

Digitization, Measurement and the Unmeasurable

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Abstract

Research in the field of “Digital Economics” has widely neglected the dynamics of changes in preference and demand due to the exploding quantification of human life. This paper examines reactions to the rapidly expanding digital measurement of individual and societal factors. The reactions “Government Regulation”, “Flooding”, “Passive Escape: Digital Detox” and “Active Escape” are analyzed.

JEL-Codes: O300.

Keywords: digital economics, quantification of life, the unmeasurable, government regulation, Digital Detox, offline, nature.

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Digitization has rightly become a major topic of research also in political economy. A survey article with the promising title “Digital Economics” (Goldfarb and Tucker 2017) just appeared in the National Bureau of Economic Research. It summarizes studies on the effects of digitization on no fewer than 91 pages, and cites no fewer than 398 works. However, the article solely deals with the (strong) effects on *costs*. They comprise lower search, replication, transportation, tracking and verification costs. It is therefore (cet.par.) to be expected that the corresponding activities strongly expand as a result of digitization. These consequences are undeniable and are rightly the subject of intensive research¹.

The survey article by Goldfarb and Tucker disregards, however, the consequences on the *preference* or *demand* side. This contribution wants to show that digitization also substantially effects consumption and individual well-being. The major reason is the rapidly expanding *measurement* of ever more activities and aspects of life. Human beings react by moving to *unmeasured* areas (at least so far) being perhaps even *immeasurable*, and by attributing ever *higher values* to them. This endogenous process sets limits to measurement. Future society will therefore not be totally taken over by digitization; spaces free of digitization and measurement will be preserved.

Digitization induces comprehensive measurement

One of the major effects of digitization has been to drastically lower costs for measurement in a large number of activities and areas. This development has been called “numerocracy” or “omnimetrics”. Silicon Valley corporations such as Google, Facebook, Twitter, Amazon and Microsoft swallow enormous amounts of data, and the secret services are glad to participate. Pasquale (2015, p. 10) states: “Today, finance and internet companies feverishly sort, rank and rate”. These firms use the data collected to get closer to, and to influence, consumer demand, and the governments and public administrations to better control the population. Digitization to some extent overcomes the traditional antagonism between the market and government; both equally depend on measurement and employ them for their purposes.

The Value of the Unmeasured

Exactly because today so much is captured in quantitative terms the desire of people for *unmeasured aspects of life* rises. They attribute increasing value or willingness to pay to aspects that (so far) escape measurement. There are various such areas incorporating values that in their essence are immeasurable – at least in a reasonable way.

¹ There are more effects on the production side such as those examined by Waldfogel (2017) in the *Journal of Economic Perspectives* analysing the (positive) effects on the arts and the media.

On the *individual level* the unmeasured area comprises personal relationships in marriage, love and friendship, as well as trust. There are, of course, many attempts to measure trust. In a personal relationship such measurement is, however, most questionable. Most people would reject the notion that they can trust their marriage partner to 30, 60, or 80 per cent. Another area where measurement is seriously frowned upon is the recognition by other persons. It should not depend on whether one is rich, powerful or beautiful. Least of all, it is impossible to buy true recognition.

On the *societal level* there are various areas escaping measurement. Among them is what in German is called “Heimat”, i.e. homeland or native land. It reflects the yearning for identity and belonging. Closely related is the movement “Back to Nature” which expresses the desire for a direct relationship to the pristine environment impossible to be offered by the market or government. The demand for “natural” products of regional or local production such as biological, vegetarian or vegan food is similarly motivated. The increasing use of dialects, traditional dresses as well as attending rural sports and festivals is another area. The same is true for the immersion into religious sects.

Reactions to Comprehensive Measurement

People sense that the increasing tendency to measure everything and everywhere undermines these “intrinsic preferences”. They are crowded-out (Frey 1997); the whole tendency is incompatible with digitization. The Economics of Happiness (e.g. Layard 2005, Frey and Stutzer 2002a,b, Frey 2008, Helliwell et al 2017) has shown that individuals dislike situations in which they feel controlled and their activities are measured. They highly value autonomy and the possibility to exert self-determination.

The domain of the Unmeasured is constantly threatened by an intrusion of measurement. For example, an effort is made to substitute “love” by “likes” on the internet, or by measuring the secretion of cortisol or the frequency of heart beats. The purely personal joy of jogging is accompanied by all kinds of measured health indicators. But everyone knows that this does not capture the essence of feeling, thinking and acting.

Individuals can react in four ways against the domination of digitalization and measurement:

Government Regulations

Excessive digitization and measurement can be opposed by government intervention. For instance by imposing prices when data are syphoned off from consumers and citizens.

