Customers as Resource Integrators: Styles of Customer Co-creation

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Abstract

Research Paper

Purpose
Drawing from S-D logic this paper builds on the proposition of customers as resource integrators, identifying six styles of customer co-creation, and linking customer co-creation styles to outcomes.

Design/methodology/approach
A theoretical framework is proposed linking customer co-creation styles to outcomes. The research is based on twenty in-depth interviews and four focus groups of patients across a wide range of cancers, gender and length of treatment with oncology patients at two different clinics.

Findings
Six styles of co-creation are identified. They are "Team Manager", "Isolate Controller", "Partner", "Spiritualist", "Adaptive Realist" and "Passive Compliant". Individuals who exhibit an "Adaptive Realist" style tend to demonstrate high quality of life, on psychological, existential and support dimensions. In contrast, the lowest quality of life was evidenced by those exhibiting "Passive Compliant" and "Isolate Controller" styles.

Practicality
Our findings provide insights into which customer co-creation styles offer greatest patient outcomes.

Research limitations/implications
The present research provides a starting point for further research on modelling the relationship between customer co-creation styles and outcomes.

Originality/value
This is the first study to operationalize co-creation, relating co-creation to co-production, and demonstrating a direct relationship between co-creation activities, co-creation styles and outcomes. Furthermore, the research develops theory, building on S-D logic.

Keywords: S-D logic, resource integrators, customer co-creation styles

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Introduction

The traditional wisdom is that value is created by a "producer" and purchased by a customer for "consumption." Indeed, the consumer behavior literature has focused more on the consumer's buying decision than on what the customer *does* (Xie, Bagozzi and Troye 2008). More recently, this producer-consumer model has begun to be replaced by a model of co-creation of value, a model in which value is created through the joint activities of providers and customers but also the activities of others in the networks of these parties.

This shift toward a model of the co-creation of value has partial roots in the service-marketing literature, through the idea that production and consumption are "inseparable" (ZBP 1983) and in the "business-to-business" (B2B) marketing literature, in which the producer-consumer distinction is clearly inappropriate. But it also has roots in the mainstream business literature, such as Prahalad and Ramaswamy's (2000) work on the subject and Toffler's (1980) coining of the term "presumption." Arguably, there are other roots. More generally, Vargo and Lusch 2004; 2008a) have suggested that the idea of co-creation of value is part of an evolution toward a general reorientation for marketing, value creation, and exchange, which has become known as "service-dominant (S-D) logic."

While sharing a common, underlying concept, the conceptualizations of the co-creation associated with these various roots differ. Partly to capture these diverse meanings, Vargo and Lusch (2008a; see also Vargo 2008) distinguish broadly between "co-creation of value" – the unavoidable, multi-party nature of value creation -- and "co-production" – the less-compulsory, more effortful involvement of customers in provider processes (e.g., design of the service delivery, self-service,

etc.). Furthermore, almost all treatments of the co-creation of value seem to imply that it is not a homogeneous process but rather one for which there can be multiple approaches. That is, different individuals might choose or have the ability to become involved in the co-creation process in different ways. Yet, with some exception (e.g., Baron and Harris 2008) these alternative approaches have not been studied.

The purpose of the present research is to investigate empirically a service provision process in order to tease apart multiple approaches to co-creation and suggest a classification schema, at least in one service setting, as well as to begin to explore the relationship between co-creative approaches and outcomes (e.g., quality of life). The service setting is healthcare, specifically cancer treatment. Healthcare, and oncology related healthcare specifically, are chosen because they provide opportunities for a full range of co-productive and co-creative activities and styles.

To accomplish these purposes, first we review the literature on co-creation of value, particularly as approached through S-D logic and related literature. Next, we discus co-creation of value in a healthcare context. We then report the results of an ontologically based, qualitative study. Finally, we discuss the findings and suggest implications.

