

Including Customers in Co-Design to Market Test Health Services

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Abstract

This paper will explore the concept and meaning of service co design as it applies to the design, development and market testing of health services. The results of a pilot study in health service co design will be used as a research based case discussion, thus providing a platform to suggest future research that could lead to building more robust knowledge of how the consumers of health services may be more effectively involved in the process of developing and delivering the type of services that are in line with expectations of the various stakeholder groups.

Keywords: Customer orientation, Co design, Service dominant logic, Health service design, Market testing

Consumer Focus Background

Early studies of marketing focused mainly on the distribution and exchange of manufactured products (Marshall 1927). Marketing scholars directed attention to the functions essential to facilitate the exchange of goods through marketing institutions (Cherington 1920). In the early 1950's, the functional school began by introducing a decision making approach to both management and marketing functions with an overarching focus on the customer (Drucker 1954, Levitt 1960). These early approaches had strong ties to the standard economic model (for example see Kotler 1972). By the early 1980's, new lines of thought began to emerge in the form of relationship marketing, quality management, market orientation, value chain management, resource allocation and network configurations (Vargo and Lusch 2004a, p 3).

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Another notable arrival was the break with product marketing and the emergence of services marketing (Shostack 1977). By the 1990's, some scholars began to recognise marketing as an innovating and adaptive force, that seeks to align the needs of the customer with the offerings of the organisation (Day 1999, Day and Montgomery 1999). At this time there were calls for marketing to move away from its previous dominant logic of the exchange of tangible goods, towards a more comprehensive dominant logic that included the exchange of intangibles, specialised skills, and knowledge and processes (Vargo and Lusch 2004a). Another author summarises the essence of this move towards a universal service and customer centred view of the exchange process (Gummesson 1995, p 250);

Customers do not buy goods or services: they buy offerings which render services which create value...The traditional division between goods and services is long out-dated. It is not a matter of redefining services and seeing them from a customer perspective; activities render services, things render services. The shift in focus to services is a shift from the means and producer perspective to the utilisation and the customer perspective.

This change in focus of the exchange process reflected the change away from tangibles and toward intangibles such as skills, information and knowledge, and toward interactivity and connectivity and ongoing relationships. Therefore the interest and emphasis was seen to change from producer to consumer (Vargo and Lusch 2004a). It has been observed that there was a pressure on many service organisations to interact with potential users and obtain input from them during a new service development program (Alam 2002, p 250).

Service Dominant Logic

In more recent times the shift of emphasis to customer centred exchange of value has become known as, 'service dominant (SD) logic'. It is made up eight foundational premises (Vargo and Lusch 2006, p 44). These premises help guide the application of the SD concept in academic discussion.

They are also useful for setting a framework and foundation for applied concepts in practice such as the co design of health services which is the subject of this paper. The premises are summarised below;

- The application of specialised skills and knowledge is the fundamental unit of exchange: service is exchanged for service
- Indirect exchange masks the fundamental unit of exchange: micro specialisation, organisations, goods, and money obscure the service-for-service nature of exchange
- Goods are distribution mechanisms for service provision:- 'activities render service; things render service'- goods are appliances
- Knowledge is the fundamental source of competitive advantage: operant resources, especially know-how, are the essential component of differentiation
- All economies are service economies: Service is only now becoming more apparent with increased specialisation and outsourcing; it has always been what is exchanged
- The customer is always a co creator of value: there is no value until an offering is used- experience and perception are essential to value determination
- The enterprise can only make value propositions; since value is always determined by the customer (value in use), it cannot be embedded through manufacturing (value in exchange)
- A service centred view is customer oriented and relational: operant resource being used for the benefit of the customer places the customer inherently in the centre of value creation and implies relationship

What is co Design?

The service dominant (SD) forms the underlying philosophy of the co design concept. It builds off one of the eight premises outlined above ie, that the customer or user of a service is always the co creator of value in an exchange process. Co design has been described as an umbrella term covering both community design and participatory design. As such, the term refers to the effort made to combine views, inputs and skills of people with many different perspectives to address a specific problem (Bradwell and Marr 2008, p17). The term 'customer engagement' has also been used in describing new perspectives in customer involvement and management (Verhoef, Reinartz and Krafft 2010).

Some see co design as an answer to the need for constructive meetings between several stakeholders (Albinsson, Lind and Forsgren 2007).

