

Applying Digital Supply- Use Tables in Developing Economies



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Summary

Digitally focused indicators are absent within the System of National Accounts, the standard statistical framework for measuring economic activity. The Digital Supply–Use Tables (Digital SUTs) framework was created to improve the visibility of and information available on digital phenomena while being consistent with the existing national account statistics. The framework has been designed as a derivation from the Supply-Use Tables (SUTs). However, SUTs are not available in many developing countries and often come infrequently with significant time lags. This technical note looks at how countries with SUTs can take steps to begin applying the Digital SUTs framework, and how the fundamental principles and approaches set out in the Digital SUTs framework can be applied to key national accounts aggregates that are more widely available in developing countries, without requiring full SUTs. It points to actions that countries with a limited statistical basis to work from can take to begin compiling Digital SUTs or key indicators following the principles of the framework.

1. Introduction

Digitalization has fundamentally altered the production and consumption of goods and services worldwide. Firms are disrupting established markets and improving the efficiency of their production processes through digitalization, automating tasks previously done by humans as well as using digital tools to communicate and carry out professional work. At the same time, digital transformation has permitted consumers to access a larger variety of goods and services, while exercising greater control over the characteristics of the transaction processes. This phenomenon is becoming near universal due to the continual growth of internet use in all countries with two thirds of the world’s population now using the internet (ITU, 2022).

Despite extensive digitalization across economies, digitally focused indicators are absent within the System of National Accounts, the standard statistical framework for measuring economic activity. The Digital Supply–Use Tables framework was created to improve the visibility of and information available on digital phenomena while being consistent with the existing national account statistics.

The compilation of Digital SUTs does not make existing efforts to measure e-commerce, the ICT sector, or ICT products redundant; on the contrary the framework is enabled by these initiatives. However, while there are many examples of countries gathering information on e-commerce, the variability of methods and sources, limits both their exhaustiveness and comparability (UNCTAD, 2023). Taking this information and using it, not just as stand-alone output, but as a basis to derive complementary break downs for national accounts measures that have been compiled in a way that is exhaustive and comparable, such as those in SUTs, can help to alleviate this problem. Furthermore, the Digital SUTs framework goes beyond e-commerce and ICTs, as it includes the digital products

being produced as well as actors that are reliant on digitalization to generate their contribution to the economy.

The Digital SUTs framework was originally developed by the OECD (2019) and includes outputs that can be compiled in diverse ways. It primarily provides a framework for the reallocation of SUT tables, in countries with those available.

At the same time, the framework offers flexibility for all countries looking at increasing the visibility of digitalization in their economy. Rather than absolutely requiring full SUTs, many of the concepts and indicators outlined in the Digital SUTs framework can be applied to aggregates that are often compiled as part of standard annual national accounts¹. These aggregates include total output and value added either covering the entire economy or split by industry, total household final consumption, total imports & exports. The production of indicators that provide greater intelligence on digitalization's impact on the economy is a priority for policy makers and cannot always wait until SUTs are fully developed. Therefore, while the Digital SUTs framework is aimed at breaking down rows and column of SUTs, the concepts within the framework can still provide value to users if applied to alternative national account outputs.

This technical note presents a summary of the Digital SUTs framework, including the policy areas where information from the Digital SUTs can be of most use. It will then identify specific areas of the framework that are most obtainable for countries with a more limited base at their disposal and include some examples of work that countries are already doing in this area.

2. Overview of the Digital SUTs

Digital Supply-Use tables are generated by adding additional rows and columns to the existing SUTs. When designing a framework to increase the visibility of digitalization in the national accounts, it was considered more practical for countries to create new estimates by breaking down existing national account outputs rather than building up new outputs (OECD, 2023). By beginning with SUTs, three different, but interlinked, measurement perspectives can be utilized. These three measurement approaches (transactional, product, and industry) are discussed in more detail below. While the framework is based on the full SUTs outlined in the System of National Accounts (UNSD, 2009), many of the high priority indicators within the framework can be created by breaking down core National Account aggregates such as Household final consumption expenditure, intermediate consumption, imports and exports - rather than relying on the detailed product rows and industry columns that exist in the SUTs.

It is worth noting up front that the Digital SUTs framework does not define or seek to measure “the digital economy” or list a specific set of activities as making up the digital economy. Since digitalization impacts the creation and delivery of almost every good or service within the economy in one way or another, it was seen as futile to try and delineate certain industries or products as “digital” while delineating others as “non-digital”. In this way the OECD's view was shared by the IMF as early as 2018, when it suggested that “the Digital Economy

could well equal the entire economy if defined in the broadest sense” (IMF, 2018). This is not to disregard the usefulness of an internationally agreed upon definition, but rather, due to the range of opinions on what should be included (and excluded) in such a definition, the framework aims to achieve consensus on definitions of

¹ Since the SUTs is a comprehensive representation of the economy, many of these aggregates do appear within the SUTs, but they are often compiled by countries regardless of whether they subsequently produce SUTs or not.

components, rather than of the digital economy itself. As will be discussed later in this technical note, the replacement of a single all-encompassing “digital economy” estimate with multiple indicators on specific digital phenomena provides a level of information often much more useful to policy makers, since it allows greater clarity on the specific digital elements driving growth.

