

EE489 Literature Review**How Should We Measure the Digital Economy: Focus on the value created, not just the prices paid**

by Erik Brynjolfsson and Avinnash Collis, 2019

Even we spend a large and growing share of our daily life online, but these goods and services is uncouned in GDP which is the macroeconomics measurement. Digitalisation makes people enjoy more benefits with more ease. However, GDP is the measure based on what people pay for goods and services. It captures only the monetary value of all final goods produced in the economy. The social media have a price of zero, then it will count zero value in GDP. So, the social network has been undervalued by using the GDP method. This can affect how policy makers use GDP data to make decisions about investing in everything such as infrastructure, R&D, education and cyberdefense. Also, the regulators will use this measurement to set policy that affects technology and other firms because the benefits of digitization are devalued, so the policy decision can be made from lack of understanding the situation. The authors claim that as we look at the GDP method to calculate the well-being of the country, this might be uncorrelated with the benefit customer's get from digitalisation since the value is uncouned.

Some arguments state that the consumer spending in the cash register can be counted at the company revenue statement, which will be counted as GDP. However, the customer surplus can't be directly observed, which makes it hasn't used much for economic measurement. The researchers used the digital survey to estimate the consumer surplus by running an online choice experiment. The process starts from asking participants to make choices and choose between previous good and giving up in exchange monetary compensation. For example, would you give up Instagram for a month for 10 USD? To ensure the preferences they make is accurate, the researcher follows up when participants have to give up before getting the compensation. The result shows many interesting things; for example, comparing EU median compensation participants to giving up Facebook for one month was higher than in the US. Also, the people who have more friends in place tend to give a higher value, showing the fact that network effects impact on the consumer valuation.

Some oppose that the GDP also counted thorough Facebook advertising revenue. But, the revenue reflects only part of their customer surplus and some argue that these two factors might be uncorrelated, customers get more benefits from content that not advertisement. Or in Netflix's case, the subscription revenue is less than its value generated from their platform for 10 times.

The new method that the author suggests for measuring the benefits from the digital economy is GDP-B. The GDP-B is the supplement to the traditional one by measuring and qualifying contributions to customers well-being from free goods. Created by taking a large survey asking respondents how much they have to pay to get good at a given time, then examine those results by running a small study with financial incentives. With little additional data collected, GDP-B changes may be estimated regularly and released alongside quarterly or annual GDP updates.

However, the limitation of this method is not precise as the traditional one and still does not capture the negative externalities generated from digitalization ex: smartphone addiction or losing privacy. In conclusion, the authors suggest that the policy makers can use this method to have more understanding about the technology impact on the economy.