This study contributes in four important ways. First, this study using twenty interviews and four focus groups represents the first in-depth empirical investigation of multiple approaches to co-creation of value identifying a range of activities (behavioral and cognitive). Second, we discuss the multiple approaches to co-creation, identifying six styles of customer co-creation: "Team Manager", "Isolate Controller", "Partner", "Spiritualist", "Adaptive Realist" and "Passive Compliant". Third, we show that these styles appear to apply to both patients undergoing treatment as well as those in post treatment phases. Fourth, individuals who exhibit an

"Adaptive Realist" style tend to demonstrate high quality of life, on psychological, existential and support dimensions. In contrast, the lowest quality of life was evidenced by those with "Passive Compliant" and "Isolate Controller" styles.

We define customer co-creation in healthcare service as "activities with self or in collaboration *with* members of the service delivery network including self, family, friends, other patients, health professionals and the outside community". The essential features are that (1) activities are defined as 'performing' or 'doing'; (2) these activities comprise two components (cognitive and behavioral) and; (3) it involves effort on the part of the customer. It is important to note the 'doing' of things, not merely being present at the service delivery point. Furthermore, the doing is not "in" or "on" but "*with*" self and others in the service network. This conceptualization of co-creation is consistent with Payne et al's (2008) and Vargo and Lusch's (2008a) discussion of the customer value creation process as a series of activities performed by the customer as part of a multiplay of activities to achieve a particular outcome. Co-production is the less compulsory, more effortful involvement of customers in the process such as in design, self service and other extra-curricula activities.

Conceptual Development

The Role of Co-creation

Customers are not merely passive recipients of service and the associated value. Indeed, several researchers have identified the notion of the customer as an *active* rather than passive recipient of service (c.f. Toffler 1980; Kotler 1986; Payne et al 2007; Xie, Bagozzi and Troye 2007). Vargo and Lusch (2008b) argue that the customer is "endogenous to both its own value creation and that of the firm" (and Lusch 2008b, 35). In varying degrees, customers play an active role in the creation and provision of service and in the realization of its benefit (value) (Prahalad and

Ramaswamy, 2000; Vargo and Lusch 2004; Tax, Colgate and Bowren 2006). Some customers may be involved with service-provider activities and be regarded as 'part time employees' of the organization but all involved in integrating the service they receive with other aspects of their lives to some degree before there can be benefit .

The concept of customer participation is not particularly new; what is new is the recognition that the service providers are only providing partial inputs into customers' value-creating processes and thus the importance of coopting and empowering customers' co-creator role (Bendapudi and Leone, 2003; Vargo and Lusch, 2004). Arguably, this co-creative role of the customer is expanding, enhanced by the increasing education of customers, the role of technology in self-service and the ubiquity of the Internet.

While it is well recognized that co-creation is important from the organization's perspective, in so far as it increases "productivity" (Chase, 1978), little empirical research has addressed the *customer's* role in value co-creation and its subsequent effect on important organizational and customer outcomes, such as quality of life. However, although organizations are seeking to increase customer co-creation, there is evidence that customers frequently fail to optimize their co-creation role (Chase and Stewart, 1994; Dellande, Gilly and Graham 2004). For example, at the most basic level, the World Health Organisation has highlighted the failure of patients to take their prescribed medication correctly, often resulting in disastrous outcomes (Tax et al., 2006).

Resource Integrators

This dual role in value creation requires further elaboration. In S-D logic, (Vargo and Lusch 2004; 2008a), co-creation of value is accomplished through *resource integration*. More specifically, both what have traditionally been referred to as the

firm and the customer are identified as *resource integrators*, with each benefiting from the service of the other, and the integration of resources from other private (e.g., personal, internal to the firm), public (e.g., infrastructure, regulations, etc.), and market-facing (e.g., other firms) sources. The firm then can be seen as providing input into the customer's own value creating activities. That is, they are *co-creating value* (benefit for the customer). Additionally, the customer can assist the firm in this service-provision process in varying degrees, through information sharing, self service (e.g., taking medications), and assisting the medical staff in the administration of treatments -- that is, through *co-production*. In S-D logic, in economic exchange, *value is always co-created* but co-production may or may not be present. Thus, *co-production is a relatively optional, and more effortful form of the co-creation of value*.

