ...an important aspect of a service is the 'jointness' of production and consumption – that is goods can be produced meaningfully without consumers (think of a firm producing a car), whereas services require 'jointness' (a haircut, or repairing a car).'

The description above also hints at the considerable heterogeneity of services with respect to knowledge and capital intensity. Miles (2000) argued that the contrasts within the service sector are as significant as those differentiating the sector from manufacturing: '... the sector includes the most concentrated, knowledge-intensive, and IT-intensive sectors in modern industrial economies (banking, professional services, etc.), as well as the least (retail, cleaning etc.)'.

Innovation is the successful exploitation of new ideas. This definition applies to all firms in the economy and is equally relevant to services innovation. While innovations in tangible products may be more easily recognized, possibly due to their physical and 'codifiable' nature, there are a wealth of excellent examples of services innovation. These include airport runway space, financial services, air flights and retail.

In trying to understand the various patterns and origins of innovation in different sectors, academics have developed several typologies or classifications. While a 'dominant' typology is yet to emerge, proposed typologies and classifications share similarities. Most of those typologies tend to consider reliance on external innovation ('supplier dominated' innovation), degree of interaction with consumer ('client-led' innovation), intensity of in-house innovation (innovation in services) and the extent to which service firms support other firms to innovate (innovation through services).

Few firms or sectors fit any of the above classifications completely. Table 1 illustrates this in three service sectors (retailing, transport and financial services). Paradigmatic innovations are considered to be substantive innovations, marking an innovative step change in the industry.

FORMS OF INNOVATIONS

Innovation can take several forms (Figure 1):

i) Product innovation – changes in the things (products/services) which an organization offers,
ii) Process innovation – changes in the ways in which they are created and delivered,
iii) Position innovation – changes in the context in which the products/services are introduced,
iv) Paradigm innovation – changes in the underlying mental models which frame what the organization does.

For example, a new design of car, a new insurance package for accident-prone babies and a new home entertainment system would all be examples of product innovation. Changes in the manufacturing methods and equipment used to produce the car or the home entertainment system, or in the office procedures and sequencing in the insurance case, would be examples of process innovation. Sometimes the dividing line is somehow blurred for example, a new jet powered sea ferry is both a product and a process innovation. Services often represent a particular case of this where the product and process aspects merge for example, is a new holiday package a product or process change?

Innovation can also take place by repositioning the perception of an established product or process in a particular user context. For example, an old-established product, ''Lucozade'' originally developed as a glucose-based drink to help children and invalids in convalescence. These associations with sickness were abandoned by the brand owners, GSK, when they re-launched the product as a health drink aimed at the growing fitness market where it is now presented as a performance-enhancing aid to healthy exercise. This shift is a good example of 'position' innovation.

Sometimes, opportunities for innovation emerge when we reframe the way we look at something. Henry Ford fundamentally changed the face of transportation not because he invented the motor car (he was a comparative latecomer to the new industry) or because he developed the manufacturing process to put one together (as a craft-based specialist industry car-making has been established for around 20 years). His contribution was to change the underlying model from one which offered a hand-made specialist product to a few wealthy customers to one which offered a car for everyman at a price he/she could afford. The ensuing shift from craft to mass production was nothing short of a revolution in the way cars (and later countless other products and services) were created and delivered.

Recent examples of 'paradigm' innovation – changes in mental models – include the shift of mainstream customers to low-cost airlines, the provision of online insurance and other financial services, and the repositioning of drinks like coffee and fruit juice as premium 'designer'

Table 1. Patterns of innovation.

