Empathic Service Systems: ‘Designing’ Emotion in a Cancer Care Service System

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Abstract

This paper focuses on the ‘design’ of emotional wellbeing in a cancer care service system. There is little or no scholarly understanding of the concept of emotion in service systems discourse. Yet, emotion is often referred to in service systems research; scholars have pointed out the need to create long-term emotional bonds with customers, for example. However, little or no attempt has been made to define or understand in detail the complex concept of emotion. To address this deficiency, we draw on psychology and social theory to construct a theoretical framework of emotion and put it to work in an empirical case study of a Maggie’s Centre in London.

1. Introduction

It is understood that services are increasingly delivered by service systems that incorporate both artifacts and service process flows [1, 2]. What is hardly understood in this discourse is the concept of emotion. Yet, [3] point out the necessity of creating long-term emotional bonds with customers through the co-creation of memorable experiences potentially involving a constellation of goods and services. Emotion is therefore important to the service systems debate, but there has been little or no articulation of the concept and its dynamics. This paper addresses this deficiency and uses the concept as a lens by which to analyze the service system design process. Specifically, our theoretical aim is to address the field’s deficient understanding of emotion by drawing on related concepts from psychology, social theory, as well as an empirical field study of a cancer care service system. To this end, our research question is: in service systems where the emotional wellbeing of users is a prime concern, how do designers interpret, understand, and transform user emotion(al wellbeing). Put another way, how is emotional wellbeing ‘designed’ in a service system? This research interest is supported by authors who suggest attributes increasingly important to building-users are physical and emotional well-being, social interaction and aspirations, to name but a few[4, 5]. Our research question is timely since many healthcare service system designs are often described as detrimental to patients’ emotional wellbeing. For instance they can make patients feel ill-at-ease, controlled and alienated due to their complex layouts and impersonal design.[6-8] A consequence of deficiently attending to the emotional wellbeing of patients is that recuperation rates are not as high as they could be[6]. Much of this know-how was lost to late modernity [9] and modernist movements in architecture, e.g. Le Corbusier. The founder of the Maggie’s Centres - Maggie Jencks, who suffered three bouts and then succumbed to cancer made lucid observations of cancer care in the 1990s: “However good the treatment is, there is very little hospital time for the mental stress that comes with cancer, and that can be as hard to bear as the illness itself”[10]

However, these observations perhaps have contributed to a ‘turn’ that is occurring in UK architecture and health industries, since they have begun to take ‘happiness’ more seriously. For instance, Buro Happold’s Building Wellbeing initiative (in association with the New Economics Foundation), books such as Building Happiness by the Royal Institute of British Architects (RIBA) and government policy reports such as the UK’s Foresight Report. Furthermore, and being our case study, cancer care service systems such as the Maggie’s Centre have sprung up around Britain in order to address the poor emotional wellbeing that cancer patients habitually experience in hospitals. Our study takes advantage of this ‘turn’ in the industry to shine a brighter light on the concept of emotion, its dynamics and implications for service system design. To date this has not been addressed in the service systems (design) field, which has been more focused an economics and engineering-related issues (e.g.[11, 12]). We now elaborate on current thinking on service systems to illustrate this point.

