Co-Designing the Client's Civic Queuing Experience Based on Human Ethology: The Challenges of Welcoming the Homeless in a Social Public Institution in Geneva

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Given its growing influence on the image and reputation of organizations, the customer experience is now one of management's main responsibilities. The private sector has been aware of this for many years. Public administrations must also take an interest in it. This is particularly the case for the Geneva social institution we studied, which, with its public and social role and its duty to guarantee total equality of treatment to its various users, seeks to offer them a customer experience that is as personalized, meaningful, and as complete as possible. The primary objective of this research is to define the main elements of perceived value of the welfare office "queuing experience" such as equality and dignity. The focus here is on homelessness.

Keywords: homelessness, human ethology, queuing theory, service design, social innovation, welfare

CONTEXT

We study here the queuing experience of homeless people who have to collect their pension from social welfare. To do so, we employ a human-centric, service-design approach based on hu-man ethology to address their specific needs.

This category of people represents a very small minority (about 100) of all those receiving social benefits. They typically do not have an address or a bank account. They just go to the counter at the social welfare office with their identity papers and receive a small amount of cash (a few hundred Swiss francs) or postal cheques. They visit the office mainly on the first two days of each month. They cannot simply be integrated into the queues formed by other visitors as they need personalized support. Until recently, this was done in an improvised way by an employee who has since retired but had taken it upon himself to look after them, while the digitalization of the pro-cesses simply leaves this population out.

A service acquires value once the client perceives the benefits of it. Today, most of these salient attributes (i.e., elements of perceived value) are perceived during the service experience itself, when the process of service co-creation occurs between clients and the service provider. Through service design (Fragnière et al., 2012), we have developed a solution to maintain the actual standardized flow processes,

which are well-adapted for the majority of people, but that add specific support for the homeless without creating additional costs or unfairness for the rest of the queue. The primary motivation is legal. Homeless people have the right to receive their pension, and it is the state's duty to provide this benefit. We are, therefore, in a context of social innovation. The advantage of applying the precepts of service design here is that we have to find a logistical solution and also work on the notion of mental health attributes.

Indeed, our fieldwork has shown that the experience of injustice is a point of vulnerability in the queuing process that leads to the provision of services. However, public services, as opposed to private services, make little effort in terms of customer experience, often for reasons of equality of treatment. The institution studied, with its public and social role, seeks to offer them a customer experience that is as personalized, meaningful, and complete as possible while, at the same time, guaranteeing perfect equality of treatment for its various users. From the perspective of analyzing the customer experience within an institution, the aim is to highlight the challenges faced by all public services, in the sense that they have to cope with a large number of customers and requests without giving the impression of an automated process, that depersonalizes the process and contact.

Co-creation corresponds to a goal of public service design within a modus operandi that could be defined as "all-terrain." This specific modus operandi must be implemented to ensure the state's duty-of-care mission. In practice, the co-creation has been accomplished by means of a mixed ethnographic and ethological approach to take into consideration the needs of the homeless and the state's duty of care and to avoid creating injustices within other profiles.

Thus, through immersions (naturalist observation) and semi-directed interviews with 14 clients and 7 staff members, we were able to generate research hypotheses, which were considered with the scientific literature and enabled us to develop a new experimental scenario (service blueprint), which was staged in actual size to finally be put into "production" by the Geneva public institution that was studied.

Thus, the research question we aim to address in this paper is the following. How can we adapt the citizen journey of the small minority of homeless pensioners within the framework of the general system of social services offered to the whole population of Geneva by applying service-design approaches based on both ethnographic and ethological fieldwork and why should this be done?

This study was initiated in 2015 by the authors in the context of an EMBA thesis for the University of Geneva. It evolved from, first, observations through co-creation and blueprinting to prototyping and live implementation. It was then transformed to continuously offer the best service within the specific context of the institutions, applying the findings of this research and adapting them to the more recent pandemic context.