Sector	Supplier dominated	Innovation in services	Client led innovation	Innovation through services	Paradigm innovation
Retailing	Scanning registers/stock replenishment systems	New shop formulae/new franchise schemes	Green or "organic" product/home delivery	Retail consultants introducing new formulae or marketing strategies	E – commerce
Transport and logistic services	On board computers	New logistic concepts mostly streamlining value chains and adding information to it	Outsourcing of transport and "light" production/ assembly	Shippers offering clients tracking and tracing facilities and so contribute to reductions in stocks	Containarisation, e-commerce
Financial services	New distribution channels based on technical platforms (SMS alerts, new mobile devices), back office automation	New (customised) financial service concepts, multi channel management	Green banking, products covering various stages in life e.g. starters mortgage or estate planning	Financial constructions e.g. sale and lease back	Multi-functional smart cards (including non financial functions)

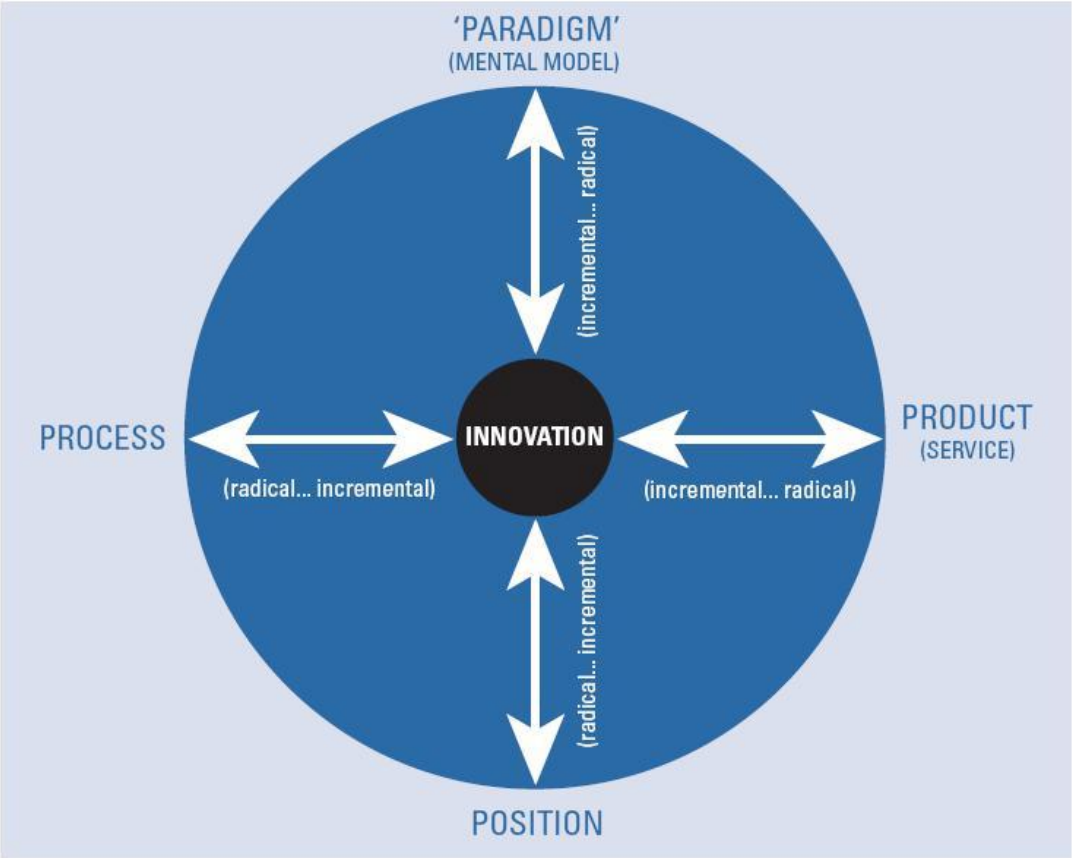
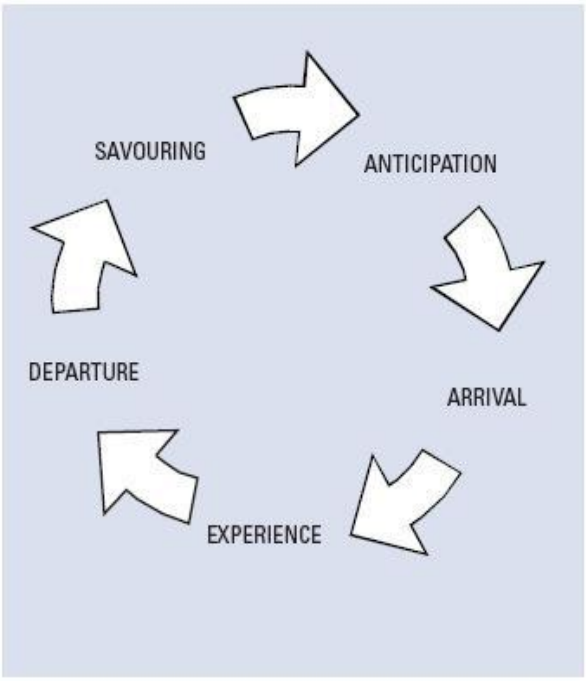
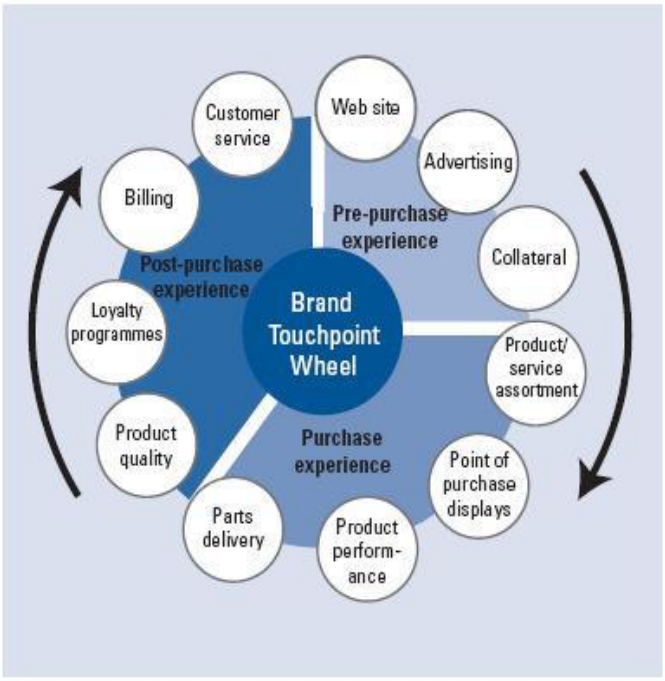