2. Theoretical foundations

The various synonyms attributed to service systems include: product service system, servitization, sustainability, service economy, remanufacturing,
service design, productization, product substituting service, dematerialization, system solution, and functional economy. This is further supported by the respective definitions of service system. In general, service systems can be defined as dynamic configurations of resources that create and deliver service while balancing risk-taking and value co-creation [13]). We can also refer to service systems as a “system of systems”, in the sense that it can contain smaller systems, as well as it can be contained in larger service systems. However, the complexity and adaptability of the services systems, and its adherence to different disciplinary perspectives lead to various definitions according to the different perspectives. [1] define service systems as having a service-dominant logic, which focus on selling flows of service so as to then determine the optimal configuration of goods, organization or network configuration, and payment mechanism. [14] refer to service systems as systems of elements including relations (p17). The dematerialization interpretation of service systems says that it involves value co-creation, and decreases the amount of material goods needed to accomplish this. Economic value is detached from materiality which means reduced reliance on environmental resources: “shifting the business focus from designing (and selling) physical products only, to designing (and selling) a system of products and services which are jointly capable of fulfilling specific client demands, while re-orienting current unsustainable trends in production and consumption practices.” ([15]: p1). Therefore, the focus here is on the technologies, processes and practices that enable a greater “customer intimacy”, a move from manufacturer to service provider; the definition of product-service system [2]. Hence, there is much concern over the economic value and the economic impact of service systems. With regards service system design, notions such as technological frames has been proposed, in order to converge the technological knowledge embedded in the artifacts and infrastructures and the technological, cultural and social culture of the actors participating to the system. [16] Another systematic approach is service blueprinting: “through a set of planned stages from the establishment of clear objectives, the idea generation, to concept development, service design, prototyping, service launch, and customer feedback” [3]. Service blueprinting uses a design notation that is similar to BPML and UML. The main components of this approach are customer actions, onstage visible contact, backstage invisible contact, support processes and physical evidence; there is no mention of emotion in this treatise. Taken as a whole, the content of these approaches are unsurprising in view of service systems’ engineering heritage [12]. Further, as [17] suggested, the field could be qualified as service systems engineering. This is echoed by IBM, who joined with other technology companies to develop university courses relating to “service science” [11, 12] However, [3] alludes to the need to ‘humanize’ service systems through the design of emotional, experiential, and inter-personal delivery systems: “[firms] need to move into the realm of customer experience management, creating long-term, emotional bonds with their customers through the co-creation of memorable experiences potentially involving a constellation of goods and services.” (p67). This demonstrates the relevance and significance of emotion to service systems. Further, it has been argued that emotion and experience are highly interpretative phenomena [22:p.6; 34:p1036]. To this end, we draw on an interpretative framework in order to develop a rich understanding of emotion and emotional wellbeing; we present this in the following section. The remainder of the paper is structured as follows: we present a framework for understanding emotion, our research approach, a case study of a cancer care service system, an analysis of the case, a conceptualization based on the analysis, and offer some implications for theory and practice.

2.1 Emotion

The word emotion comes from the French emouvoir, “stir up,” which in turn comes from the Latin word emovere, “move out, remove, agitate” (OED). There is the sense then that emotion or feelings are directly provoked. Indeed, this is consistent with traditional scholarly understandings of emotion. For instance, it is maintained that emotions are rather innate, and that feelings are directly provoked. Indeed, this is consistent with traditional scholarly understandings of emotion. For instance, it is maintained that emotions are rather innate, and that they unwittingly propel us along a particular course of action [21]. A different view that bridges these two is that of appraisal theory, which states that emotions are interpretative reactions to events or stimuli: “the basic idea then is that our emotional reactions depend not on the specific characteristics of stimulus events, but rather on the way that we interpret and evaluate what is happening to us (appraisal)” ([22]:p.6). Therefore, interpretation (of various stimuli) is a key process in the construction of emotion. To understand emotion then, involves understanding the processes by which individuals reflect on and interpret phenomena. In this way, the speech and textifying acts that constantly occur between individuals inscribe emotion, which
becomes discursive. To understand these interpretative processes further, we draw on grand social theory, i.e. structuration theory [23]. This is a salient framework not only because it elaborates on interpretative processes. Figure 1 outlines the structuration of interpretations.

Figure 1: structuration of interpretations

With respect to the above figure then, an example of a sedimented interpretation is how many of us interpret and then feel about seeing a dentist’s chair; it rarely inculcates pleasure. Such sedimented interpretations are constituted by interpretative schemes, which shape and are shaped by individuals’ interpretations of phenomena. Interpretative schemes guide and coordinate people’s interpretations and actions in different situations [24]. These are cognitive schemata that map our experience of the world [25] and comprise stocks of knowledge [26]. Examples of interpretative schemes include: the stories people tell when they return from the dentist, Unified Modelling Language (UML) which tells designers how to notate a design such that it can be read and understood by others. Even reports and research of how people respond to being told they have cancer, i.e. “I’m going to die” can be considered as interpretative schemes. Therefore, as we emote, we draw on interpretative schemes to guide our interpretations of phenomena and therefore this mediates the way we feel about phenomena. We adopt this structuration framework of emotion as our sensitizing device for the analysis of the case data, the research methods of which we now present.

