

G. Beaudon (2018): "Modelling customer experience in insurance: Context-System-Trajectory Theory". In: *Proceedings of the 16th European Conference on Computer-Supported Cooperative Work: The International Venue on Practice-centred Computing and the Design of Cooperation Technologies - Doctoral Colloquium Papers, Reports of the European Society for Socially Embedded Technologies* (ISSN 2510-2591), DOI: 10.18420/ecscw2018_dc06

Modelling customer experience in insurance: Context-System-Trajectory Theory

Gilles BEAUDON

Université de Technologie de Troyes, Institut Charles-Delaunay, Equipe Tech-CICO

gilles.beaudon@utt.fr

Abstract. My doctoral research is about modelling customer experience in insurance. Analyzing new insurers' problematics with in the third French mutual health-insurer has emphasized the customer experience as a relevancy and complex subject. This application will describe our exploratory interviews methodology, our first finding: a new theoretical framework to analyze customer experience (our object), and considered next steps.

Doctoral research

Research questions

French health-insurance market is completely transforming. From 1156 in 2006 to 560 in 2014 (Juilliard, 2016), mutual health-insurers dropped to 446 in 2016 (Perrin, 2017). Regulatory constraints upset market's rules. More and more aggressive non-mutual healthinsurance actors enter this market. At last, the need for customer personalization grows up. Offering relevant and omni-channel customer experiences is becoming a necessity. Nevertheless, in order to offer omnichannel personalized services, insurers must transform their organizational

structure as well as their business models. Additionally they have to improve their digital systems and take advantage of real time data via connected objects. This doctoral research main hypothesis is the misalignment of these components: organization, business model, service relation, data and information system. It needs a unified theoretical framework, an analysis methodology and even finally a computing definition. Together, it allows handling customer experience in the digital environment. Our preliminary intuition is that within customer experience domain, a new information system trajectory is organically linked to the dynamic structuration of customer's trajectories. In other words, relationship between information system and actor's activity is an "entanglement" matter (Orlikowski & Scott, 2008). In the field of Information System research in Management Studies, and based on the concept of relations from Latour's and Law's actor-network theory (ANT), (Orlikowski, 2007) claimed "the constitutive entanglement of the social and the material in everyday organizational life." This entanglement presumes that there are no independently existing entities with inherent characteristics. The central argument insists on dealing with the social and the material in the same register, and not reverting to a limiting dualism that treats them as separate phenomena. Thus, our main questions are:

- describe Customer Experience Management System and user engagement entanglement and Trajectories (states) of the entanglement of the objet (Customer experience);
- model Customer Experience with an original construct that we called Context-System-Trajectory (CST);
- define a contextualizing artifact that measure system and context trajectories jointly and thus states of the object (Customer Experience) relying on service interaction (Schneider, 2016) unit of analysis;
- elaborate an application to model service interaction ground on an adapted service system model ISPAR from (Maglio et al., 2009) called NISPARO (New event, Interaction and Service Interaction, Proposal, Agreement, Realization and Outcome) using machine learning techniques.

Methodological approach

During two months (November-December 2017) we conducted fifteen exploratory interviews. Interviewees came from various insurer business units – Product Development, Marketing & Sales, Policy Administration, Customer Management and IT – and different hierarchical level – strategic, management, executive and experts. Each interview lasted one and half hour. All have been transcribed. The result showed three main topics: innovation process, strategic context and disruptive insurance approaches. We analyzed them with interpretative methodology leading to more than twenty disruptive approaches. This process has confirmed and highlighted some of our hypothesis:

- Customer experience is a strategic aspect of business transformation and have relevant digital dimension;
- However one of the major issue is to consider this phenomenon beyond its marketing dimension;
- Finally, it is difficult to conceive relationship between information system and human activity according to a Sociomaterial Entanglement design pattern, rather than distinguish two elements interacting, and thus ontologically divided.

Then, we follow (Moschetti-Jacob, 2016) for whom the creation of an artifact answering the complexity of customer experience handling in digital environment is a relevant approach. We create an artifact based on Design Science Methodology (Hevner and al., 2004) – the “contextualizing artifact” –. This one is grounded on commitment/engagement (Becker, 1960; Thevenot, 2001) and trajectory (Strauss, 1992) concepts. We aim to design cross-channel customer experience to develop managers’ capabilities and help them reduce the complexity of customer experience management.

Work/findings to date

According to our methodology we settled an artifact to the customer experience management domain, and specifically the capture of Context. This Context limits the number of possible states a System could occupy. Thus, we focus on the representation of contextual data that describes the state of a system within a given Trajectory. Henceforth this represents what we call “contextualized artifact”, which is a computing management tool that professionals can use to reduce the complexity of customer experience management.

Therefore our contextualized artifact rests on a double hypothesis:

- customer experience information system and consistency activity journeys constitute one single process, according to imbrication perspective (Leonardi et al., 2012), the “intra-action” theory (Barad, 2007), and the entanglement and information system sociomateriality (Orlilowski, 2007 ; 2010 ; Orlikowski and Scott 2008);
- the System/Trajectory pattern makes Context the joining element between System and Trajectory. So, our contextualized artifact could be positioned within the triplet Context/System/Trajectory concept also call CST theory.