Figure 1. Innovation forms.



Source: Walt Disney World



Source: Dunn and Davis (2003)

Figure 2. (a): Service journey: (a) guest experience cycle; (b) brand touch point wheel.

premium 'designer' products. Each of the 4Ps of innovation can take place along an axis running from incremental through radical change; the area indicated by the circle in Figure 1 is the potential innovation space within which an organization could operate (Tidd et al., 2005).

CONTENTS OF INNOVATION

Innovation in services has traditionally been seen in terms of product innovation. It became clear in the field of research that this mindset usually did not match how the organizations studied saw or managed innovation. As opposed to a single transaction or purchase experience that involves a service product and a service process, the service is seen as a journey that spans a longer period of time and consists of multiple components and multiple touch points. The total customer experience is the result of every element in this journey. Another way of describing the customer journey is as a film that consists of multiple scenes.

Typically, a customer journey is considered to start long before the actual transaction and ends long after the transaction is completed, preferably with recommendations to other people. Journeys are often cyclical, with the end of one cycle leading into another. See for example the Walt Disney world guest experience cycle in Figure 2. Some of the characteristics of taking a journey perspective on service delivery include:

i) A customer experience is built over an extended period of time, starting before the actual sales experience or transaction to include pre and post purchase experiences;
ii) The journey consists of numerous touch points between the customer and the organization or the brand; these touch points need to be carefully designed and managed; and
iii) Each touch point has the potential for innovation.