QUEUING THEORY NOTIONS

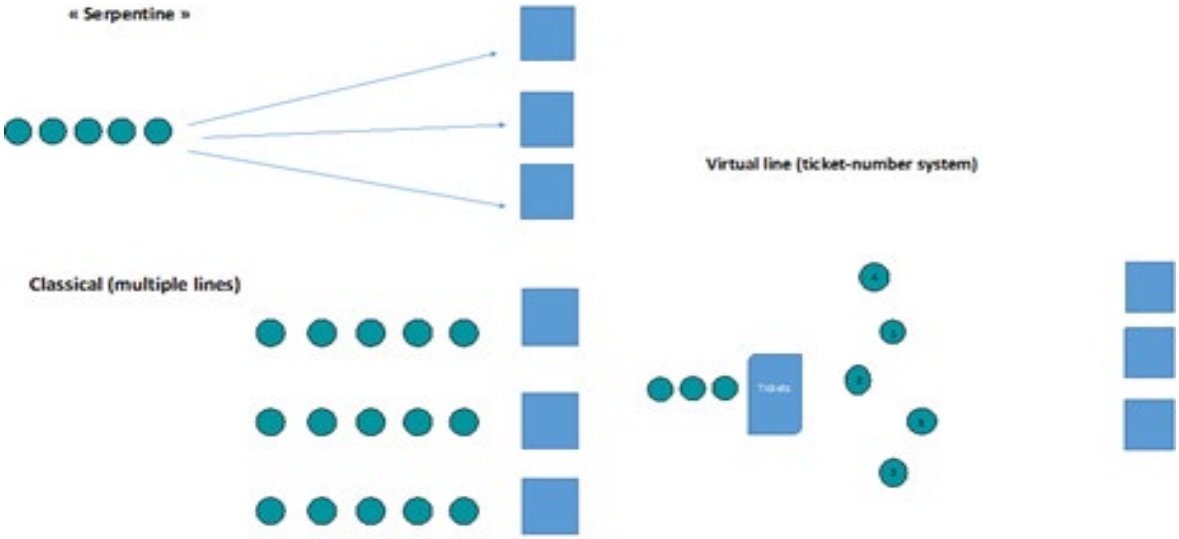
At the beginning of the 20th century, the Danish engineer Agner Krarup Erlang (1878–1929) developed the mathematical theory of waiting lines (called queuing theory). His mathematical models were applied for the first time to assess the very long queues of white-collar workers who want-ed to take elevators to their offices in high-rise buildings. Erlang was not only interested in quantitative models to evaluate waiting time and queue length but also in the perception of time spent in the queue (qualitative aspects, such as talking with a colleague, reading a newspaper, or enjoying a bagel and a coffee, may create the impression that the perceived wait time is shorter than the actual wait time). Unfortunately, today, the two approaches (quantitative and qualitative) are too often treated separately.

There are three different configurations of queues. First, we have the traditional queue that con-sists of several queues each leading to a service counter. Next, we consider the single line leading to several cashiers or customer service associates, also called a serpentine queue. The last queue configuration we consider is the queue with tickets, also called a virtual queue. A first line leads to a ticket dispenser. After taking a ticket, people take their seats in the waiting room and go to a specific window as soon as the electronic bulletin board invites them by displaying the number on their ticket. All three queue configurations apply the so-called FIFO (First In First Out) rule (see Figure 1).

On the one hand, quantitative approaches coupled with Monte Carlo simulation techniques now allow computers to calculate a range of indicators to manage the queue from an essentially operational point of view. For example, when wait times in the queue are considered too long, these models can accurately assess the number of additional cashiers or associates needed in order to return to a reasonable wait time.

On the other hand, qualitative approaches allow us to grasp behavioral aspects of the queue. The most studied queue behaviors are a priori impatience ("balking") and a posteriori ("reneging"), which leads to the abandoning the queue if it is perceived as too long, as well as switching from one queue to another ("jockeying") to reduce waiting time. For example, jockeying is a typical behavior of traditional queues and generally creates feelings of injustice within the queue. By contrast, the serpentine queue eliminates the possibility of jockeying. However, it is subject to more frequent abandonment behaviors when the queues are very long. The same applies to the queue with numbered tickets.

