Tackling User Research Challenges within the Finance Industry

Rina R. Wehbe

University of Waterloo

200 University Ave. W

Waterloo, ON, Canada N2L3G1

rina.wehbe@uwaterloo.ca

Shahtab Wahid

Bloomberg L.P.

731 Lexington Ave.

New York, NY, 10022

swahid2@bloomberg.net

Siddharth Gupta

Bloomberg L.P.

731 Lexington Ave.

New York, NY, 10022

sgupta250@bloomberg.net

Edward W. Ishak

Bloomberg L.P.

731 Lexington Ave.

New York, NY, 10022

eishak@bloomberg.net

Abstract

We present a case study illustrating how a user experience (UX) team performs user research in the finance industry. In particular, we focus on the impact of salespeople and financial professionals on how the research is conducted. We discuss challenges stemming from this—such as recruitment, time constraints, and conflicting expectations—and potential ways to mitigate them. Our work contributes to an understanding of how to do research in time-sensitive, high pressure environments while also working with gatekeepers to accessing users.

Author Keywords

User Experience; Field Research; Qualitative; Finance; Needs Assessment

ACM Classification Keywords

H.5.1. Information interfaces and presentation (e.g., HCI): Multimedia Information Systems: Evaluation/Methodology. H.5.2 User Interfaces: User Centered Design.

Introduction

Institutional finance is a complex domain with a variety of specialized roles such as traders, analysts, and portfolio managers. Professionals in this industry rely on expert systems to support their intricate workflows.

Bloomberg L.P., as a provider of data and analytics to the industry, heavily relies on contact with its users to ensure its services address core needs. Understanding these needs and applying them to the design of products is the responsibility of the User Experience (UX) Team.

This paper provides a case study of one way the UX team conducts research out in the field with finance professionals. In this example, we present the team's research process to fully understand the user workflows and breakdowns that occur. We describe the challenges researchers face regarding interactions with others, recruiting, conducting interviews, and collecting data. We then delve deeper and explore how these challenges might be overcome.

While our work focuses on the finance domain, it may broadly contribute to an understanding of how to conduct research in time-sensitive, high-pressure environments with participants such as healthcare professionals, security personnel, or air traffic controllers. New researchers or researchers who have not worked in such domains can learn from specific techniques we identify as possible solutions to our concerns.

Background on Roles
There are three groups of people who have to work together to create the best possible systems: the UX team, the users themselves (also referred to as clients), and the sales force. Each group has its own costs and expected benefits.

Researchers and designers on the UX team perform user research at user sites around the world. Typically,

the team will visit finance professionals at their desks to learn about their tasks, workflows, intentions, and breakdowns suffered throughout the day. The team collects and documents data with the goal of finding emerging patterns of use. Once analyzed, the findings inform early design concepts.

When financial markets, such as stock exchanges, are in session, many users (also referred to as clients) are extremely busy and have little time to dedicate to activities that do not contribute to their immediate goals. Thus, clients do have an expectation that they will benefit from meeting others if they choose to dedicate the time.

The UX team collaborates with a sales force that regularly visits and interacts with users. Contrary to the typical role, a salesperson does not just sell, but heavily focuses on maintaining an ongoing relationship with clients. A salesperson ensures the client is able to successfully use the tools and clarifies any questions regarding functionality. Salespeople are also motivated to introduce new functionality to the client to address any new needs that arise.

Case Study: Finance Analysts
We choose to describe a recent project taken up by the UX team to illustrate how user research is carried out. We describe the study as it happened and allude to encountered problems. An extended discussion of these challenges and potential ways of mitigating is presented later.

The project involved an exploration of how analysts in the financial industry conduct research on companies. Analysts gather information from sources such as the

news, earnings reports, and financial models to assess a company and potentially make recommendations to buy or sell. The UX team was tasked with understanding how these analysts go through this process.

Preparations for Research
The general protocol to start a UX research study involves internal research, study pilots, and cooperation with other stakeholders. Researchers must demonstrate a base level of knowledge and familiarity with the domain to ensure the client does not feel like he or she had to explain common knowledge in the industry. The researchers familiarized themselves with the basic activities of an analyst, the types of information they rely on, and the various tools they might be using.