3. Method

3.1 Research approach

The study began in January 2009 and was a seventeen-month field study. An interpretivist, or social constructionist [27] approach was taken. Interpretivism can enhance our in-depth understanding of a phenomenon [28] by accessing the meanings that people create and attach to their social working life. Interpretivism then, adopts the ontological assumption that the social world is not exterior to but is constructed between and given meaning by people [27]. There are no objective patterns and regularities to be discerned “out there”, rather we can only understand the social world from the point of view of those participating in it, “one must get inside the world of those generating it” [29]. This means listening to the voices of its native participants, grasping and unraveling their points of view [30] their in-jokes, for example.

3.2 Data collection

The data was collected from a cancer care service system in London called Maggie’s Centre (hereafter termed Maggie’s London). We consider it an exemplar of how design can be applied to improve cancer patient emotional wellbeing. It won the highest award for architecture in the UK in 2009 - the Stirling Prize. At the time of writing, there were five other Maggie’s Centres based in Scotland. The London-based Centre was the first in England and was designed and constructed between 2004 and 2008. The Centre’s organization structure comprises: Founders, Patrons, Board of Directors, and Executive Team. The Board of Directors has five sub-committees: Audit Committee, Property Committee, Remuneration Committee, Nominations Committee, and Professional Advisory Board. The latter is comprised mostly of medical practitioners. The Centre and five ‘sister’ centres in the UK attracted 77,000 visits from cancer patients in 2008. The corpus of empirical data features twenty-five semi-structured interviews with designers, informal interviews with patients, as well as observations and secondary materials, such as Maggie’s Architectural Brief. Interview guides were prepared and each interview lasted at least one hour, in which the designers were asked about the nexus of design and emotional wellbeing. The interviews were all recorded and fully transcribed. The study mainly focused on the work practices of those closely involved in the design of the London-based Centre (table 1). While some interviewees such as the cost accountant do not sound like official designers, they were deeply involved in the design process from the start of the project and therefore privy to design insights and reflections of design phenomena. For instance, the cost accountant said: “we were brought on board to cobble [put together] the concept and to bring life into Maggie’s with a framework of costs that they could afford.”

3.3 Data analysis

The analysis was then guided by approaches suggested by [31] and [32]. Firstly, aided by a tool, we performed descriptive coding in order to identify all the references...
to user emotion(al wellbeing) by the designers. These were then combined and written up as a case study including all relevant quotations. Secondly, we performed interpretive coding by engaging with literatures and concepts suggested by the descriptive coding process.

**Table 1: Principal Organizational Actors Involved in the Design**

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lorna</td>
<td>CEO, Co-founder</td>
</tr>
<tr>
<td>Bob</td>
<td>Chairman of professional advisory board and co-founder</td>
</tr>
<tr>
<td>Dante</td>
<td>Landscape Designer</td>
</tr>
<tr>
<td>John</td>
<td>Cost Accountant</td>
</tr>
<tr>
<td>Markus</td>
<td>Lighting Designer</td>
</tr>
<tr>
<td>Rosemary</td>
<td>Lighting Designer</td>
</tr>
<tr>
<td>Marti</td>
<td>Construction Contractor</td>
</tr>
<tr>
<td>Martin</td>
<td>MEP engineer</td>
</tr>
<tr>
<td>Macy</td>
<td>Nurse</td>
</tr>
<tr>
<td>Bernice</td>
<td>The Centre Manager</td>
</tr>
<tr>
<td>Steve</td>
<td>Estates Manager</td>
</tr>
<tr>
<td>Roger</td>
<td>Lead Architect</td>
</tr>
<tr>
<td>Jill</td>
<td>Co-client</td>
</tr>
<tr>
<td>Ed</td>
<td>Structural Engineer</td>
</tr>
<tr>
<td>Alexis</td>
<td>Stirling Prize judge</td>
</tr>
<tr>
<td>Will</td>
<td>Project architect</td>
</tr>
<tr>
<td>Charles</td>
<td>Co-founder</td>
</tr>
<tr>
<td>Marcella</td>
<td>Vice-Chairman</td>
</tr>
<tr>
<td>Clive</td>
<td>Designer</td>
</tr>
</tbody>
</table>

This led us to emotion research, i.e. appraisal theory, and related interpretative elements of structuration theory. Having then formulated an appropriate sensitizing device (i.e. figure 1) that would help us analyze the data, we devised a simple notation to code words, phrases, and lines from the data pertaining to the dynamics of emotion (see table 2).