Others see a variation to this as a user-centric collaborative process in the form of experienced based design (EBD). This has the distinctive feature of direct user participation in the design process for services and a focus on the designing experiences as opposed to the systems and process focus followed under a traditional management driven organisational development (OD) perspective (Bate and Glenn 2007, Johnston and Kong 2011). Some researchers observe that co design is increasingly used by organisations to ensure that new products and services are aligned to consumer needs and requirements (Menguc, Auh and Yannopoulos 2014).

The co design concept is sometimes seen as applying mainly to the development of new products and services (Lundkvist and Yakhlef 2004, Nambisan 2002). Other authors see that customers can be involved in the product or service design process in longitudinal or lateral dimensions (Kaulio 1998). The longitudinal involvement would bring the customer into the development steps of specification, concept development and prototyping and market testing. The lateral approach would see different perspectives of customer consideration; *design for* (customers being the primary input in the design process), *design with* (customers involvement in providing solutions to design issues), and *design by* (active participation of customers in design).

Although the application to new product and service management is appropriate and useful, co design has a broader and longitudinal contribution to the ongoing service provider- service user relationship (van Doorn et al 2010). Hence co design embraces a second premise, that of a customer oriented perspective that emphasises the relational nature between the service provider and service user. This broader application becomes most important and strategic in dealing with organisations that must deliver high quality and customer centric services consistently and on an ongoing basis (Oyedele and Simpson 2011). Such a situation exists in health service delivery which will be the focus of this paper.

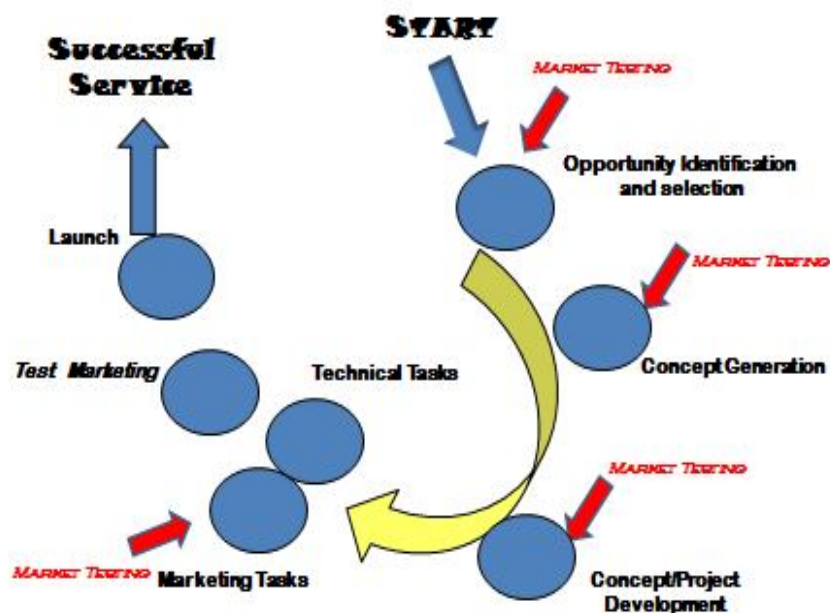
Co-Design as Market Testing

Service co-design can be viewed in the broader context of the new service design process demonstrated in Figure 1 which shows the broadly accepted phases that need to be carried out in order for a new product or service to be successfully developed and launched to its target markets. These phases include opportunity identification and selection, concept generation, concept development, completing the technical and marketing tasks, possibly test marketing before finally launching the service to market (Crawford and Di Benedetto 2011).

Other service researchers have seen the need to expand this model to a more comprehensive ten step model which includes; strategic planning, idea generation, idea screening, business analysis, formation of a cross functional team, service design and process design, personnel training, service testing, test marketing and commercialisation (Alam 2002).

Figure 1: New Service Management Process

Figure1 **New Service Management Process**



As there are many unknowns when a service is developed, market testing is a concept used as a form of risk management to minimise the chance of new service failure. Main causes of failure have been identified as, '*lack of need*'; '*service does not fit the need*'; '*poor or inadequate marketing*' (Crawford and Di Benedetto 2011, p 454). Hence the careful application of co design concepts can be used as market testing mechanisms at various stages of the new service development process. Appropriate points of possible application to involve consumers are indicated by the arrow points (labelled Market Testing) shown in Figure 1;

Opportunity identification: have consumers identify new service opportunity areas
Concept generation: have potential consumers assist in the generation of new service concepts and specifications

Concept development: have potential consumers involved in the longitudinal process of helping to develop the new service

Marketing tasks: have potential consumers suggest ideas for the effective marketing of the new service

Test marketing: selected consumer segments could be the target for test marketing the service offer where results are evaluated before moving to the wider general launch or roll out of new services

Co Design and Health Services

Healthcare policy in the 1980's and 1990's were seen to focus on structural rearrangements as the means for securing improvements in the efficiency and performance of health service. More recently, from around 1998, policy effort has increasingly been directed at bringing about cultural changes within the organisations responsible for health service delivery. Cultural change is seen to be about shifts in the basic values, beliefs and assumptions that underpin patterns of behaviour in the delivery of care and is usually expected to be delivered through life-long learning and clinical governance (Hyde and Davies 2004).