The team gathered information about the workflow from existing literature and, most importantly, from communicating with subject-matter experts. This included talking to salespeople who have anecdotal information based on their personal experience and colleagues who originally made tools for the workflow. Pilot interviews of experts with previous industry experience employed internally were conducted.

Recruitment
The UX team quickly engaged the sales team to aid in identifying which specific clients matched these criteria and were willing to be visited. Using specific internal tools which aid in basic journaling of previous interactions with clients, the sales team suggested a set of clients to visit. The specific sales person representing each client then attempted to setup a meeting. They cast a very wide net, attempting to set up meetings

with up to ten times the target number, knowing that previous efforts yielded a 10-20% success rate in actually meeting the client. Reasons for not being able to conduct a meeting included the client not wanting to meet, being too busy to meet, or not responding to the request. Through this process, 18 clients were scheduled for 30 minute meetings. The participants included clients in analyst, trader, and sales roles so that we could gather insight from both writers and readers of analyst recommendations.

Visiting the Client
All of the client visits had at least two members of the UX team and a salesperson. One UX team member was designated as the interviewer while the other was focused on taking notes since audio recordings were not possible due to privacy concerns. Because most of the clients have an open floor plan, visits were generally limited to three people at most because having more standing around a client's workstation was potentially disruptive to others sitting nearby.

Interviewing and Observing
The UX team always intends to conduct semi-structured interviews with all the clients. Therefore, they planned a set of questions related to background, work practices, interactions with others, tools, and breakdowns.

The researchers had to be conscious of the amount of time they had with the client and be mindful of the client's workload. To maximize their takeaways from the meeting, they usually tried to brief the accompanying salesperson beforehand on how they wanted to conduct the interview. Since a salesperson typically tries to aid the client in real time, the UX team

members explicitly mentioned they would rather try to investigate information first and only assist the client with questions after the interview.

For each meeting, the salesperson initially approached the client, confirmed availability, and only then introduced him or her to the researchers. The UX team members had to be quick to adapt to the circumstances of each visit. The interviews would start with an initial prompting question about the client's work practices. However, for many visits, just as the interview was about to start, it was common for the client to start talking about some of the issues they were having or requests for changes before any interview questions were asked. While this insight fed into the subsequent questions to ask, it sometimes derailed the conversation for many minutes. Additionally, there were times when a salesperson jumped in with a question or a need to make the client feel understood and reassured. This is in contrast to a UX professional's instinct to avoid leading questions and preformed assumptions.

There were times when a client was not sure how to answer a question because he or she had not thought about the issue before. There were a few instances where a salesperson, seeing the struggle, asked a more specific or leading question to aid the client. There were other situations where the client had negative feedback about an issue. Some salespeople were tempted to ask the client directly what solution could help in an effort to resolve the issue. When clients asked questions about complex features or were not sure about how to accomplish a task, a number of salespeople jumped in to volunteer help before the interviewer was able to understand the underlying problem.

Researchers were unable to observe clients for a prolonged period of time, due to privacy concerns and short meeting durations. Some meetings were further interrupted by clients receiving urgent phone calls or important trades, which reduced the already limited time available for the interview. Thus, the researchers had to ask clients to recall their workflows, instead of observing them directly.

Case Study: Discussion

We would like to discuss why some of the challenges we faced exist and the consequences of them on the user research process. Where appropriate, we compare to known methods in literature and discuss what the UX team might do to mitigate the issues.

Recruiting Clients
In this case, the sales team heavily influences the recruitment process. They help select participants and schedule meetings because they have the most intimate and frequent contact with clients. Thus, salespeople can take into account concerns of which the UX team might not be aware. For example, they have a better sense of which clients are willing to provide feedback or how much a client relies on a certain tool. The disadvantages are that the sales team is not fully aware of the types of workflows or issues the researchers would be interested in seeing and unfortunately this may result in some clients being overlooked. Furthermore, the sales team may be suggesting a client because it might further solidify their relationship, or may be excluding a client because the client was visited recently. In situations where such a recruiting partnership exists, it is important to maintain *open communication* regarding the

researchers' needs and *to jointly filter and select* the participants for recruitment.

Additionally, it is important for sales to articulate to the client that the meeting is different than any of the previous meetings. The client should know that researchers would like to meet to understand the current workflows and breakdowns and that this will ultimately benefit the client through improvements to the product. This initial explanation when scheduling can go a long way toward setting the right *intent and benefit* of the meeting.