**Table 2: Notating the data**

<table>
<thead>
<tr>
<th>Concepts from Sensitizing Device</th>
<th>Notation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stimuli</td>
<td>Stim</td>
</tr>
<tr>
<td>Interpretations</td>
<td>Int</td>
</tr>
<tr>
<td>Emotion</td>
<td>Emotion</td>
</tr>
</tbody>
</table>

Hence, we focused on the stimuli, interpretations of stimuli, and emotions the designers referred to. Often these were tightly interwoven. To help inform our description of emotions, we drew on [33] circumplex model of affect (figure 2). Between us we agreed what emotion was implied by the interpretations. We now present the case study.

**Figure 2: Russell’s (1980) circumplex model**

4. Case description: Maggie’s London

4.1 Background

We present a case description of how the designers of the Maggie’s Centre in London (referred to as ‘Maggie’s London’ from here on) understood and designed this empathic service system. A Maggie’s Centre is a place to turn to for help with any of the problems, small or large, associated with cancer. Under one roof you can access help with information, benefits advice, and psychological support both individually and in groups, courses and stress reducing strategies.

4.2 Overview of design process

The designers of Maggie’s London drew on the design phases approved by the standard Royal Institute of British Architects (RIBA) to guide the process. Briefly, these phases comprised preparation, design, construct and use. Prior to any of the standard RIBA phases being followed however, the Maggie’s client team had already prepared a detailed pamphlet comprising their design brief to pass to potential architects. The project architect described the brief as inspirational in itself: “The one great thing about the Maggie's brief is that it is very inspirational. It doesn't talk about psychology of building or square area that you have to adhere to. All those constraints are basically forcing you into a corner already. It talks much more about the way it wanted you to feel, so it talked about the use of natural light and not dark spaces, you know, when you're looking out the windows, and the fact that having a kitchen for cups of tea is very important when it involves empowerment and gaining an emotional involvement within the building.” Having given an overview of the ethos and process behind Maggie’s London, we now present a more detailed case description of the challenges faced, the norms of cancer care, and how these norms were challenged by the designers and some of the consequences.
4.3 Emotional challenges of having cancer

Many of the designers said that they knew someone who had been diagnosed with or died from cancer during the course of the project. For instance, the project architect’s mother died of cancer, and the cost accountant’s also suffered from it. Even the architect went to hospital, though this was due to breaking his arm. Furthermore, many of the founders of Maggie’s and contributors to the design brief were either doctors or nurses. So, many designers were able to draw on these experiences to help them understand cancer care they were trying to avoid. For instance, Lorna said: “What happens psychologically when they’re diagnosed with cancer is they talk about the feeling that they’re no longer feeling that they’re doing a good job of being a mum and a housewife or they’re not able to continue to be the breadwinner that they were.” According to many of the interviewees, cancer makes people feel relatively useless, and the act of receiving a cancer diagnosis commonly leads patients to feel they are no longer in control. This is reinforced by the way cancer treatment is usually organized in cancer care service systems such as (acute) hospitals, which we now describe.

4.4 Norms of cancer care service systems

Hospitals usually prohibit cancer patients from entering certain areas such as corridors and kitchens. According to Lorna, this creates a “sense of secrets” and that the patient has done something wrong to deserve being barred. Further, those corridors they are permitted to use are usually very narrow, creating a claustrophobic feeling: “the last thing you want is... when you’ve got your mind thinking the world’s closing in the last thing you want is to be walking round in a building which feels like that, in terms of narrow long corridors or whatever it might be” (John) Cancer patients constantly feel they are being “processed”, such as going from one reception desk to another for information. This means patients feel they are dependent on others at all times, and while signs are perhaps an ‘antidote’ to that, their sheer number often leads to confusion. This diminishes human interaction. Indeed, the hospital in London which is in proximity to Maggie’s London have tried to address these issues and make the patient feel more important and happier. However, these initiatives tend to backfire, as we now summarize.