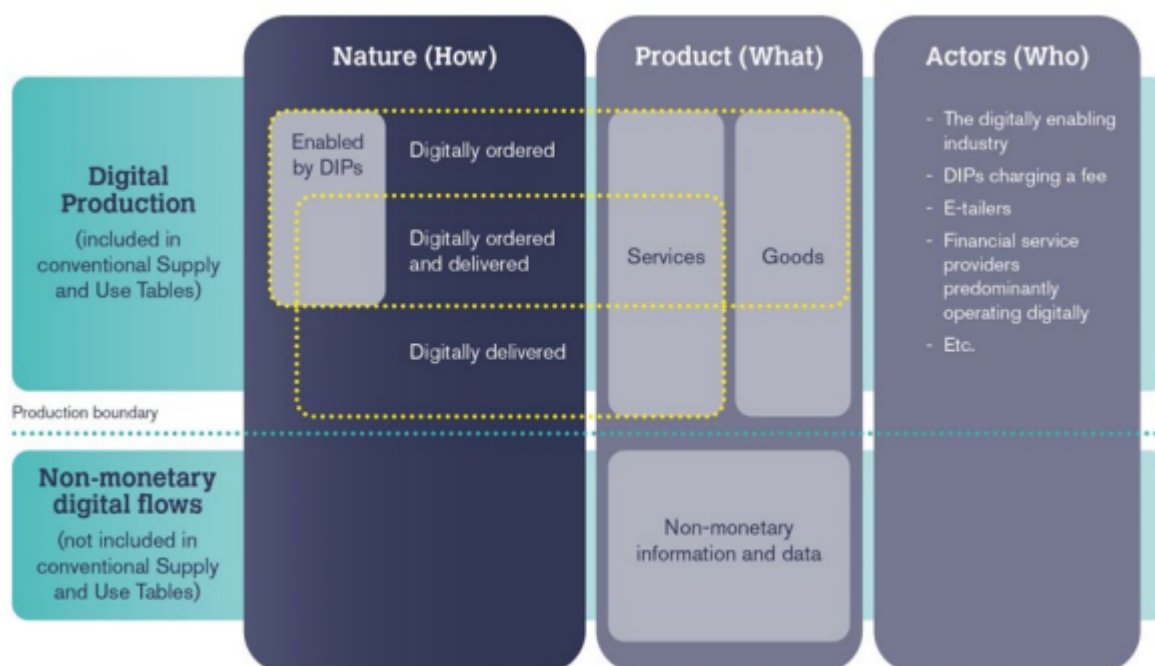
The suite of indicators generated informs users on specific trends, products and actors that are considered as quintessential of the digital economy. Importantly, it provides insight in how specific elements of the digital economy are represented and accounted for within the existing national account aggregates.

The framework contains three distinct dimensions, which are:

- . The nature of the transaction (the ‘how’).
- . The goods and services produced (the ‘what’).
- . The new ‘digital industries’ shown separately in the Digital SUTs (‘who’).

The three perspectives (see figure 1) reflect the multidimensional nature of the digital economy, beyond a simple aggregation of digital products. Furthermore, the framework offers the possibility of creating a range of different outputs depending on the data available to the country.

Figure 1. The conceptual framework of Digital SUTs



Source: (OECD, 2023) adapted from (IMF, OECD, UNCTAD and WTO, 2023).

Note: 1. DIPs = Digital Intermediation Platforms.

2. There are currently seven new digital industries; the last column in Figure 1 shows examples.

3. The three perspectives of the Digital SUTs

A summary of the three perspectives is included below, much of this material is taken from several publications focused on the Digital SUTs framework, most of which were produced by the OECD's Informal Advisory Group

on Measuring GDP in a Digitalized Economy (IAG) and the ISWGNA Digitalization task team². These publications outline in detail the Digital SUTs framework, including specific definitions and compilation examples³.

a. Nature of the transaction

The nature of transaction is the fundamental differentiator of the Digital SUTs, as conventional SUTs or national account outputs make no distinction on how a transaction is facilitated. In the modern economy, goods and services which were previously dominated by physical transactions are increasingly being ordered digitally including via third party apps, a trend that picked up speed during the pandemic⁴.

Within the Digital SUTs framework, a product can either be digitally ordered, or non-digitally ordered - with digital ordering defined as “The sale or purchase of a good or service, conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders”.

Likewise, a service can be digitally delivered or non-digitally delivered -with the former defined as “transactions that are delivered remotely over computer networks”⁵.

Both definitions are consistent with those put forward in the recent update in the Handbook on Measuring Digital Trade (IMF, OECD, UNCTAD and WTO, 2023). Also like the digital trade framework is the additional delineation between how the product is digitally ordered, either direct with producer or via a third-party digital intermediation platform (see digital industries).

The addition of the transaction dimension reflects the importance of digital ordering and digital delivery in the modern economy. While the distinction between digital and non-digital ordering can be applied to every product within the SUTs due to the sometimes limited availability of source data on digital ordering, it is considered more feasible to apply this at a relatively aggregated level, such as total exports or the published household final consumption expenditure categories.⁶ Conversely, since it is applied to SUT columns not rows, the digitally deliverable split is only applied to aggregate estimates, such as total output, final consumption, imports and exports (See Columns ‘T’ in figure 2).

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