

THE MEASURABLE ME: THE INFLUENCE OF SELF-TRACKING ON THE USER EXPERIENCE

(...or as I like to call it: “The Battle between the Measurable Me and the Intuitive I”)

THE INTEREST

“I feel fine. It’s an average day. Maybe it’s a little cold and sure, it’s pretty late but it’s nothing out of the ordinary. I’m probably around 60-70 on the happiness scale,” I concluded and pressed the submit button.

Indeed, it was a late, dark and rainy evening in November 2012 and I was sitting by my wobbly desk in my windy Valby apartment while surfing tech news. I was about to take a mood tracking test online as a part of my research on the Quantified Self. The mood tracking was designed to be a personal everyday tool that would allow you to measure your daily mood swings between 0 to 100, the top being the happier end of the spectrum. I dutifully answered 20 questions and briefly hesitated before pressing the submit button. “I wonder what score I’ll hit on the 0-100 scale,” I thought to myself. The screen blinked - and so did I. In disbelief. I had a 20% score.

My immediate thoughts echoed: “What’s wrong with me? I must be depressed. Perhaps suicidal”. A range of emotions raced through my body, leaving me flushed with a pending chill going down my spine. As I flinched across the awkwardly painful results staring back at me from the screen, my brain and body ached in unison: How can this be?

A mere second later, I regained composure with a quick breath: **Why do I trust a random number on the screen rather than trust my initial intuition?** I realized that I had allowed a number to dictate my understanding of myself rather than allowing my initial evaluation of myself stand as a personal truth. I was baffled yet filled with immense curiosity and excitement. I decided to let this spark of personal enlightenment define the thrust of my future studies.

I went on a research path to investigate the influence of numbers on the personal experience in everyday life. More specifically, the case revolved around voluntary self-tracking activity such as adopting an activity tracker for steps and sleep, like those of the popular brands Fitbit and Jawbone. Moreover, it was a deep dive into the Quantified Self, a community that revolves around the art of self-tracking. It was a look into how experiential computing can influence the human cognition.

As technology continues to be present into everyday life, the role of quantification also plays an increasingly important and immersive role to all tech users alike. Few online experience allow a numberless experience. For example, if we scroll through our social feeds, we’re exposed to a

myriad of numbers such as likes, shares, comments, followers. These are all indications of interactions as well as ratings of the interactions. Even more so, these quantification send signals to users on how to review, react, reflect, respond - and eventually reject - the information they are bombarded with on an everyday basis.

I find the prospect of further researching quantification of experiences exhilarating and am exceptionally proud of my research that my evaluation committee called “ground-breaking research that we will look back on for the next 20 years and say that it changed the way we look at human computer interaction”.

THE DISSERTATION

My PhD dissertation departs from my personal fascination of the influence of numbers have on the human experience. Theoretically, it rests on a basis of experiential computing (Yoo, 2010) and behavioral economics (e.g. Kahneman et al., 1991; Tversky & Kahneman, 1991) while weaved with fundament of studies from human computer interaction (e.g. Consolvo, Klasnja, et al., 2009; Lin et al., 2006) . In terms of a more case based perspective, it rests on the basis of the Quantified Self community’s practices of self-tracking. The research question is: How does self-tracking through experiential computing influence the user’s perceptions about personal performance?

The mixed methodology invited the possibility to include two separate studies of two separate aspects of the self-tracking process, namely quantitative review of physical performance and qualitative insight on perspective.

The first study strapped on activity trackers to a group of new users to measure their physical performance and compare it to post-use reflections. Prior to their participation in the study, the new users were briefly interviewed about their habits. After three weeks of self-tracking, the user was invited for an interview of the experiences. The study put emphasis on the quantifiable and measurable data.

The second study approached a group of existing users of activity tracking. The study build on the already acquired knowledge of the first study and allowed the development of a interview guide.

The results from both studies showed astonishing insights that are twofold:

- Users reject the personal data over time
- Users create coping mechanisms that lead the rejection

The rejection occurs after the user has reviewed, reacted, reflected and responded to the data. The rejection is a way to discredit the data, especially if it does not illustrate the expected outcome. For example, if a user does not have the satisfactory number of steps registered in

their activity data, they will reject the data. They simply do not acknowledge it and move on to a personal status quo where they feel more comfortable.

At the same time, users are not comfortable to reject the data so they develop coping tactics. The coping tactics identified were named: dismissal, procrastination, selective attention and neglect. These tactics are used in different ways to discredit the data without feeling discomfort. A kind of rationalization of the data.

This might seem like a simplistic conclusion, but nevertheless important. In a more general setting, these findings showcase that despite the availability of quantified data in everyday activities, users do not necessarily care about it over time. In return, it opens both philosophical and practical questions on how a new datafied world influences us for better and worse.

As a departure point, what do numbers mean to users in a personal setting? It may have implications for social behavior on social platforms (e.g. evaluating others based on Instagram performance), personal banking (e.g. ignoring bank statements), media consumption (e.g. following ratings on IMDb), digital health (e.g. self-tracking fitness, depression) and even news consumption (e.g. fake news spread with the help of numbers). It is also relevant for the field of user experience research and related design activities, cognitive psychology, big data and IT management. Also, what happens when coping tactics of numbers is applied to a professional setting where users operate in a controlled business system?

In a way, it asks us how systems that are designed by others define, redefine and even 'undefine' ourselves. Experiential computing is an incredibly fascinating field with much left to discover and I aim to contribute to the discussion with the perspective of the individual user.

The Measurable Me is thus the contrast to the increasing ability to measure oneself and serve as a contrast to the Intuitive I.

THE FUTURE

My dream is to continue pursue work in the field of experiential computing with a focus on digital health and the consumer journey that comes along.

I aspire to bridge my love for research and the industry. I adore working in industry as it allows a complementary aspect of hands on practice and following execution to evaluation. At the same time, I struggle with the constant lack of time for evaluation and reflection on executed measures. As such, I hope to find a balance in this in future work.

If I were to be so honoured to win the travel grant, I would immediately shift focus to an Asian research adventure. A longer field study is relevant to understand the changes in both perception and performance that occur from a new user to an experienced user and onwards. The current research provides a departure point in understanding the initial time with a

self-tracking device and dealing with the measurable me, but an extended study would give it more statistical rigor on user perceptions and performance over time. In relation to this, it would also be interesting to study the users who have discontinued their use and how this process emerges.

REFERENCES

Consolvo, S., Klasnja, P., McDonald, D. W., & Landay, J. a. (2009). Goal-setting considerations for persuasive technologies that encourage physical activity. In Proceedings of the 4th International Conference on Persuasive Technology - Persuasive '09 .

Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1991). Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias. *Journal of Economic Perspectives*, 5(1), 193–206.

Lin, T.-C., Huang, S.-L., & Hsu, C.-J. (2015). A dual-factor model of loyalty to IT product – The case of smartphones. *International Journal of Information Management*, 35(2), 215–228.a

Tversky, A., & Kahneman, D. (1991). Loss aversion in riskless choice: A reference-dependent model. *The Quarterly Journal of Economics*, 106(4), 1039–1061.

Yoo, Y. (2010). Computing in everyday life: a call for research on experiential computing. *MIS Quarterly*, 34(2), 213–231.