Prahalad and Ramaswamy (2000) underscore the transformation of the customer from "passive" audiences to "active players" in the service experience. This is consistent with Payne et al.'s (2008), S-D logic-based, conceptual framework which commences with the criticality of process in co-creation. Indeed, they point to the importance of viewing the relationship between the service provider and the customer as "a longitudinal, dynamic, interactive set of experiences and activities performed by the provider *and* the customer". Payne et al. (2008) note the interconnectedness of process and the recursive nature of co-creation, conceptualizing separate categories of activities as "emotion" (feeling), "cognition" (thinking) and "behavior" (doing). Ideally, the customer engages in a learning process and the provider also learns more about the customer, enabling the provider to improve the design of the experience and in turn, enhance co-creation with the customer. However, little is known about how customers *actually* engage in co-creation in practise (Payne et al. 2008).

Co-creation in the Healthcare Literature

The health provider-patient relationship has traditionally been asymmetric, with the power in favor of the provider. Such a situation has resulted in concerns as to the correctness of treatment and a trend towards consumerism in which patients assert their rights through complaints, and on occasions even malpractice claims (e.g. Ali 2007; Freman and Freeman, 2007; Diesfield 2003; Bird 2004). This trend is matched by the corresponding move from cure to preventative health and patient self-care that emphasizes the role of the customer in the medical service delivery (Roter et al 1988). Many advantages of inclusion of the customer in the service process have been recognized, such as reduced cost and increased efficiency of the process (Jayawardehena and Foley 2000) and based on attribution theory, the customer taking some responsibility for the outcome (Auh et al. 2007; Bitner 1990; Dellande, Gilly and Graham 2004). In the health domain, co-opting the customer has been shown to reduce unnecessary health costs, improve health care outcomes and increase trust in and commitment to the doctor (Veranec 1999; McStravic 2000; Michie, Miles and Weinman 2003; Ouschan, Sweeney and Johnson 2006).

Despite the recognition of the potential benefits of co-creation for both the individual and the service provider, little is known of how individuals actually go about *doing* the co-creating (Payne et al 2007), and the notion that there may be different styles of co-creation and that different styles may lead to different outcomes has not been explored. Healthcare service, particularly ongoing healthcare illness where there is no cure, offers an excellent setting for this investigation since the patient may undertake a range of behaviors ranging from non-compliance through minimal compliance to active participation within the consultation phase alone

(Ouschan, Sweeney and Johnson 2006). Less compulsory, contributory behaviors may also take place. Patients are generally free to engage in activities that can potentially improve their quality of life and the take up of these activities and the way patients integrate these resources varies.

Where there is no cure, such as is the case with cancer, the goal is to achieve the best quality of life for patients (Cohen, Mount, Bruera, Provost, Rowe and Tong 1997). Thus, we expect that customers may co-create and co-produce in different ways, as individuals differ in their skills, values and expected outcomes, such as in their quest for the best possible quality of life.

Several themes in the health literature support our interest in co-creation. First, a stream of research has investigated how patients participate in the decision making process, that is when the health problem is shared between patients and service providers who both consider patient preferences and outcome probabilities to reach a health care position based on mutual agreement (Frosch and Kaplan 1999). This research has indicated that participation in the form of shared decision making leads to improved psychological well-being, improved medical status and a greater satisfaction with their physician (e.g., Ashcroft, Leinster and Slade 1986; Fallowfield et al. 1994). However, several studies have suggested that leaving decisions to patients increases anxiety at the time of treatment decision (Ashcroft, Leinster and Slade 1986; Levy et al 1989) or at most improves psychological wellbeing in the first few months of treatment only (Pozo et al. 1992; Morris and Royle 1987).

A second stream of research has addressed motivations for patient involvement in health care management, e.g., getting medical checkups, smoking cessation, and other preventative health behaviors that require the client's energies and participation for

self-help (Reeder 1972). These health related behaviors include intentional behavioral change to reduce cancer risks, cardiovascular risk and diabetes prevention. Various successful motivations of health behaviors have been identified such as interventions, and using a 'customer approach'. For example physician empathy, reassurance and support has been shown to improve health behaviors and outcomes (Beck, Daughtbridge and Sloane 2002) while defining customers' roles including training patients in understanding their medical record and coaching patients to ask questions has been shown to be associated with involvement in their healthcare and their health behaviors (Dellande, Gilly and Graham 2004; Greenfield et al. 1985; Fattal et al 2005). Interestingly, evidence suggests there is no agreement as to whether physicians' knowledge and skills, their attitude or their interactions with their team is a more important to patients in long term healthcare (Grol 2002). However, there is some recognition that a combination of approaches is most effective in generating preventative health care behaviors (Grol 2002). Health behaviors have been shown to lead to mainly positive outcomes, for example reduced anxiety, faster recovery, and reduced blood pressure; as well as greater satisfaction with the physician (Eisenthal and Lazare 1976; Haynes et al 1976; Brody et al 1989a 1989b).