4.5 Attempts to improve existing cancer care service systems

Waiting areas for cancer screening and chemotherapy tend to be uncomfortable and as one interviewee put it “grotty”. In one hospital they converted this area into a hotel-like waiting area with beautiful sofas, curtains, and big windows. Yet, all the patients still complained: “It was because it was so spacious that they now no longer rubbed shoulders with other patients and so the opportunity for dialogue and communication had been removed.” (Lorna) With regards bringing nature into hospitals: “There might be a nice square of garden in the middle of corridors, but it is under lock and key and you can’t get out. There is no trust, there is no... it will get vandalized or it’s a pain in the neck because you’ve got to make sure you lock it.” (Bernice) The same is true of windows which usually cannot be opened since hospitals can be scared that people will jump out of them: “It is that sense that you are trapped in.” (Bernice) One acute hospital tried to obtain patient input into the renovation design, which revealed the delicate nature of patients’ feelings. For instance, they could feel depressed just from the type of information / literature that was made available, such as coping with cancer and how to prepare your will and testament: “Go read and followed by how to prepare your will and testament and all of those sorts of things. It gave you the impression that you were dying.” (John) There were even unintended poor consequences of ‘details’ for patient emotional wellbeing at Maggie’s. For instance, dying plants: “Actually centre users do point out that if plants are dying, like a leaf is dying, someone said that leaf is dying, and I said the fact that you pointed that out, I’m just wondering what that makes you feel. She said well, I don’t like it because I’m faced with my mortality, so I would rather see things growing. So, I had to go out and take the leaf off. But also there is that worry that if things die, you’re sitting there, you’ve just had really bad news, and there is a dead plant there” (Bernice) However, Maggie’s London became a ‘revolution’ in cancer care, breaking many of the norms that had plagued traditional facilities. We now turn our attention to these.

4.6 Maggie’s London: breaking the norms of cancer care

Whereas traditional cancer care facilities had signs “absolutely everywhere” (John) the Maggie’s design team only provided the degree of signage necessary to comply with health and safety legislation. This created a tension between legislation and creating a friendly feel (Martin). In order to enhance human interaction (Lorna) many of the usual signs a facility would have were omitted, such as the toilets: “There are no signs to the toilet because actually asking where the toilet is becomes an opportunity for communication...Because, again, what’s happening in hospital waiting areas is it’s everything from a neon sign telling you how long the
hospital environment. That was the whole point of it stuff, but done in a way that didn’t seem to be like a crystals at them or Ouija board. It was just all sensible you do to make people feel better, not waving a “None of the flaky stuff, it’s all common sense stuff emerged. Even massage facilities were made available: therapy, as well as group therapy, and art therapy having Clinical Psychology available, one to one conversations (bob). As the concept evolved the idea of needed to be private ones too for one to one recognition then that as well as social areas, there that’s quite important as well.” (Will) There was about it and not feel like you’re being overheard, and can hear the bounciness, but you feel you can talk You sometimes go into a library and you feel like the ‘weighty’ conversations the acoustics were designed to an open environment.” (Will) To support these sorts of activity that led to conversations: “Then, you can have just as much conversation and probably a much better conversation by sitting down with someone in a more relaxed atmosphere, and people are talking about some... well, their death. Some really powerful things here. Not only of course. They’re talking about some very positive things as well. They’re talking about it in an open environment.” (Will) To support these sorts of ‘weighty’ conversations the acoustics were designed to be bouncy: “So it’s not like it’s drawing out of you. You sometimes go into a library and you feel like the stuff is being almost sucked out of you, whereas here you don’t get that feeling. You can hear the noise, you can hear the bounciness, but you feel you can talk about it and not feel like you’re being overheard, and that’s quite important as well.” (Will) There was recognition then that as well as social areas, there needed to be private ones too for one to one conversations (bob). As the concept evolved the idea of having Clinical Psychology available, one to one therapy, as well as group therapy, and art therapy emerged. Even massage facilities were made available: “None of the flaky stuff, it’s all common sense stuff you do to make people feel better, not waving a crystals at them or Ouija board. It was just all sensible stuff, but done in a way that didn’t seem to be like a hospital environment. That was the whole point of it all.” (Bob) There was a flexibility at Maggie’s then that allowed individuals to choose between the “quiet pause” and the social kitchen: “So you can find whatever space is ready for you on that particular day, and some days you want to be very outward and positive and other days you’d want to just go into your shell...having a building that can... respond to your particular feelings at the time, I think is very important.” (Will) The cost accountant concurred: “and I feel it’s just the creation of an uplifting space rather than a functional space or somewhere where you just go and... it’s all well and good with a lot of people with good intentions giving you all the leaflets that you need and all of that sort of stuff but in actual fact that might not be what you want. What you actually want is somewhere where you can go, you can have a cup of tea, you can have your own space or you can have group space. You’ve got that flexibility.” (John)