The journey model has its origins in the work on service blueprinting and service mapping by Shostack (1984), Kingman-Brundage (1992) and Bitner (1993). Several firms had developed a technique for mapping customer journeys such as 'Moment Mapping ®' (Shaw and Ivens, 2002) and 'the Brand Touch point Wheel' (Davis and Dunn, 2002). An example is shown in Figure 2.

An example of an extended service journey is the one designed by Virgin Atlantic for its upper class passengers. Having booked, upper class passengers are picked up by a chauffeur-driven car or Limo-bike motorcycle, driven to the airport, go through a unique drive-thru check in process and are dropped off at customs, close to the entrance to the Virgin Atlantic clubhouse. The clubhouse has an incredible range of services from restaurants and a bar to a massage and hairdressing salon. At weekends there are activities there, for example a Gibson guitar clinic, to engage passengers. Onboard, the plane in addition to flat-bed

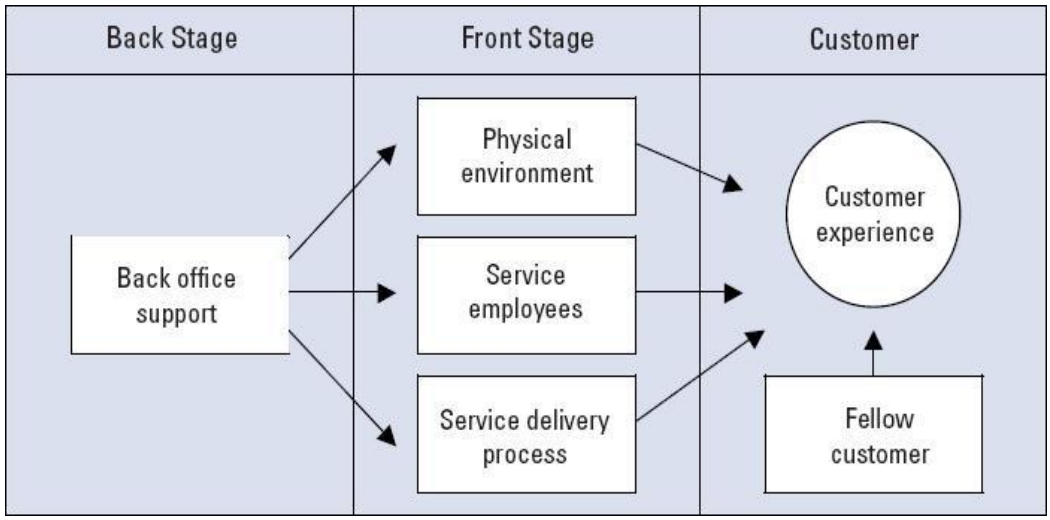


Figure 3. Design areas.

seats has a bar where passengers can congregate and an in-flight massage service. At the airport of arrival, passengers can go to an arrival lounge to relax, have breakfast, shower and have a foot massage, before being escorted to their final destination. Although the core offer is the transatlantic flight, Virgin Atlantic recognized the complete journey involved and has innovated at every step.

INNOVATION DESIGN

In addition to applying the service as a journey perspective, service providers and design agencies distinguished five distinct design areas:

1. Physical environment ('stage')
2. Service employees ('actors')
3. Service delivery process ('script')
4. Fellow customers ('audience')
5. Back office support ('back stage')

These five design areas directly or indirectly contribute to a customer's experience. In a restaurant for example, the dining experience consists not just of the quality of the food and drinks but is heavily influenced by the atmosphere and comfort of the venue, the behaviour of the staff, the presence of other guests, and the flow of the meal, for example waiting to be served. The areas are often referred to in theatrical terms, emphasizing that a service can be seen as a performance that involves a stage, actors, a script, an audience and a back stage area (Grove et al., 1992).