A third stream investigates patient compliance, which refers to patient actions complying with their doctor's recommendations and includes compliance with medication regime, compliance with follow up appointments and following various doctors' recommendations (Fattal, Lampe, Barcelona, Muzina 2005). In effect this research is a particular form of health care management but at a minimum level, since compliance refers to the most basic level of self care management as it involves complying with the instructions of the healthcare provider, such as visiting the clinic as instructed, following the provider's instructions and keeping a daily journal of their

health. In other words, it is what the patient does to fulfil their part of the bargain in their health provision (Dellande, Gilly and Graham 2004). Compliance has been shown to result in improved patient self reports on their health status, perceptions of goal attainment (success) and again satisfaction with the health service (Fattal et al. 2005; Dellande, Gilly and Graham 2004). Given this, we expect that patients who engage in activities beyond mere compliance will report relatively high quality of life.

   Clearly from the above, the patient may merely comply with what the medical staff direct them to do, or not comply, or they make take a more active role in their health care, and this is particularly relevant in a setting where patients need to manage ongoing diseases such as cancer, diabetes and cardiovascular disease.

   We argue that customer co-creation is more extensive than the activities associated with participation in decision making, and adherence or compliance with prescribed behaviors. Customer co-creation in this study is defined thus as "activities with self or in collaboration with members of the service delivery network including family, friends, other patients, health professionals and the outside community" and involves a variety of activities that customers carry out to co-create service value; these range from simple activities to enable the core service to be provided, such as described above, through to proactive activities that are not performed only during the service provision, but also beyond the confines of the service provision and include making choices that lead to enhanced psychological wellbeing.

   Furthermore, the more effortful, less compulsory activities, such as a patient questioning a doctor about alternative therapy; a patient administering treatment between visits to a health care clinic; a patient developing their own exercise regime; and a patient managing a support team around them, although may be regarded

broadly as co-creation activities are more strictly defined as "co-production" (Vargo and Lusch 2008a).

Method

Our interpretive analysis draws from various textual forms collected in two phases over two years across two oncology day clinics in a major capital city. Both clinics were managed by the same organization. We first interviewed the CEO and Director of Nursing, four oncologists, as well as the two supervisors of the clinic receptionists. Subsequently, we undertook participant observation studies at the two clinics, making extensive field notes in the process. This data added richness to the findings of the four focus groups and twenty in-depth interviews that we undertook with patients across the range of cancer types and stages of treatment.

Focus Groups

Four focus group sessions were undertaken. Two of the focus groups were conducted with patients who were relatively new to the oncology service experience, while two sessions were conducted with patients who were experienced with service production and consumption in this setting. Patients new to the service experience were defined as those patients who had been attending the clinic for less than six months. Patients experienced in service provision were defined as having attended the clinic for more than six months. Each focus group was approximately two hours. This enabled the facilitator sufficient time to establish rapport with the participants and fully explore the research issues of interest, while ensuring that participants did not become fatigued (Carson et al. 2001; Morgan 1997). The aim of the focus groups was to help us understand the patients' experiences as cancer patients. They were asked to talk about the service they were receiving from the clinics, their perceived

quality of life and health outcomes. Standard procedures of transcribing, coding and identifying themes were following using both manual thematic analysis and Nudist.

Purposeful sampling was used to increase the richness of the information obtained in the focus group sessions and the depth interviews (Morgan 1997; Stewart and Shamdasani 1990). The number of focus groups was based on achieving good coverage of the research issues being investigated (Krueger 1988; Patton 1990; Stewart and Shamdasani 1990). As such, interviews were conducted until information redundancy was achieved (Lincoln and Guba 1985).