Time-sensitive Interviewing
A proper contextual inquiry is typically conducted across 10-20 participants for 2-3 hours each [2]. The interviewer is instructed to observe the participant work and interrupt intermittently to discuss aspects of the work [2]. However, our UX team usually has approximately 30 minutes and rarely exceeds this due to the aforementioned time constraints of the client.

The user researcher must quickly convey early on to the client the near-term benefit of the meeting or the entire meeting could be shortened, postponed, or canceled within minutes. Reemphasizing this can harken back to the intent and benefits mentioned in the initial recruitment conversation with the client.

Clients are also extremely concerned about privacy and their own proprietary techniques, which makes them even more reluctant to participate in a prolonged observation session. As a consequence, it might be harder to naturally observe a complete workflow—especially complex tasks or situations where it involves multiple people. The researchers will have to

compensate for this by interviewing more clients, but this means the data can become fragmented.

These circumstances necessitate the need for *efficiency and prioritization in data collection*. This requires the researcher to establish a minimum viable interview template incorporating the most important questions. For example, in the study of finance analysts, the team prioritized questions about background, sources for financial research, writing reports, organizing documents, and sharing with others. To save time, the researchers asked the salesperson to brief them on the client's background and previous interactions during the subway ride to the client's location. The remaining portion of the template guides the researchers on what to prioritize and where lines of conversation can be cut short. Furthermore, in cases where the researcher chooses to pursue an issue minimally or isn't able to, he or she may ask the salesperson about it after the interview to get some additional insight—an advantage of having an accompanying salesperson (but certainly not a replacement for what the user would have to say).

The researcher must also emphasize *reconstruction of workflows* because of the limited capacity to observe. Beyer & Holtzblatt discuss how interviews may be structured to learn about tasks that are normal, intermittent, uninterruptible, long, or focused [2]. Many of the tasks the UX team observes are intermittent, because they can't be scheduled and depend on market activities; uninterruptible, since often they are time-critical; and focused, as they depend on important micro-actions. Because of these conditions, researchers often ask for a retrospective account of work to learn about past events [2]—

reducing the need to piece together fragmented workflows across interviews. When a complex workflow is being discussed, the researcher has to be quick in digging deeper with more specific, but not leading, questions about the tasks. These can elicit more details about their work. However, researchers have to acknowledge the downside of a retrospective account: there will be differences between what the user says and what the user does [3]. Thus, when appropriate, the researcher might ask the client to specifically reenact what they are verbally describing in case this brings out corrections or issues the user was unknowingly omitting.

Steering the Conversations
As previously discussed, salespeople may jump in with questions or comments during the interview. The underlying motivations of the researcher and salesperson are important in explaining why this may happen.

The researchers are motivated to conduct a semi-structured interview to identify common breakdowns in the workflow of the user and seek answers. A researcher might try to structure the interview into portions: background, letting off steam, addressing issues and tying up/debriefing [1]. Thus, they would like to remain in control of the overall direction of the interview. They are also concerned with identifying the underlying problems a client might be experiencing rather than just focusing on immediate suggestions or requests for changes a client might make. For example, a client might request the ability to drag a report from one application to another. The researcher would instead want to focus on what causes the task to span two different applications instead of one.

A salesperson's motivation is to ensure the client is pleased with the level of service. They often visit clients and tell them about new products, features, and provide tips on making their work more efficient. If the client has issues or feedback, the salesperson will try to accommodate and resolve their requests. Salespeople are aware that clients have developed an expectation of service and that the time spent meeting should be worth it.

As a result of these motivations, there are moments when some salespeople can interject with their questions or comments which might lead clients. For a researcher, this is inhibiting as it cuts off avenues of exploration, deviates from the interview structure, and potentially causes the client to think he or she doesn't have to say more since the solution seems apparent.

While initially clarifying the *intent* of the interview is important, it is also important to *refocus* along the lines of the intent. An interviewer must try to recover from deviations in the limited amount of time by reformulating the question. For example, consider a client asking to be able to drag and drop a report from one application to another. A salesperson might try to clarify the specific request by interjecting and asking: "Do you want to be able to drag the report icon?" After letting the client answer, the researcher should try to recover by saying something like: "Let's take a step back for a moment. Do you mind telling me what it is about the second application that makes it a better place for reports?"

