Quantifying User Experience in a Sales Journey

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Abstract

"Sell more; sell faster" is the mantra of a sales team striving to grow. Achieving this in a high-tech enterprise means optimizing a process involving many tools, policies, and teams while enabling the sales force to spend more time with customers solving their business challenges and less time on peripheral tasks.

To help guide this optimization, we wanted a robust means to sample our sales force and measure their perception of their user journey. We developed an interactive tool to collect data and a heat map to render the quantitative results. We have collected data three times at roughly one-year intervals with sufficient rigor to influence user experience (UX) investments and measure changes over time.

This effort tried to address the 3-horned problem by delivering reliable measurements, in a realistic context of an industrial user journey, and with an emphasis on generalizable results and tooling.

Author Keywords

journey map; user perception survey; heat map; kanban; UX research; process visualization

ACM Classification Keywords

H.1.2 User/Machine Systems

Introduction

As part of an effort to increase the efficiency of our sales force and improve their work experience, we

assembled a user experience (UX) team in our Worldwide Sales Strategy & Operations division.

With over 240 tools and a complex, globally distributed sales process, we needed a means to make reliable decisions regarding our UX investments and to measure and track the impact of our work over time.

We needed to develop a mechanism to 1) collect user sentiment in a repeatable and statistically rigorous way through every stage of the user journey, 2) to automate the data collection process, and 3) minimize the time required from participants. We also required a sample size that would provide results with sufficient significance so that our leadership could rely on for strategic business decisions.

Method

Our team had previously documented the sales process including 6 overarching phases, 10 sub-phases, and 40 subordinate tasks, along with 4 key sales personas:

- Account Managers (primary customer liaisons)
- System Engineers (general technical experts)
- Sales Specialists (vertical and products experts)
- Sales Leaders (management)

We decided to measure user perception on the 40 tasks as the 10 sub-phases would have yielded data too coarse to be useful.

For the survey tool, we chose to use our existing Kanban-style process diagram as a basis for participant input. It consisted of a grid with a horizontal header containing the 2 levels of sales phases and 10 columns holding the 40 (2015 and 2016) or 47 (2017) subordinate tasks. Time flows from left to right. See Figure 1 and an interactive version here: http://user-experience.net/grid-color-toggle. Note that these versions have been sanitized to remove proprietary information.

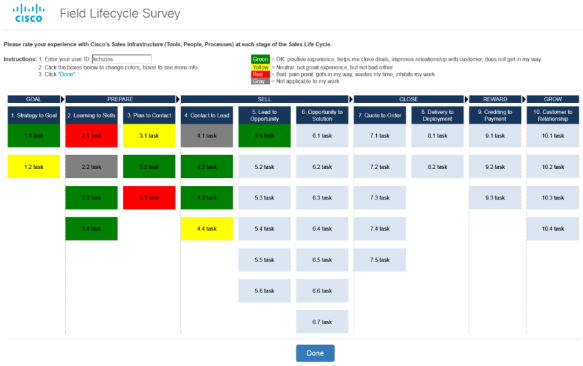

Figure 1: A partially completed survey showing the 4 color options (3 experience sentiments and N/A)

This layout proved to be helpful in several ways. As an input format, it facilitated the survey participants' visualization of their own sales process; as an output format, we found it useful as a basis for a heat (experience) map. See figure 2.

We chose a 3-point color scale (along with grey for N/A) as a representation of sentiment in a legend on the data collection tool:

- Green = an OK or positive experience.
- Yellow = a neutral experience.
- Red = a bad experience or pain point.
- Grey = a task that is not applicable to their role

We included the explicit N/A option (grey), in order to differentiate between a non-response and a task that wasn't applicable for the participant. N/A entries also

helped us understand the accuracy of the journey map bolstered our knowledge of specific job roles.

The colors were coded for numerical analysis as 1, 2, or 3 for red, yellow, and green respectively, and rendered on a 30-point scale (0.0 to 3.0). Microsoft Excel was used to for the data processing and to produce data visualizations.

In use, the interactive tool allows the user to click on each of the 40 cells (tasks) and cycle between the color choices. Each task in the grid included a single sentence of hover-text to assist participants' understanding.

We used a facilitated process in 2015 and 2016 in which a researcher communicated for approximately 15 minutes with remote participants using a video conferencing tool with screen sharing (Cisco WebEx) while they made their selections. In 2017 participants worked independently without a facilitator.

Research participants were selected from multiple geographic regions and to provide a balanced cross section of target personas

The average *n* after accounting for N/A responses across the attributes (tasks) and the corresponding participant counts are listed in Table 1. Note that the journey map was revised in 2017 with the addition of 7 tasks.

Year	# of Participants	Average n	# of Tasks
2015	33	27	40
2016	41	36	40
2017	39	28	47

Table 1: Number of participants, average *n*, and number of tasks in each survey

Findings

The resulting heat map from 2015 is shown in Figure 2. Note that this map uses a relative (full) spectrum of hues rather than an absolute scale.

Figure 2: The 2015 journey / heat map.

Aggregating the individual tasks and representing the average for each phase yielded the plots in Figure 3.

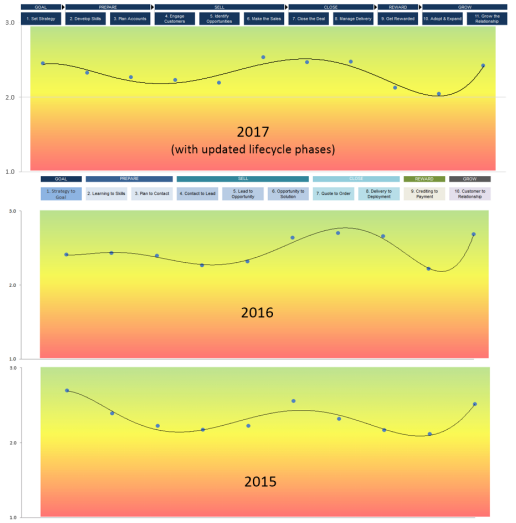

Figure 3: Visual comparison of the results from 2015, 2016, and 2017

Comparing the individual tasks across three surveys using a 2-sample (assuming equal variances) t-test, we

found a number of tasks with significant differences years, listed in Table 2.

Comparison	# of Tasks with sig. differences	Average Delta
2015 & 2016 (p≤.02)	6	26.1%
2015 & 2017 (p≤.02)	3	2.2%
2016 & 2017 (p≤.03)	8	13.4%

Table 2: Number of tasks with a significant difference between the 3 years

Discussion

There are two areas for further work. We saw significantly different results with the moderated data collection compared to the un-moderated use of the survey. While this is not unexpected, we will use both methods in a future session to compare between-groups. We are also striving to establish a mapping of areas of corporate UX investment to the user journey to investigate coincidence of UX investment and changing user sentiment.

Conclusion

This UX research process and tooling has been valuable in elevating awareness to that of executive strategic decision-making. The emphasis on a robust industrial UX research process has also increased stakeholder understanding and expectations for these kind of data. The results themselves have helped steer and justify overall UX investments. Additionally, the tooling, with its foundation in the user journey is being generalized to other research tasks beyond user sentiment and is being repurposed to measure user needs for mobile platform capabilities.

In terms of the three-horned dilemma: 1) we have raised the degree of rigor in our organization, 2) the research protocol, while only probing perception is rooted in a validated user journey and has evolved based on this research and 3) although we have not found the results to be generalizable, the tooling and process is finding new applications.

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