Depth Interviews

Drawing from the same cohort as the focus group respondents, interview respondents were interviewed either at the clinic or in their home, wherever they felt most comfortable. Participants were asked to share their oncology service experience. They were asked to tell their own story. The interviewer commenced by asking the respondents to talk about when they were first diagnosed and how they felt at that time. They went on to talk about the type of cancer, what treatments they had or were still receiving (such as surgery, chemotherapy, radium). Deeper questions asked about their experiences at the various stages and typically generated considerable discussion as to their thoughts and activities, which in other cases was gently probed. (e.g. how do you get through those times? What sort of things have you changed in your life?) Discussions flowed like a conversation. The interviews ranged from 50 minutes to 90 minutes. The aim of the interviews was to investigate what patients actually *do* to co-create value, and to identify co-creation and co-production activities and styles.

All twenty interviews were transcribed, comprising 175 single spaced pages of text. Four of the authors read the transcripts independently to develop an overall view of each respondent's co-creation activities. Our interpretative analysis was based on

narratives. These narratives are topic centered narratives that are tied together by theme rather than time (Reissman 1993). Two researchers then developed themes that underlay co-creation, following Lincoln and Guba's (1985) Constant Comparative Method, in which themes are developed on a match and contrast basis. First, the transcripts were analyzed in terms of main ideas as to activities underlying co-creation. Then each researcher inductively delineated categories that accounted for the majority of items. Thus the items were grouped on face value. Subsequently definitions and inclusion rules were developed. The two researchers then agreed on categories and revised and negotiated differences in their themes. Ten different themes were identified reflecting the different types co-creation activities observed in the data. These activities range from behaviors to cognitions (thinking).

We identified eight types of behaviors and two types of thinking activities that patients used when co-creating value. Behavioral activities included information use, actions relating to core service, additional health activities, distracting with activities, organizing/managing the practicalities of life, managing physical identity, development of relationships and regulating emotions; while the research also revealed some core cognitive activities that reflected co-creation included positive thinking and being philosophical. These themes reflect some key medical and consumer behavior literature. For example, information sharing reflects information giving seeking information and actively sharing information with the medical provider (Bitner et al. 1997; Harris, Harris and Baron 2001; Hsieh and Yen, 2005), while praying is consistent with the coping literature in psychology (Carver, Scheier and Weintraub 1989) and distracting with activity with the coping literature in marketing (Duhacek 2005). The findings based on several of these themes suggested

that co-creation is reflected in degrees in some of the themes, for example within information use, activity ranged from merely looking at information provided by the clinic compared to actively discussing and sharing information with the physician; and within actions relating to core service, activity ranged from a basic compulsory compliance that reflected a sense of doing what is expected by the service provider to taking charge of the treatment plan including choice of doctor.

A second stage of analysis involved identifying the different co-creation styles. This was assisted by the development of themes, discussed above, which ensured that the research team did not get lost in the large amount of text within each transcript and maintained a focus on the meaning of the text rather than the context. Two authors independently read the transcripts at least three times. Each listed the separate activities. Initial profiles were identified and agreement reached among the researchers.

Co-Creation Styles

Six distinct styles were identified. These are "Team Manager", "Isolate Controller", "Partner", "Spiritualist", "Adaptive Realist" and "Passive Compliant". While all six styles exhibit co-creation activities, some including "Partner" and "Isolate Controller" styles exhibit co-production activities.

Team Manager

This profile is typified by Linda. Linda believes in a team approach which *she* coordinates. She says "you do it", you don't leave it up to fate, God or the doctors. Rather, she with her team will make it happen. In addition to the doctors and other medical professionals, she has a circle of support people and is very open in her communication with her team. For example:

> "You do it on your own and there is no other way for it to be and you have to do it on your own, I think you have to. It is not just about inner strength, I feel I am

getting strength from another source when I say prayers… I have a support team…my husband and my sister are really the center of my support then it goes out in concentric circles, then there is my children, …then the Bahai community and of course my parents… I discuss everything with everyone." (Linda, 52 years)