FIGURE 1
MAIN CUSTOMER QUEUE CONFIGURATIONS BASED ON THE FIFO (FIRST IN FIRST OUT) RULE



LITERATURE REVIEW

A waiting line, therefore, is not solely a logistical element leading to a service experience. Furthermore, the scientific literature on this topic has distinguished two areas: operations management with the "queuing theory," which is highly oriented toward quantitative models, and marketing with more qualitative approaches such as applied psychology. Below is an overview of research that takes into consideration several behavioral aspects of queues.

Maister (2005) was one of the first authors to discuss the "psychology of queues." Naumann and Miles (2001) emphasized the importance of the control process and the announcement of wait times in order to maintain a sense of fairness in the queue. Rafaeli et al. (2002) highlighted the im-portance of the relationship between the structure of the queue and the attitudes of clients. These authors also questioned perceived anxiety about whether the service would be delivered according to expectations. Van Riel et al. (2012) described waiting as a psychological experience and found that the traditional queue can produce a sense of injustice, even if there is no inequality from an objective point of view. The authors showed that, when the client perceives that the service provider has control over the wait time, longer wait times will be more unpleasant. Through their study, Klinner and Walsh (2013) found that a service involving a feeling of discrimination can lead to a client's frustration and a sense of helplessness. Based on a case study,

Mukherjee et al. (2009) examined the difference between actual wait times and wait times as perceived by the consumer. It becomes clear that there are different ways to reduce this difference, and that depending on the emotional state of clients, the perceived wait time may be longer or shorter. It is important to note that, with the advent of new technologies and the Internet, qualitative research has also focused on the perception of waiting for online services. Nah (2004) studied the wait time tolerated when consulting websites. Finally, Hall (1966), who developed the concept of proxemics, stated that individuals tend to create an emotionally strong zone around themselves, which may also be described as an individual perimeter of security, like a bubble. This leads us to the notion of human ethology.

The term "human ethology" is defined as the study of human behavior without relying on questions or discussion but through sole observation from the outside. Irenãus Eibl-Eibesfeldt (1928-2018) is known to be the first scientist to have systematically explored human ecosystems with methods and concepts of animal ethology. In the 1970s, he created a repertoire of the most universal human behaviors. Basic facial expressions and gestures appear to be found in all human socie-ties have, thus, been categorized. He also highlighted the invariance of certain behaviors such as frowns related to the expression of anger or, in contrast, a brief raising of the eyebrows as a sign of friendly welcome. In our research, we apply human ethology in addition to ethnomethological approaches to conduct the fieldwork for our service designs (see, e.g., Dubosson et al., 2017; Fragnière et al., 2017a; and Fragnière et al., 2017b).

METHODOLOGY

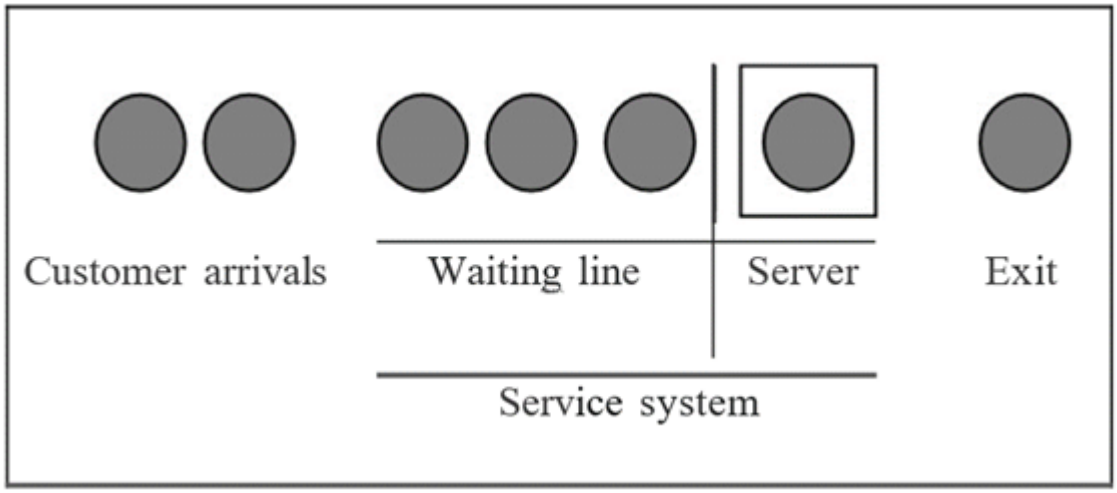
Our theatre-based approach to service design is conducted in four steps:

1. Ethnomethodology through site visits, immersion work, and semi-directed interviews with service providers and clients in order to identify the salient attributes of a given service experience;
2. Development of a theatrical script that makes fully tangible the key elements of the ser-vice interaction;
3. Rehearsal of the script using a trained director in order to maximize authenticity, properly visualize the service, and work through the design process iteratively; and
4. Development and delivery of "operating modes," i.e., redesigned scripts for the service based on the results of the rehearsals.

In this research, for step one of the service-design methodology, we have used a mix of ethnography and human ethology to redesign the ad hoc queue of homeless people within the social welfare office. Human ethology has an advantage over ethnography in that it does not rely on cultural theory; it focuses on all the factors that induce certain behaviors, such as both innate and learned stimuli. Two primary methodologies are used: naturalistic observation and experimentation. The fundamental tools are paper/pencil, photos, videos, and vocal recordings. The main principles of ethology are to always remain at a descriptive level and to determine what is observed based on accounts.

Most service encounters correspond to a "queue network" where a queue system is connected to servers (see Figure 2). A queue configuration (see Figure 1) leads people to a server, which in our case will be a given counter. Once the customer's request has been processed, she or he exits the building.

FIGURE 2
A GENERIC REPRESENTATION OF A SERVICE PROCESS



We assume that each type of production service (in this study, the social welfare office) re-quires a tailored queue design in order to maximize the user's perceived value for any given service experience. As previously stated, the advantage of human ethology over ethnography is that it is not based on cultural theory. This is, indeed, very important in the case of homeless people.

Through human ethology, we have been able to design "all-terrain cultural queues" for all users who come to the welfare office. We have also used several techniques of human ethology (participatory and non-participatory observation, a breaching experiment, and quasi-experience) to simulate different designs of queues that minimize the risks of disorientation, confusion, and unequal treatment.

To begin with, we focused our attention on collecting qualitative data and used the semi-directive interview technique to do so. This was based on a mirror questionnaire that collected the same type of information from users and providers, while addressing each in a language that was conducive to a clear understanding of the questions asked.

The "mirror" interviews were conducted with 14 clients and 7 people working for the organization. Data collection was done at various times to diversify the sampling panel. It should be noted that, despite a relatively small sample, this has allowed us to identify elements that are sufficiently relevant to our study.

After the analysis of the semi-directive questionnaires, we proceeded to different phases of immersion within the reception services. The purpose of these immersion episodes was to evaluate the atmosphere within the reception areas, mainly in regard to the queue. The sampling technique adopted is called "successive centration" (focal sampling); observation began as soon as the client entered the queue and continued until the client left the queue (Altmann, 1974).

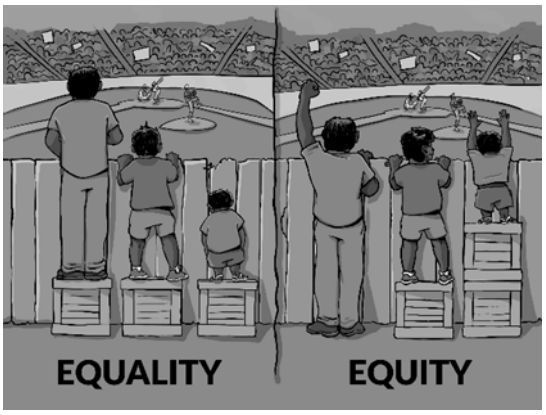
We focused on studying client behaviors in an ethological way (the ethogram is used precisely to categorize the different types of possible behaviors and to count their occurrences) in order to deduce the signs that indicate a certain dissatisfaction with the service provided, which could result in impatience, nervousness, or aggression or, on the contrary, signs that expectations were met, indicated by relaxed, social, or occupational behaviors.

