

## Chapter 2

# Technopsychology of IoT Optimization in the Business World

**Tommy Prayoga**

*Bina Nusantara University, Indonesia*

**Juneman Abraham**

*Bina Nusantara University, Indonesia*

### ABSTRACT

*There are at least two complementary levels in the Internet of Things. The first (back) end comes from the big data companies that mine and analyze every log of activities through every device that are attached to the second (front) end, i.e., the many aspects of our lives. However, what keeps this wheel of innovation going forward is actually the front end user. Technology, however improved and innovative, will not fulfill its full potential if users do not adopt and accept it as part of their lives. They must be willing to work with the technology - sold as way to ease and improve lives - for the machine to work and be meaningful. By then the big data companies can gather information about what users want and how they behave to grasp a better understanding and make better decisions about next technology improvement. Users' acceptance and decisions to appropriate shape how big data companies work and innovate. Acceptance and appropriation are the two of the most important areas to explore in the field of IoT optimization in the business world.*

### INTRODUCTION

Right before I<sup>1</sup> started writing this chapter, a video suggestion popped-up in my YouTube homepage. The title says “A New History for Humanity – The Human Era” uploaded by Kurzgesagt – In a Nutshell (2016). The video explained about how the Gregorian calendar underplays the 12,000 years of human progress, from building the first temple to travel beyond the sky. What humans had begun then, set the motion for something bigger and bigger that is happening right now.

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Progression is the key to survival. But, what is the key to progression? Knowledge seems to be a vague and subjective answer. To answer this, we have to think beyond that. We have to think like a statistician. We have to think what big business and tech media like *Forbes*, *TechCrunch*, *Business Insider*, and *Tech in Asia* feed their readers everyday. We have to think of data. That's the key of progression, the key to survival and beyond.

Ten thousand years ago, humans gathered data based on vague observations toward each other. We see other tools being forged, we see cities and settlements being built, and we see society being developed. Now, that technique is long overdue. Human minds and written papers are just not proficient enough to process and store information. We live in an era where we give machines intelligence and communications capabilities (Sousa Nunes, Zhang, & Sa Silva, 2015) that do most of the work of calculating and processing incomprehensible amount of data in a blink of an eye; imagine the time it will take for 10 Ph.D. to give you one search result on *Google* (Larson, 2016)!

There are many kinds of data. Not that you have to care about all of them, but some of them are pretty hard to ignore, considering the fact that the data some of the supercomputers and great minds out there are analyzing and processing about is you.

Humans are always in dire need to move forward. We get bored easily, and we always think about improvement and innovation. We do not stay the same. We explore and understand. Sometimes that means challenging our ways of life, questioning why we behave and what we really need and want. To do that, we cannot simply observe each other and pitch ideas. We realize that we have to include everybody to really do that. How do we get this information and analyze it?

This is where our creation enters—the machines. We rely on the capability to think and communicate bestowed upon them, by us, to help us understand ourselves better. Having them asking us questions would be as silly. But if we are giving them the information (sometimes unknowingly) they needed by just living, then we have ourselves a great start.

We begin to tag ourselves and things around us that every action and every word is recorded and analyzed. From social media interaction to health trackers utilization, millions of pattern habits emerges. Then data scientists can use the information to make decisions for our next milestone in human era, whether in the health, business, tech, or education sector. This is what's happening in the era of Internet of Things.

Internet of Things (IoT) is an essentially interconnected network of things. It is a fast developing field that represents the idea of everything that is connected together via an information network (Pfeiffer & Stevens, 2015). The idea of 'connected' means that every object involved in the network has an identity, abilities to receive and collect information from the real world and communicate about the information within the virtual world. The IoT faces and produces what we call the *Big Data*.

How big is Big Data? Statistically, you have a high chance of being a social media user. When you are using social media, you are feeding the company behind it an enormous amount of data from your activity logs. The company will have access to where you are, when do you log in, who or what do you follow, who do you connect with, what do you like, what you don't like, what are you browsing, and how often you are doing all that. Imagine this data mining is done 24/7. Also imagine that this being done with a couple billions people in the world.

If you are running an online fashion store, what would you do if you have the knowledge about the demographics that like what you sell, bought what you have sold, and in need with what you are selling? You'd be most likely to approach and persuade them to make purchases because they are the exact target customer you are looking for.

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