Passive Compliant

In stark contrast to the "Team Manager", is the "Passive Compliant". The "Passive Compliant" first and foremost follows orders. They are accepting of what the doctors tell them. They do not tend to question the doctors. They believe that they are not in control. They tend not to take initiatives, such as searching the Internet for more information, going to a gym, changing their diet. The "Passive Compliant" often will stay close to home as they feel safe there. They see little if any choices. For instance, Mary is accepting of what the doctors say:

"I am fairly accepting …there are not many choices, no no, the only real choice was do you want your chemo this week or would you want to put it off a week…but otherwise no… and I am reasonably compliant so I just said (to the doctor) you know best….I prefer to be at home… …I potter in my garden. You have to be pleasant and accepting of what they have got to do and you have to get yourself there on time even though you might have to wait. So just being compliant." (Mary, 60 years)

Isolate Controller

The "Isolate Controller" keeps themselves away from close family members and chose to work with only certain medical staff. They like to be alone and not to share their feelings and problems with others. They restrict the amount of details they tell others about the illness, symptoms and problems they are experiencing. They would rather do things themselves, such as taking vitamins, doing exercise, diet, being generally healthy. This style is displayed by Christine (Spring Hill).

Christine points out:
I make their job easier to make sure that I am as healthy as can be apart from what we have to deal with as far as cancer goes…[Regarding her mother, Christine said], I had to be very careful what I said to her because it would get broadcast that night, email right around, right around, and then I would get

emails the next day, and I would just have to answer emails…so I have sort of kept them at a distance."

This style exhibits some similarities to that of "team manager" as it involves a team, but the communication style, unlike that of the "team manager" is not open. In contrast, it is very controlled.

Partner

The fourth profile, "Partner", is displayed be Christine (New Farm). These people see themselves as partners primarily with the doctors as well as other service providers in their treatment process. Christine speaks about "working with" her doctor, being engaged in the process, "because it's a partnership", "I'm working with her (doctor)" and "pulling my share of the weight". As she states in the interview:

> "I possibly wouldn't be as questioning as I am, and I think it is the knowledge , I'm learning and I'm getting a lot stronger… I can now think, I can get the doctor's report, radiology report, get on the Web and I can look up stuff, …if I don't like something I ask, I went into day with my pen and paper to take no, I said to my doctor I want you to listen because of the chemotherapy has screwed up my brain bit, I can't remember things, …I went in there, and so is the first time I really feel in control, …being in control, yes it is, to be engaged, because it's a partnership, because I now feel I am of more benefit to her as the patient as well, the relationship to me is more equal, in that, I am not a victim. I have never been a victim with a disease,… but now I am capable of working with her and pulling my share of the weight" (Christine, New Farm, 56 years)

These are patients who need good communication and an effective working relationship with their doctors in order to feel informed and respected. This effective working relationship is the prime driver of their choice, although technical expertise is important, it is mostly a good partnership they need. They want to feel actively involved in what is happening largely through effective communications.

Spiritualist

The spiritual person has strong religious beliefs tied almost to fate or destiny and external locus of control. This style was evidence in people in treatment and post

treatment. Yvonne for example felt that it was not her fate to get breast cancer and prayed until she knew that it was her fate, and then she accepted it with some equanimity.

> "I'm a woman of prayer, a woman who believes in God and so I said about that journey too I mean it happens in the spirit first, you know that I believe in, faith and the spirit so I've set around that journey first. … I had a biopsy straight away and yes, it was cancer and then go and see the specialist …I think I'd prayed every scripture in the bible [chuckles] and that's the end of that. God knows best, he does know best and what I don't go to theatre in fear or in pain and I have conquered faith… because I had accepted it. (Yvonne, 49 years)

Adaptive Realist (life goes on, but differently)

Exemplified by Sherryl, these individuals get over the shock and move on with the changed circumstances adapting their life to the new circumstances as they go along. Sherryl once over the initial shock seemed to be particularly adaptive to the changed circumstances. She moved to another town, moving her son from school on two occasions, she had to give up two jobs but then moved into another job to support her son. She was able to draw support from a cancer support group, and she was able to give back to their cancer support group by raising money afterwards, she never felt the need to hide herself from others and never felt ashamed of who she had become.