It is important to note the salesperson is not derailing the interview intentionally as he or she is not fully

familiar with the research methods a UX person might be using. At the end of the day, the researcher must still be careful and listen to what the client is saying and still preserve a good relationship with both the client and the salesperson.

Providing Value
Like salespeople, clients can sometimes have their own motivations for wanting to meet. Users might want to hear more about the product or voice concerns about the tools. When interested in the direction of the tools, they might even believe that talking to someone other than a salesperson might be a faster way to influence changes being made to the product.

Keeping some of these motivations in mind can allow researchers to look for ways to maximize the amount of time spent with the client and gather more insightful data. The key is for the researcher to *demonstrate value* to the client and, consequently, the salesperson.

When initially explaining the reasons for the meeting, it often helps to explain that findings will go back directly to the team making decisions about the product. This might allow for clients to open up more about experiences they've had with the product.

During the interview (often in the beginning in our experience), when clients have questions or concerns about functionality they've been struggling with, there are benefits to addressing their concerns. If the researcher can provide help, then the client could be pleased and may be more likely to spend time. As a byproduct, this may also demonstrate to the accompanying salesperson that the researcher will not leave the client hanging—potentially decreasing the

salesperson's need to interject. We previously advocated being time-conscious and refocusing around the intent of the interview when distractions happen. We should state choosing when to provide help is a balancing act that requires practice. We suggest the researcher only attempt to do this after he or she is done with all the questions about that issue since collecting data is the priority.

An alternative to this opportunistic approach would be to structure the interview questions in a way that causes the client to explore and learn more about the product. A researcher can also choose to intentionally point out features that might be beneficial to the client's way of working at the end of the interview.

Ultimately, making clients feel they walked away knowing more about the product can become an avenue to meeting them again in the future. It can also help solidify the relationship with the salesperson because the researcher is demonstrating intimate familiarity with the tool and its future direction, which can be beyond what the salesperson knows. In turn, this might encourage the salesperson to take the researcher to other meetings as a "treat" to certain clients.

Conclusions
To provide a better user experience, it is important to be proactive in understanding their work habits in detail. While these goals can be accomplished through observation techniques such as contextual inquiry [2][3], our work serves to illustrate its application can vary—especially in unique industry domains where further constraints can be placed on UX researchers.

Our case study is one example of the many kinds of studies we perform. While each research project has its unique circumstances and challenges, the experience we report on serves to highlight how researchers must adapt to the nature of the domain while working together with salespeople. The specific challenges researchers face involve recruitment, limited time, fragmented observations, and potential interference.

This work may be abstracted to be a lesson on how to work with others when user research must take place with the involvement of another party. For example, this may apply to situations where business analysts or product managers want to get involved with the process or are gateways to performing user research. Overall, the issues to consider with other parties are the differences (or similarities) regarding:

- The knowledge each party possesses about the users and how it was acquired.

- The motivations for why each party would want to engage with users.

- The specific ways each party is thinking of engaging and eliciting information from users.

Getting all research stakeholders to consider what is unknown can help identify the type of information that needs to be sought out. This can answer questions about *what* needs to be researched. If there are vast differences in what people believe they don't know

about the users, this can lead to very different types of questions for users. Exploring motivations and being aware of them may help resolve issues in *who* will be collecting information from the users. Critical to this is establishing trust in one's ability to not jeopardize the relationship with users. Finally, ways of engaging with the users crystalizes *how* the research will be conducted. This requires a clear protocol be developed and explained to all parties.

Through open communication, these issues can be tackled by fostering a close relationship with the other parties and exposing as much as possible about what the intentions of the researchers are. We find that over time, the closer the relationship becomes, the better we are able to overcome these challenges and serve the needs of the users.

Acknowledgements

References
[1]   Adams, A. & Cox, A. L. Questionnaires, in depth interviews and focus groups. In: Cairns. P. & Cox, A. L. eds. Research Methods for Human Computer Interaction. Cambridge, UK: Cambridge University Press (2008), 17-34.

[2]   Beyer, H. & Holtzblatt, K. Contextual Design: Defining Customer Centered Systems. Elsevier, 1997.

[3]   Hartson, R. & Pyla, P. S. The UX Book: Processes and Guidelines for ensuring quality user experience. Elsevier, 2012.