At the same time there has been considerable effort directed to service redesign that looks to streamline the flow of service delivery (Desombre et al 2006).

Central to this concept is the premise that services should be designed more around the needs of patients, hence the label of, 'patient centred care'.

An important part of this philosophy is the recognition of the need for patients to be more actively involved in the re design and delivery of organisational structures and processes that will bring a progressive and collective realisation of this patient centred focus (Kendall 2003).

One recent study looked at the impact of a particular variety of co design in health services in the form of experience based co design (EBD).

This study attempted to assess the implications of EBD on organisational development (OD) and health care improvement by way of new approaches, methods and processes. This empirical initiative was part of a yearlong study with the English National Health Service (NHS). The research case involved prototyping, piloting and field testing an EBD processes part of a wider design methodology in an acute hospital with the aim of improving the care and treatment experience of head and neck cancer patients' and their careers. This process involved staff, senior managers and physicians working alongside patients and their careers (Bate and Robert 2007 (a)).

EBD is a sub field of the design sciences with the distinct features of direct user participation in the service design process and a focus on designing experiences as opposed to systems or processes. It is seen to be made up of two core elements, a participatory element, which sees users directly involved in the design and development for a product or service, and an experience element, which focuses on improving the whole experience of that product or service in terms of how it looks and feels (Bate and Robert 2007, p 42). It should be mentioned that this type of participatory co design is not solely a user led activity. It has been described as more of a partnership between internal staff and service users engaging in service dialogue as they jointly search for new ways to improve the service and service use experience (Forlizzi and Battarbee 2004).

Key lessons from this EBD case study were seen to be that this approach suggests new value commitments and orientations where the client becomes not only user of the services offered but also part of the organisation. Experience from this case study suggests that there is a strong case for restoring staff to the service design equation to thus bring a better balance and a more away from the one sided notion of a patient led design approach to health services.

Another finding is that the idea of good design in health services is similar to good design in any sphere in that it will include attention and effectiveness in the three core elements of service function, service engineering design, whilst providing good experience for the user of the service (Bate and Robert 2007, p64).

More recent studies have also pointed out the importance of paying attention to the emotional needs of customers in the successful delivery of services (Schoefer and Diamantopoulos 2009), and to more seriously consider role differences in the service co-creation process (Gill, White and Cameron 2011) .

Co Design Pilot Study

A field trial of a recent project will be reviewed for the purpose of gaining a better understanding of the first hand issues in implementing co design strategies in health care.

Co design is seen to be an important evidence based initiative in government-citizen engagement within New South Wales Health. Rather than conducting large surveys to gain insights into patient's views of the public health system, experienced based co design is a methodology that is part of the trend towards conducting meaningful discussions about the nature and types of changes that need to be made to improve health service experience of patients and carers. Co design can also be seen as a process of market testing of new and redesigned health services.

In 2006 the New South Wales State Plan called for all government services to increase customer satisfaction (NSW Government 2006). In response to this call, New South Wales Health initiated a co design program to investigate the experiences of patients and carers within the emergency departments (ED) of public hospitals. These were seen to be the 'front door' of public hospitals. Emergency departments have unique and taxing demands in this gateway role they play into the public health system as is captured in the following insight (Glatter, Martin and Lex 2007);

Most patients are strangers; they present with atypical manifestations of the vast spectrum of illnesses seen in the ED (approximately 10,000 possible diagnosis) and decisions relating to their care must be made within a succinct period of time. The patient's history may be sparse or unobtainable and definitive studies are often not available for potentially life-threatening conditions.

The EP (emergency physician) must take multiple decisions on a number of patients simultaneously, with differing degrees of acuity. The density of decision making is greater in the ED than any other area of medicine.