For example Sherryl says:

"Right now, and when I was diagnosed with cancer I was a single mum. My son just turned 10, it was just he and I in the house on our own. …it was only 48 hours from when I was diagnosed to when I had surgery….the motivation to keep on going was my ten year old. I had to do all of these things so that I could be around, to see him grow up."
"I lost my hair the day after the second lot of chemo…That didn't bother me. That's just one of those things that happens with chemo… I only put a hat on, I didn't wear a wig. I only put a hat on or a scarf when I was in the sun so my head wouldn't get burned." (Sherryl, 52 years)

Discussion

First, we review the limited literature on co-creation, and specifically investigate directions in the medical literature that related to our marketing paradigm of customer

co-creation. We found that conceptualizations relating to co-creation that exist in the medical literature are limited largely to two core themes, that of health behaviors including compliance which concerns complying with the recommendations of the healthcare professional (e.g. Dellande et al., 2004) and involvement in decision making which concerns the patient's active role in decision such as treatment (e.g..,Ashcroft, Leinster and Slade 1986; Fallowfield et al. 1990a 1994). Furthermore, the majority of studies focus on psychological outcomes such as risk, stress, depression and anxiety ((e.g..,Ashcroft, Leinster and Slade 1986; Fallowfield et al. 1994); or technical outcomes that may be achieved (Haynes et al. 1976).

We argue that customer co-creation is far more extensive than these two conceptualizations (e.g. range is greater than mere compliance with some overlap with shared decision making but not extensive). The research clearly demonstrates the multiple approaches to co-creation, such that, co-creation is pluralistic.

We define customer co-creation in healthcare service as "activities with self or in collaboration *with* members of the service delivery network including self, family, friends, other patients, health professionals and the outside community". The essential features are that (1) activities are defined as performing or doing; (2) the doing has two components (cognitive and behavioral doing); doing is represented by various activities and (4) practices involve effort on the part of the customer.

This conceptualization of co-creation is consistent with Payne et al's (2008) and Vargo and Lusch's (2008a) discussion of the customer value creation process as a series of activities performed by the customer as part of a multiplay of activities to achieve a particular outcome. Co-production is the less compulsory, more effortful involvement of customers in the process such as in design, self service and other extra-curricula activities.

Our findings extend Vargo and Lusch (2004) S-D logic on the centrality of customer co-creation by providing definitions of customer co-creation and co-production. Our conceptualization is also consistent with Payne et al.'s (2008) conceptual framework which recognizes the customer's value creating process as a series of activities which may involve thinking, feeling and doing. Our focus in the present paper has been the thinking and doing activities, as we view the majority of primary emotions to be beyond the direct control of the customer and thus are likely to be antecedent or an outcome of thinking or doing (Young 1981).

Third, we identify ten themes from our qualitative research, which comprise behavioral (doing) and cognitive (thinking) activities. The broad themes include behavioral activities including information use, actions relating to core service, additional health activities, distracting with activities, organizing/managing practicalities of life, managing physical identity, developing relationships and regulating emotions; and two core cognitive activities of positive thinking and being philosophical. Within each of these are potential subthemes. These themes may form the basis of a customer co-creation measure in the healthcare context.

Fourth, our understanding of customer co-creation is enhanced by identifying six different styles of co-creating in this healthcare context. These are "Team Manager", "Isolate Controller", "Partner", "Spiritualist", "Adaptive Realist" and "Passive Compliant". We show that these styles appear to apply to both patients undergoing treatment as well as those in post treatment phases. Individuals who exhibit an "Adaptive Realist", "Partner", "Spiritualist" or "Team Manager" style tend to demonstrate high quality of life. In contrast, "Passive Compliant" and "Isolate Controller" styles tend to be associated with low quality of life.

As with all research, we acknowledge limitations. While the field setting is confined to healthcare, specifically cancer treatment, this setting offers an excellent opportunity to investigate a full range of co-productive and co-creative activities and styles. Furthermore, the field setting enabled us to tease apart multiple approaches to co-creation and suggest a classification schema, at least in one service setting, as well as to begin to explore the relationship between co-creative approaches and outcomes (e.g., quality of life).

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