We also noted the context of the queue, namely the premises, the lighting of the space, and the general atmosphere. On the basis of the information collected and its analysis, we developed bivariate difference and relationship assumptions (based on two variables and their cause-and-effect relationships) in a four-phase process: identification of variables, definition and classification of assumptions, selection, and reformulation.

FINDINGS AND DESIGN RECOMMENDATIONS

One of the main hypotheses generated based on our fieldwork is the notion of equal treatment that appeared to us as a key point in understanding the queue, acceptance, and the perception of waiting time, particularly in such a public service (see Figure 3). The client's need for reassurance that not only will he or she be served as quickly as possible but also in an order perceived as egalitarian is reflected in the literature. For example, Maister (2005) pointed out that the customer's sense of equality is not always obvious and must be explicitly managed. Whatever priority rule is applied, the service provider must make significant efforts to ensure that these rules are compatible with the client's perception of equal treatment, either by adjusting the rules accordingly or by be-having proactively to reassure the client that they are appropriate.

FIGURE 3
DIFFERENCE BETWEEN EQUALITY AND EQUITY (ILLUSTRATOR UNKNOWN)



Our findings also show the relevance of information and of the competence and friendliness of staff. More specifically, the themes of clarity of administrative procedures and personalized service adapted to each individual's situation are perceived as highly important, followed by the notions of end-to-end processing of their file and the efficiency of the service.

Our findings, combined with the literature review, further suggest that a major challenge for service providers today is to reverse what they have done thus far. That is, rather than simply making clients who are homeless wait in the queue, their wait time should be used productively to in-volve them to a greater extent in the service experience and, thereby, increase their perception of the value and quality of the service received.

Thus, we had the opportunity to conduct a social experiment that has a significant impact on the population concerned and on the phenomenon of waiting on the first day of the month (when homeless people usually come to get their money). The recommendation to move the reception desk for those who are homeless from the waiting area to the appointment area at the beginning of each month was chosen as the first implementation. Using data from ethograms, immersions (be-fore/after), and semi-directed interviews (before/after), our goal was to analyze:

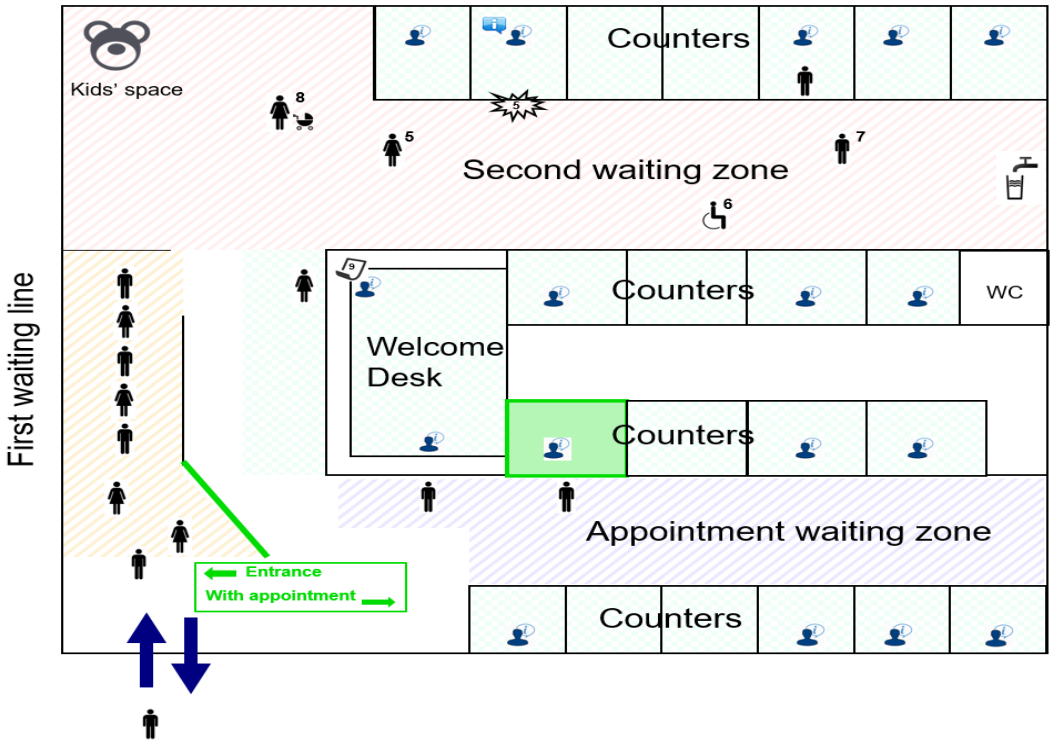
- On the one hand, the behavior of people in the main queue in order to compare their re-actions when those who are homeless pass straight through compared to the case when they are directed to the other side;
- On the other hand, the behavior and observations in the appointment area between those who are homeless and other clients; and
- Finally, based on the interviews, to analyze how members of the homeless population have experienced the change. The following is a summary of our observations.