This was also down to the well trained staff of Maggie’s who had the inclination that if the patient needed help they would administer it, but if they wanted to be left alone they would be. There was never this sense that patients are being checked on – the aim was to have a relaxed, homely sort of environment. An important contributor to this was the landscape and windows; the whole of the outside was brought into the building to be uplifting (John). According to the landscape designer: “what I do is create spaces that are about feeling, and they are not necessarily academic spaces, but we get to an intuitive design solution through just trusting the process...what is most important is that you are able to create a space that may draw upon a mood or an atmosphere, or heightens it, and then allows you to be in it without challenging you to necessarily analyze it.” The design idea in the landscape and facility was to create responsive spaces that did not say: “I’m a blue wall and why are you thinking about me, or I’m a red wall and why are you thinking about me? In terms of Maggie’s it was very interesting how that came about, but they are spaces that really are... They are subtle spaces, really, that we create, and we’re not always wanting people to see the design in them. We want people to gravitate into them in a natural way and use them in a natural way, and not necessarily have to feel challenged by them.” (Dante) The landscape design was important given the location of Maggie’s which was near a major London road: “Like we’ve brought the outside in because we don’t have the lovely estuary up in Dundee; we’ve got a road. So, it’s how do you protect the people in here from that, but also bring some of the living and the outside in.”(Bernice) All the interviewees pointed out that natural light was also a very important way of improving the emotional wellbeing of the patients; for instance: “You don’t want to feel confined to whether
it’s the floor light or whether it’s the width of the spaces in the corridors. You just need to have that air of space in the building.” (John)

4.7 Design space metaphors

The importance of a sense of space (and place) was derived from metaphorical interpretations of the architect’s design. These included biological metaphors such as a kidney (Will), a heart (Bernice), an arm, and a womb (Dante), playful ones such as a sweetie-wraper (Jill) as well as more traditional buildings such as a museum or church (Lorna). For instance, in the early stages of the design process the project architect explained some of the concepts to Bernice, the operations manager of the centre: “He [Will] explained about the idea of the curtain walling is that that double height wall protects us from some of the noise of the street and wraps itself around the building. And I think when you see Richard’s concept design, it is that squiggle, but the heart of everything is inside. I’m a bit biologically minded, science minded, but it is almost like that main artery leading out and then coming around and feeding the heart. In another architecture magazine somebody said it’s like it’s extending an arm and then it comes around and hugs you.” (Bernice) Even earlier in the concept stage of Maggie’s in the late 1990s, Maggie Jencks’ husband likened the facility as part museum, part church: “So, again, museums are the distraction that there’s something to look at, there’s something to… Museums are generally positive places to go to.” (Lorna)