To develop our theory we to conceive a new computational framework for customer experience information system. We thought an application to collect, interpret and analyze interactions services as a service system model called NISPARO adapted from (Maglio et al., 2009). Our primary conclusions rely on multiple arguments. First, the trajectory (states) concept (Oiry and al., 2010) is relevant to analyze customer experience management system entangled with customer engagement journey. Secondly we defined that user Engagement has

spatial - a situated coordinated action - (Thévenot, 2001) and temporal - linked decisions from the past - dimensions (Becker, 1960). Thirdly we develop the CST theory to articulate information system and engagement trajectory related to a contextualizing artifact. This artifact reduces the complexity of customer experience management by outlining state's system with contextual data

Next steps

This section presents our main next steps as we started this project on November 2017. First we have to refine CST theory improving our object scope and definition. Context, Engagement, Interaction and Trajectory as mains concepts have to be clearly settled. Second, our field of study has to be refined in order to outline our artifact's testing users. Currently we consider, according to La Mutuelle Generale committee, our thesis positioning at a marketing management level. But it appears that other business units - Product Development, Sales and Customer Management - will be immediate recipients Last considered step to ground our theory is observing interaction services (Schneider, 2016) within different using situation involving IT tools. At this point we just have Salesforce data without context observation. It is unsatisfying to qualify computer supported work problem. As discussed, these steps are main ones. Other exploratory works are considered such as conceive an interaction mining application and a customer experience data visualization. Our challenge here will be the datasets available in health-insurer information system. It is the key to realize previous steps and step back to analyze real managers' practices.

Expected contributions

We expect that our work change insurers' manager views on customer experience. It reveals customer experience complexity beyond its marketing dimension. With CST theory we have a tool to analyze initial situation of customer experience information system versus the targeted one. It exposes a disruptive framework for sensing, interpreting and analyzing interaction services contextual data.

References

- Barad, K. M. (2007): *Meeting the universe halfway: quantum physics and the entanglement of matter and meaning*. Durham: Duke University Press.
- Becker, H. S. (1960): Notes on the Concept of Commitment. *American Journal of Sociology*, vol. 66, no. 1, July 1960, pp. 32-40. <https://doi.org/10.1086/222820>

- Hevner, A.R., March, S.T., Park, J., Ram, S. (2004): Design Science in Information Systems Research. *MIS Quarterly*, vol 28, no. 1, March 2004, pp. 75–105.
- Juilliard, M.-P. (2016) : Une concentration des mutuelles inéluctable... ou presque. *L'Argus de l'assurance*, (N° 7451). From <http://www.argusdelassurance.com/acteurs/une-concentration-des-mutuelles-ineluctable-ou-presque.105324>
- Leonardi, P. M., Nardi, B. A., & Kallinikos, J. (Éd.). (2012): *Materiality and organizing: social interaction in a technological world* (1st ed). Oxford: Oxford University Press.
- Maglio, P. P., Vargo, S. L., Caswell, N., & Spohrer, J. (2009): The service system is the basic abstraction of service science. *Information Systems and E-Business Management*, vol. 7, no. 4, September 2009, pp. 395-406. <https://doi.org/10.1007/s10257-008-0105-1>
- Moschetti-Jacob, F. (2016, décembre): *Création d'un artefact modulaire d'aide à la conception de parcours client cross-canal visant à développer les capacités des managers des entreprises du secteur du commerce* (Thesis). Paris-Dauphine.
- Oiry, E., Bidart, C., Brochier, D., Garnier, J., Gilson, A., Longo, M.-E., ... Tchobanian, R. (2010): Propositions pour un cadre théorique unifié et une méthodologie d'analyse des trajectoires des projets dans les organisations. *Management & Avenir*, vol. 36, no. 6, pp. 84. <https://doi.org/10.3917/mav.036.0084>
- Orlikowski, W. J. (2007): Sociomaterial Practices: Exploring Technology at Work. *Organization Studies*, vol. 28, no. 9, September 2007, pp. 1435-1448. <https://doi.org/10.1177/0170840607081138>
- Orlikowski, W., & Scott, S. (2008): The entangling of technology and work in organizations. *Working paper series, Dept of management information systems and innovation group*, vol. London School of Economics, January 2008.
- Orlikowski, W. J. (2010): The sociomateriality of organisational life: considering technology in management research. *Cambridge Journal of Economics*, vol. 34, no 1, January 2010, pp. 125-141. <https://doi.org/10.1093/cje/bep058>

Perrin, G. (2017): Santé : la baisse du nombre de mutuelles se poursuit. *L'Argus de l'assurance*. From <http://www.argusdelassurance.com/acteurs/mutuelles-de-sante-ip/sante-la-baisse-du-nombre-de-mutuelles-se-poursuit.120613>

Schneider, A. (2016): *Handling the clash between production & consumption. A situated view on front-line service workers' competencies in interactive service*. Rainer Hampp Verlag.

Strauss, A.L. (1992): *La trame de la négociation: sociologie qualitative et interactionnisme*. Éditions L'Harmattan, Paris.

Thévenot, L. (2001): *The Practice Turn in Contemporary Theory*, Chapter 'Pragmatic regimes governing the engagement with the world', Knorr-Cetina, K., Schatzki, T. Savigny Eike v. (eds).