The New South Wales Health authority called for expression of interest from the various Area Health Services in that state that would be willing to take part. The objectives of this co design project were to;

- 1 define clear accountabilities for different groups of ED clinical and non-clinical staff in relation to the patient and carers experience
- 2 socialise and reinforce other patient and carer experience measures into ED performance management system to ensure sustainability
- 3 obtain practical experience in the deployment of co design tools, including collection of patient and carer experience data and other examples outlined in the experience based literature (Bate and Robert 2007 (b))

Co design trials were carried out in three public New South Wales hospitals. The goal was to strongly engage frontline staff, patients and their carers in identifying the best and worst aspects of their experience, and to co design solutions to improve that experience within the emergency departments of those hospitals. The sequence of activities designed to evaluate the co design trials, usually followed the following steps;

- in-home patient and carer interviews about their ED experience
- complaint and complimentary records examined
- staff stories and surveyed observations of particular ED encounters
- root cause analysis data (incident records and analysis)
- co design project staff observations of ED encounters along the seven patient trajectory points, namely; pre arrival, arrival in ED, triage, waiting room, emergency room, transfer, and re-presentation.

Pilot Study Evaluation

An evaluation of a trial was subsequently conducted using data from individual hospital reports on the trials, stakeholder interviews, legislative policy, academic literature, and national emergency Department data.

The analysis applied across data sources, was based on thematic discourse analysis (Iedema et al 2004). Interviews with staff, patients, and their carers were seeking answers to the following questions;

- What specific improvements did co design deliver for patients, carers and staff in the emergency departments involved in the project?
- What did it feel like to take part in co design as compared to other redesign approaches?
- What did participants identify as the 'must do' or key success factors in co design?
- What can the pilot tell us about the likely sustainability and spread of improvements brought about by co design?
- What lessons can be drawn from this pilot about future co design projects in New South Wales?

Key findings to this evaluation study have been compiled under the subject headings of: consumers as patients, clinical and project staff.

Although consumer response numbers were small due to the transient nature of ED patients and their carers, they were generally appreciative of being asked to participate, but could not always find the time to be involved in longitudinal patient studies. Some thought the forums that were held to discuss ED-patient encounters, were productive and satisfying. Through the interaction processes, they gained insights into the workings of the ED and health service delivery system. Because of strong presence of health professionals, there were at times unsure about the degree and level of participation expected from them. Due to the fleeting nature of contacts with the ED staff, there were suggestions of the lack of continuity in the ED-patient communications process. Key expressions on their individual ED experiences revolved around frustrations with waiting times and the lack of timely information on ED events and activities, and the lack of parking and waiting room comfort.

Clinical and co design project staff was generally positive about the consumer contact made during the trial project. The patient encounters provided a valued consumer perspective and feedback on each ED experience. Interview feedback also allowed clinicians to reflect on their own practice and areas for service improvement.

Some interviewers observed that traditional health service cultural values held by some clinical staff inhibited the acceptance of the new co design approach to health service delivery.

Project staff stated that patient involvement as a means to validate staff understanding of patient experience.

Interviews were interactive and conducted mainly in the familiar environment of their own homes. Hence staff was able to gain in-depth understandings of consumer observations and concerns.

Implications for Health Managers and the Future Marketing of Health Services

The co design survey at the three NSW hospitals provided some early indications of the key issues involved in the design and implementation of consumer focused health service strategies. These early indicators would provide valuable feedback and guidelines for later trials, and the eventual role out of a co design policy for the whole NSW hospital network, and beyond to other Australian states and territories.

Some early recommendations included the appointment of a permanent consumer liaison person that maintains a regular schedule of consumer contact using face to face approaches that can yield meaningful, in-depth feedback. However, other forms of consumer contact are seen to be invaluable including attendance at hospital events and relevant meetings. Providing regular feedback on the implementation of plans and other improvements is seen to be critical to building and maintaining positive hospital- community relationships.

Recognising the sometime difficult task of recruiting suitable co design project staff, all future co design projects and activities need to have the strong support of hospital managements and staff before any initiative is implemented. Such pre planning would help prevent inhibitors that sometime occur by way of lack of readiness and awareness of the key participants. Hospital staff showing enthusiasm and aptitude for co design involvement could be recruited as ongoing ambassadors to future co design activities. For example the implementation of such staff functional flexibility policy was seen to provide positive benefits in case study reports in the UK public health service (Desombre et al 2006, p 145).

Innovation in service design has been seen to be rooted in traditional new product development practices (Ordanini and Parasuraman 2011).

With insights provided by the emerging service dominant logic and trials of the co design process, new approaches to health service innovation and development, it can be expected that new health services are more effective and consumer focused. These insights can be seen as an effective form of market testing at various stages of the health service development process.

New ideas and changes need promotion and support if they are to become generally adopted and main-stream. Promotional tools used by individual hospitals and area health service authorities may include communications via newsletters, seminars, social meetings, and subject related emails. Emerging on-line social networks will also provide opportunities to build links with those that may contribute to the progressive improvement in health service design and delivery. These important marketing support activities can be progressively strengthened using co design to test market new and re designed health services.