4.8 Unintended design consequences of trying to break the norms

With respect to lack of signage to toilets and so-called ‘thoughtful’ use of space, some design features irritated the patients the researcher spoke to. For instance, the taps/fawcetts in the toilet which operate in an unusual horizontal fashion. Yet, the centre manager maintained that such design ‘blips’ had turned into useful tools by which she and other nursing staff could tell if someone was upset: “But on a psychological level for me and the team in here we can use that as a tool because if that has really upset somebody to that extent something else is going on” (Bernice) Despite these ‘blips’, the researcher was told stories of how patients upon visiting the facility for the first time had strong, positive emotional reactions to entering the facility: “Bernice has talked about quite a few people breaking down. Well, not breaking down, but becoming very… Bursting into tears as they come through the door. I think my favorite feeling is when you walk in. That sense of calmness. I think people hold themselves so tightly when they’re going through that machine over there, and they’ve got so much tense apprehension that when they coming into this environment, they just go... And it’s that letting go...that provokes this emotional outbreak.” (Will)

5. Analysis

We draw on the sensitizing device presented in figure 1 and table 2 to provide an analysis of the dynamics of emotion(al wellbeing) in the case description. We systematically applied the device to the data generating twenty-five tables of quotations; an example is provided in table 3 below. From these twenty-five analytical tables we derived two summary tables to help us discern patterns in the phenomena. The first table pertained to the detrimental norms of cancer care service systems the designers were attempting to transform, while the second table pertained to the dynamics of ‘designing’ emotion at Maggie’s London.

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Data</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lorna</td>
<td>for example there are corridors [in hospitals] that people with cancer are not allowed down</td>
<td>Stim</td>
</tr>
<tr>
<td></td>
<td>so there this sense of secrets and there was the comment that people constantly felt being processed or going from one reception desk to another</td>
<td>Int</td>
</tr>
<tr>
<td></td>
<td>Distress</td>
<td>Emotion</td>
</tr>
</tbody>
</table>

We subsequently realized that many of the stimuli in the two summary tables could be more appropriately construed of as interpretative schemes. This was because they were artifactual symbols that suggested how to and how not to construe a context; they were interpretative guides for action [24] and emotion. We thereto condensed the summary tables yet further into another two tables displaying the interpretative schemes that seemed to influence the users’ emotional experience of Maggie’s London (tables 4 and 5 below). We now present the results of this pattern analysis.

5.1 The results

Traditionally, hospital staff and patients drew on and reproduced a number of interpretative schemes such as
signs (e.g. neon queuing systems), codes of conduct that banned cancer patients from some hospital areas, cancer diagnosis reports, lock and key security and literature on preparing your will, for example.

Table 4: Interpretative Schemes Pertaining to Norms of Cancer Care

<table>
<thead>
<tr>
<th>Interpretative Schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Signs (e.g. neon queuing signs), codes of conduct that ban cancer patients</td>
</tr>
<tr>
<td>- Cancer diagnosis reports</td>
</tr>
<tr>
<td>- Lock and key security (artifactual symbols suggesting how to and how not to act)</td>
</tr>
<tr>
<td>- Literature on preparing your will</td>
</tr>
</tbody>
</table>

These were all interpretative schemes since they were artifactual symbols that suggested how to and how not to act; they were interpretative guides for action [24] and emotion. These schemes tended to lead to negative interpretations such as ‘the hospital does not trust me’, or a sense of secrecy, being excluded, lack of self-efficacy (e.g. ‘I’m a poor mother’), lack of communication and interaction, being trapped, and even a sense of imminent death. As per the appraisal theory of emotion, these interpretations of surroundings could directly influence a patient’s emotion, i.e. lead them to feel distress and depression. The designers of Maggie’s London attempted to break these norms of poor cancer patient emotional well-being by designing not only novel artifacts and services, but interpretative schemes that could enable the patient to feel less distress and rather more pleasure. We found that designers attempted to enable patients to (re)interpret their emotional circumstances by devising two kinds of interpretative schemes: (a) designed artifacts, services and language, and, (b) design schemes per se. The former included the intentional omission of signs, collections of domestic artifacts (e.g. kitchen table, tea, coffee, kettle, sink, entrance, sofa, etc.), acoustics, therapy service leaflets, door language (indicating room use), gardens and a variety of room types.