Physical environment

The physical environment is the setting in which a service delivered or experience is created. The physical environment is considered a key variable influencing customer perceptions and behaviour and has been studied from the perspectives of environmental psychology (Mehrabian and Russell, 1974), retail atmospherics (Kotler, 1973; Turley and Milliman, 2000) and 'servicescapes' (Bitner, 1992). The environment performs different roles which include accommodating customers and employees, guiding behavioural actions, such as where to queue, and providing cues about the type of service to be expected. Innovations regarding the physical environment include designing for the journey and sensory design.

Innovation: Design for the journey

Physical environments were often designed with the customer's journey in mind, including the ease of getting in and out, how people move around inside to avoid crowding or congestion and making strong first impressions. Architecture is designed to generate a strong visual impact, creating a "wow" impact.

Innovation: Sensory design

Another area for innovation in physical environments is sensory design. This is a design that stimulates all the five senses of sight, sound, touch, smell and taste. Deliberately addressing the senses is a powerful way of influencing customers' emotions and the experience they have.

Service employees

It has long been known that the interaction between customers and the people delivering the service is a

major factor influencing customer's experiences. The major five parameters of measuring service quality are explicitly related to employees' behaviour: responsiveness, or the willingness to help customers and provide prompt service, assurance, or the knowledge and courtesy of employees and their ability to inspire trust and confidence, and empathy, or the caring and individualized attention the firm provides its customers (Parasuraman et al., 1988). Two areas for innovation are engaging with customers and managing the employee's experience.

Innovation: engaging with customers

In most of the successful companies, it was important for staff to engage with customers, or build emotional connections with them. This makes the customer's experience more personal, more positive and more memorable. As a growing trend, most international hotel chains train their staff for this skill. As part of this training, doormen are taught to recognize different customer segments and respond to them with a response tailored to that particular person. In addition, employees are encouraged to have fun themselves, so that their positive emotions can rub off on customers via a process called emotional contagion (Pugh, 2001).

Innovation: managing the employee's experience

A second innovation area related to service employees was the employee's experience. One key to excellent service was satisfied and motivated employees. For example, management at Walt Disney World has specified four guest expectations and four cast (employee) expectations. The cast expectations were: (1) Make me feel special, (2) Treat me as an individual, (3) Respect me and (4) Make me knowledgeable. Walt Disney World puts a great deal of effort into creating an environment where employees feel valued and supported so that, in turn, they will do their job well and take better care of guests. This reasoning is consistent with the service-profit chain model, developed by Heskett et al. (1994). This model links employee's satisfaction to customer's satisfaction, proposing that satisfied employees will be more productive and more loyal and will provide better service value, which will lead to greater customer's satisfaction.

Service delivery process

A service delivery process is a series of actions or events that take place for the delivery of service. In theatrical terms, the service delivery process is the script for the service performance, defining the acts, scenes, intervals and actors involved. The service delivery process for a large part determines the customer's journey or the flow of the customer through the organization.

Innovation: Managing start, end and peaks

This is one of the key innovations for experiential services regarding the design of a flow of service delivery process in terms of its start, end and peaks. This is based on principles from behavioural and cognitive science regarding how people experience the passage of time and interpret events after they are over. For example, customers generally do not remember every single moment of an experience. Instead, they remember the trend in the sequence of pain and pleasure, the high and low points and the ending (Chase and Dasu, 2001). Research shows that positive performance trends lead to more favourable evaluations and the end of an experience has a greater impact on customer's perception than the beginning (Hansen and Danaher, 1999). Furthermore, Verhoef et al. (2004) found that in addition to average performance, positive peaks contribute to customer's satisfaction.

Fellow customers

Experiences are not only influenced by interaction with the service providers, but also by the other customers present. In theatrical terms, other customers form the audience, and crowding, unruly or unanticipated behaviour can destroy a service performance (Grove et al., 1992). On the other hand, socialising or bonding with other customers can make an experience more enjoyable (Martin and Pranter, 1989). This is enhanced when they are in close proximity to each other, have to share space or resources and waiting is involved (Martin and Pranter, 1989). Yet, the role of fellow customers has received little attention in practice and in the literature, except for issues of crowding and social density. An illustration of this is the creation of a community around a product or service.