Setting key milestones, benchmarks and relational outcomes are seen to an important aspect of co design planning. This would prevent a shallow or cosmetic adoption of co design principles and ensure that meaningful outcomes were being achieved over time. Results of ongoing initiatives should be made visible through the promotional channels previously mentioned.

Summary and Conclusions

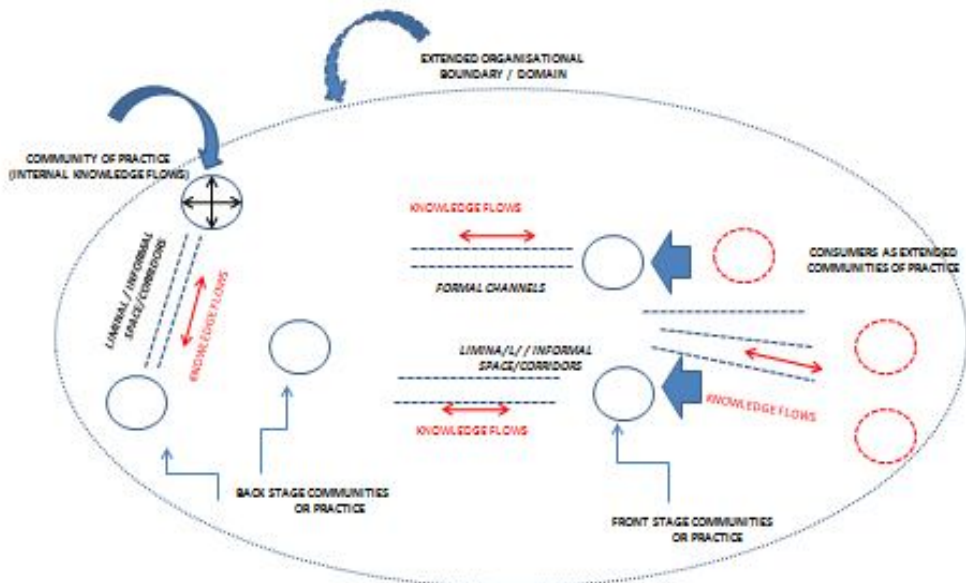
This article has shown that there have been numerous approaches to the idea of involving consumers in the process of product and service design. In the 1950's the 'functional school' in both management and marketing brought with it the idea of the customer as being the focus of an organisation's *raison d'être*. By the 1980's new lines of customer focus began to emerge including the topics of relationship marketing and value chain management. The early 1990's saw the emergence of marketing as an adaptive function of aligning the needs of both customer and organisation by moving away from the previous dominant logic of the exchange of tangible goods towards a more comprehensive dominant logic related to the service exchange experience of consumers. This movement is known as service dominant logic.

This philosophy recognised that the exchange process that both the organisation and the customers involvement was essential to the eventual delivery of value to both the customer and the stakeholders of the organisation.

This approach forms the foundation of co design where customers become actively involved in the progressive improvement of the consumption experience. Figure 2 attempts to demonstrate the key components of a comprehensive co design process. Here an organisation is actively engaged in the ongoing process of knowledge exchange with customers for the purpose of seeking strategies for continual improvement of the consumption experience. A key to the success of this process is to create and manage an ongoing forum where the exchange of ideas between the appropriate organisational staff and representative stakeholders takes place. These ideas then need to be prioritised and effectively actioned through the internal product/service development, modification and delivery processes.

Figure 2: Knowledge Flows in Health Communities of Practice

Figure 2 Knowledge Flows in health communities of practice



Future Research

In recent times, public service sectors in various countries have gained an active interest in using the co design concept as one approach to assist public organisations to fulfil new charters which include a more customer oriented approach to delivering government services. One active branch of government interested in moving to a more customer orientation has included public health.

The scope of interpretations of what co design involves range from seeking one-off customer opinion, to the active customer involvement in the ongoing design and improvement of the consumption experience. This article has reviewed research on one small trial of a co design experience in public health with the view to gain a better understanding of the practical issues involved in implementing the co design concept in the delivery of public health services to one Australian state government region in NSW, for the purpose of making a contribution to the co design debate. Because each health service environment will present its own unique challenges and conditions (Hyde and Davies 2004), opportunities to generalise research findings to other situations need to be made with caution. Future research and comment could look at co design experiences in other locations and in other public service domains and thus begin the long process of developing sound general principles of good co design theory and practice in addition to contemporary and supportive marketing concepts and principles.

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