Pricing the value of personal data and measurements is difficult but in principle feasible (Malgieri and Custers 2017). Most importantly, the individuals must have the possibility to *actively choose* whether they want to give the data collectors the option to collect and use their private data, and to what price, if

any, they are prepared to do so. The value of the data can be determined from above – this is the profit derived by the Silicon Valley firms (Facebook, Twitter, Google, Amazon, Microsoft etc.) due to getting the data – or from below – this is the willingness to pay by the data providers. Today, most individuals are totally unaware that they could have the possibility to make such an active choice. Normally, they are confronted with an all or none option. For instance, when buying a car the corresponding contract includes a right of the car company to syphon off the data constantly produced by the car. A person not agreeing cannot buy the car.

Government imposed regulations may also declare that all data be available to everyone (i.e. by enforcing open access). It may also prohibit the measurement of particular data.

However, in many cases such regulations will be without effect because digitization has made measurement so easily available and cheap, and most importantly because it is global. If only one, or a few, governments impose regulations, the data collectors can easily switch to countries not imposing any limits. Moreover, the data collecting firms have built up massive public relations and lobbying activities designed to prevent any such restrictions. They are well able to do that due to the huge profits gained, which are related to the free data collected from consumers.

Flooding

Individuals and groups can undermine measurements by malevolently hacking data collectors and making their activities therewith more or less useless. One possibility is to flood the data collectors by sending them back enormous numbers of fake data. The data collectors will, of course, respond by trying to identify the useful data by using learning machines, but this imposes costs tending to reduce the profitability and the extent of data selection and measurement.

A related possibility is to acquire a great number of digital identities so that the learning machines collecting the data find it more difficult to find out who is the “real” person.

Again, these options are difficult and costly to pursue, and are unlikely to be successful in a broad range of measurement.

Passive Escape: Digital Detox

Individuals can decide to be less exposed to the digital media. Most importantly, they can decide not to use the *smart phone*, and not to carry it along. This is not easy to do because a considerable share of the population has become addicted to the cell phone. Indeed, a recent study by the British research institute *One Poll* reveals that in the year 2008 53% of all British users were subject to *Nomophobia*, i.e. panic and fear if no mobile phone is available. In 2012, the share has risen to 66%, with young people aged 18 to 25, and women being more

affected (Tagesanzeiger 2017). On average, Americans consult their cell phones more than 2,600 times a day, and heavy users easily double that amount (ECONOMIST 2017, p. 22). This means that people consult their smart phone about twice, or even more, *per minute*.

Interestingly enough, a clear contrast between high status persons and low status persons evolved over the past decades. In former times, it was the most important persons in society, and particularly in business, who extensively used digital instruments such as smart phones while the lower classes in society did not possess such devices. This situation has dramatically changed: Today, the leading figures are “offline”, while people in lower positions extensively use smart phones, and are often forced to use them. For instance, in order to contact a top manager of a Silicon Valley firm it does not work to use a digital instrument; it is solely possible by having personal contacts to a person who knows these persons, and who provides a recommendation (Keese 2014). It is also revealing that Jobs and Gates prohibited their children to use a cell phone before the age of 14 years, while the average in the United States is 10 years. They obviously know what they are selling to the rest of the population with huge profits.

Another possibility for digital detox is not to use a *computer*. This is an advice given by a former data collector of NSA, the National Security Agency. While he certainly knows why he offers that advice, it is hugely difficult to do so, if not impossible, in today’s world.

Active Escape

Individuals can escape to areas – at least so far – being devoid of measurement. This requires a considerable amount of creativity. They can exhibit a higher willingness to pay for areas of life, where measurement is consciously renounced, or where it is clearly confined.

Such a reaction against the “digitization of the world” can be observed in many places. Rural sport and music events are more popular than ever. In Switzerland, for example, attending Schwingen festivals (a kind of wrestling) and yodeling events (a kind of singing) are most trendy and attract more visitors than ever. Menu cards in good restaurants indicate from which particular farmer the eggs or meat has been provided. The consumers are prepared to pay higher prices for bio-food. Publications caring for a romantic picture of country life are en vogue². An increasing share of users of SMS and e-mails communicate in their dialect. For marriage celebrations more money is spent than ever (though about half of the marriages end up in divorce). Awards are bequeathed not only by the state but

² In German language, there are for example the following publications: Landliebe, Landlust, Landidylle, Land und Berge, and many others. They sell well; Landlust is one of the most successful bimonthlies with more than a million copies sold in Germany. It has even surpassed THE SPIEGEL, which is rather sensational.

play an increasingly large role in private capitalist and non-profit oriented enterprises (see the evidence in Frey and Gallus 2017). Nowadays, artists, for example, commonly feature the awards they received.

Conclusions

Digitization has a huge influence on our lives. This is not only the case because of the large cost savings achieved but also because of the effects on the preference or demand side. This contribution argues that human beings make an effort to fight against losing their intrinsic preferences by escaping into areas not (yet) captured by measurement. They exhibit a high willingness to pay for the immeasurable. This serves to keep the continuous intrusion of digitization and measurement at bay.

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