A good example is Harley-Davidson, with their Harley Owners Group (H.O.G.). H.O.G. was established in 1983 as a company-sponsored enthusiast organization in the motorcycle industry, designed to enhance the Harley-Davidson lifestyle experience and bring the company close to its customers. H.O.G. currently has over a million members. Benefits include magazine, road-side assistance, a touring handbook, events and much more. In addition to this, one of the key benefits of H.O.G. is the opportunity to meet fellow enthusiasts through the local chapters or events that are organized nationally.

Back office support

The physical setting, service employees, service delivery process and fellow customers directly influence a customer's experience and take place front stage. However,

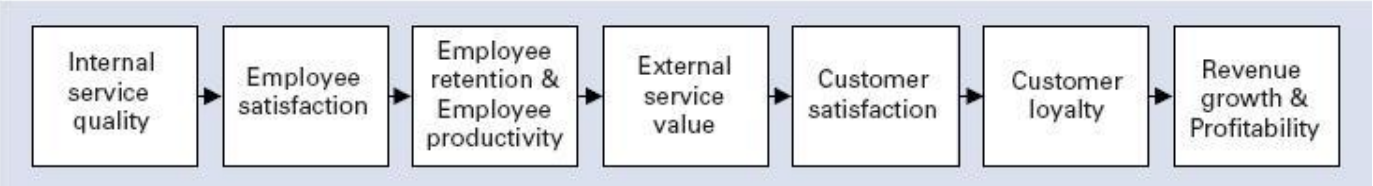


Figure 4. Key drivers of performance in service organizations and their inter-relationships.

there are many things that go on back stage and influence the front stage performance. Most service organizations have a considerable number of back office employees that are vital to the customer's experience, yet generally do not interact with customers. As a result, the main innovation related to back stage areas of service delivery involved connecting back office employees to the front stage experience.

Innovation: Connecting back office employees to the front stage experience

Several companies argued that in order to deliver great customer's experiences, the whole service supply chain should be focused on the customer's experience and not just the front stage parts. Yet, this can be difficult for back office employees rarely meet customers and are quite far from the actual experience creation.

MEASURING SUCCESS OF INNOVATIONS

Because of their intangibility and heterogeneity, the quality of services is often more difficult to establish than the quality of physical goods. This is even truer for experiential services, as customer experiences are inherently unique and personal. There are a number of established models for performance measurement in services. A widely used one is 'the service-profit chain' developed by Heskett et al. (1994) that looks at the key drivers of performance in service organisations and their inter-relationships (Figure 4). The model links internal and external service quality to employee's satisfaction, customer's satisfaction, customer's loyalty and eventually profitability. Each of these links can be measured and the results suggest actions that can lead to better financial results.

Within the service-profit chain, an important area is external service value which is the relationship between price and service quality. Service quality is defined as the discrepancy between consumers' perceptions of service offered by a particular firm and their expectations about firms offering such services. The SERVQUAL framework (Parasuraman et al., 1988) is a widely accepted model of service quality.

This difficulty in predicting the financial returns could have two negative effects. On one hand it is easy to over-invest and have a great and innovative service that loses money while on the other hand, the difficulty in predicting returns can lead to unwillingness to invest in service innovation.

Summary and Implications

Innovation can take place at any of the touch points in the customer's journey, including pre and post purchase experiences. Organisations should be constantly looking for incremental innovations aimed at improving the customer's journey.

From a designer and innovator's perspective, the customer's journey is a powerful focus for analysing and designing memorable customer's experiences. The customer's journey perspective is very different from the current models and frameworks used for discussing and measuring service innovation. Similarly, the innovation content areas such as using fellow customers or sensory design are often neglected in current views of service innovation. This is so despite the fact that there is a strong theoretical background behind these areas in the field of services management.

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