Table 5: Interpretative Schemes Pertaining to Maggie’s Cancer Care Service System

<table>
<thead>
<tr>
<th>Types of Interpretative Schemes</th>
<th>Interpretative Schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artifactual, informational and language schemes:</td>
<td>- Omission of signs</td>
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<tr>
<td></td>
<td>- Collections of domestic artifacts (e.g. kitchen - tea, coffee, kettle)</td>
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<td></td>
<td>- Acoustics</td>
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<td></td>
<td>- Therapy service leaflets</td>
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<tr>
<td></td>
<td>- Door language (indicating room use)</td>
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<td>- Gardens</td>
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</table>

With respect to the domestic schemes of Maggie’s London, the case reported how some patients were moved to tears. The design schemes that, in turn, enabled the designers to produce the customer-facing interpretative schemes included the much lauded design brief, the RIBA stage model, design metaphors, personal stories and even those interpretative schemes pertaining to the norms of cancer care service systems that were often derided by the designers. With regards the latter schemes, and despite their detrimental nature, they enabled the designers to devise a new kind of service system that could make a difference to the lives of cancer patients.

6. Discussion and Implications

The case analysis revealed a key activity in the design of Maggie’s service system that addressed and improved the emotional wellbeing of its users – interpretative scheme design. Hence, while the service system designers undoubtedly paid a deal great of attention to the artifactual design of Maggie’s London, they also unwittingly sought to re-design the frames of interpretation and therefore the emotions of users. However, there is no assumption that service system users could be deterministically made to feel a certain way. Rather the devised interpretative schemes, artifacts and service were made available to the users as enablements of positive emotional wellbeing. It was still up to the users’ to engage with these schemes and reproduce them in a way consistent with the intentions of Maggie’s London. We present our conceptualization of empathic service system design in figure 3 below.

![Figure 3: interactional model of emotion design](image-url)
The conceptualization shows how designers and users share some interpretative schemes. The former drew on numerous design schemes to transform normative schemes and emotions they and patients had encountered in traditional service systems such as hospitals. Potent design schemes particularly included the design brief and moving personal stories (such as Maggie Jencks’) or first-hand experiences of the designers. Using these as inspiration, they devised artificial, informational and language schemes to counter, challenge and transform the emotional norms of users. Anecdotal evidence gathered from patients and the popularity of the centre indicated this was successful – a follow-up study is planned to evaluate this. Designing interpretative schemes means designing ‘guides’ for people to orient their interpretations and actions [24]. The designers were creating cognitive schemata to help users’ map their experience [25] of a cancer care service system.

6.1 Implications

The main theoretical contributions of the paper are: (i) the provision of a theoretical framework by which to understand emotion – we demonstrated that it is a highly interpretative concept, and, (ii) an interactional model of emotion design, which reveals how emotion is maintained and modified by drawing on and transforming interpretative schemes. In terms of practical implications, the study suggests that if service systems designers want to enhance emotional bonds with service system users it is vital they take seriously the proposition that an emotional bond is based on interpretations. Consequently, attention to interpretative schemes could be incorporated into methodologies such as service blueprinting [3]. The concern then is not solely designing efficient service flows [1, 2], but also frames of interpretation that provide emotional guides to users. These can be broken down into artificial, informational and language aspects. For example, when designing customer actions, onstage visible contacts, backstage invisible contacts, supports processes and physical evidence [3], the emotional / interpretive value of these can be analyzed in terms of their artificial, informational and language dimensions. For instance, in the case of Maggie’s London, artifacts, information and language in a care setting appealed to users’ domestic sensibilities, which to some degree contributed to users’ improved emotional well-being and sense of community.

7. Conclusion

In this paper we offered an insight into the emotional dimension of service systems (design) by drawing on a field study of a cancer care service system. We illustrated that a key part of designing emotional wellbeing is being able to draw on, synthesize and transform a compound of interpretive schemes. We outlined some implications for theory and practice of service system design. Our findings suggested that emotion is a highly interpretative phenomenon, which can be further understood through research pertaining to interpretation processes and managing meaning. Perhaps by designing and managing meanings and interpretations the emotional wellbeing of patients in healthcare service systems will be improved, thereby improving recuperation rates and freeing-up resources [6].

8. References

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