Based on our observations (see Figure 4 to visualize the following explanations), we noted that the homeless clients were all on very good terms with the people at the reception desk and liked to pass by their counters to greet them warmly. The fact that they were moved to an area that no long-er required them to pass in front of this staff appeared to us to be somewhat disappointing for those who seemed to be seeking social contact. Moreover, both our observations and interviews indicate that this group tends to want to use the restrooms when they visit. Apart from the fact that the toilets are located next to the former counter where they were received and, therefore, are relatively far from the current counter, their access to the restrooms passes in front of the desk to which the first line leads, thus resulting in the same problem of "queue overtaking." However, it appears that this is not a problem if the persons have been identified as waiting on the other side rather than as just entering the building.

Based on our ethograms, it was further found that behavior in the queue changed significantly in the sense that a smaller proportion of clients seemed to show signs of impatience or agitation. To complete the analysis, we also wanted to report back to the reception staff and the security agent. A few days after this experience, we met for half an hour and listened to their feedback. It appears that the experiment was very well received by all staff, and the recommendation was made to implement the measure on a permanent basis. In particular, the security officer noted that it was very good to receive the homeless clients in an office that remained close to the entrance and other visitors and not "hidden away at the back." A few months later, we met with the reception staff, who confirmed that the scheme had proved worthwhile.

Still, on a human level, the need for socialization and recognition by the reception staff of the social welfare office seems to have a strong influence on the level of satisfaction with the service for those who are homeless. At the same time, we assumed that doubling the line could give them a sense of privilege in a world where they certainly have few others. As is the case in cognitive psychology, it is essential in service management to distinguish between explicit and tacit knowledge. This distinction makes it possible to address either category in appropriate ways to maximize the impact of both.

FIGURE 4
SCHEME OF RECEPTION WITH THE MODIFICATIONS MADE DURING THE SOCIAL EXPERIMENT



CONCLUSION

This human-centric, service-design approach based on a combination of ethnographic methods (semi-structured interviews) and ethological approaches (naturalist observations) offered interesting possibilities in this particular context of redesigning a welfare intake process in order, first of all, to maintain a good service rate and, at the same time, to provide service to homeless persons in a fair and equitable manner while preserving a general sense of justice.

The results have already been integrated into the new configuration of the social reception queue of the Geneva social agency under study. Our main recommendation was to move the reception desk dedicated to homeless clients from the waiting area to the appointment area at the beginning of each month. The floor strips delimiting the first line were also moved to create a funnel in order to ensure that all users enter the queue and to prevent some from being tempted to go straight ahead. Steps were taken to improve the experiences of these clients by guiding them to the queue and providing a separate waiting area for them as well as redirecting them to a neutral counter.

During the first wave of the COVID-19 pandemic, the social welfare reception office was closed. Therefore, for homeless people, it was necessary to create an emergency solution. As they have no access to digital resources, it was necessary to set up a temporary reception area in front of the entrance to the building on the first day of each month to welcome this group of clients and give them their envelopes. This transitional solution worked more or less adequately, but it created problems because some of the other visitors who were not homeless and thus had access to online social welfare services perceived it as unfair. Since the summer of 2020, the social welfare offices have been reopening in the afternoons, which allowed them to rely again on the design solution we had developed.

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