

# “Measurement of Thailand Digital Economy”

Webinar series on Digitalization in the 2025 System of National Accounts (2025 SNA)

24 March 2026

# Outline

## 1. Conceptual Framework for Measuring the Digital Economy

## 2. Measuring the value of Thailand's digital economy

- Production approach
- Income approach
- Expenditure approach

## 3. Thailand Digital Economy 2025

- Production approach
- Income approach
- Expenditure approach
  - Private Final Consumption Expenditure
  - Government Final Consumption Expenditure
  - Gross Fixed Capital Formation
  - Exports & Imports
  - Broad Digital Economy

# Conceptual Framework for Measuring the Digital Economy

# Definition/meaning of digital economy

- Currently, there is no universally accepted definition. This lack of agreement results in the diverse characteristics of the digital economy, as digital transformation impacts the production, ordering, delivery, and consumption of almost all goods and services. Therefore, outlining the digital economy should aim to reflect its modern economic characteristics as closely as possible.
- Even GDP, the most popular economic indicator compiled by national accountants for nearly 70 years after the advent of the International System of National Accounts, still faces debate regarding what should or should not be included in GDP (Coyle, 2014).
- Past definitions of the digital economy have mostly focused on specific characteristics that distinguish it from other economies. While these might be useful for policy analysis, they are not useful for measurement purposes.
- The definition accepted in the 2020 G20 Digital Economy Working Group Ministerial Declaration (DET) is summarized from the OECD's latest document: “All economic activity that depends on or is significantly enhanced by the use of digital factors of production, including digital technologies, digital infrastructure, digital services, and data, referring to all producers and consumers, as well as governments that have utilized these digital factors of production for their own economic production activities.”

## Measuring the value of the digital economy at the international level.

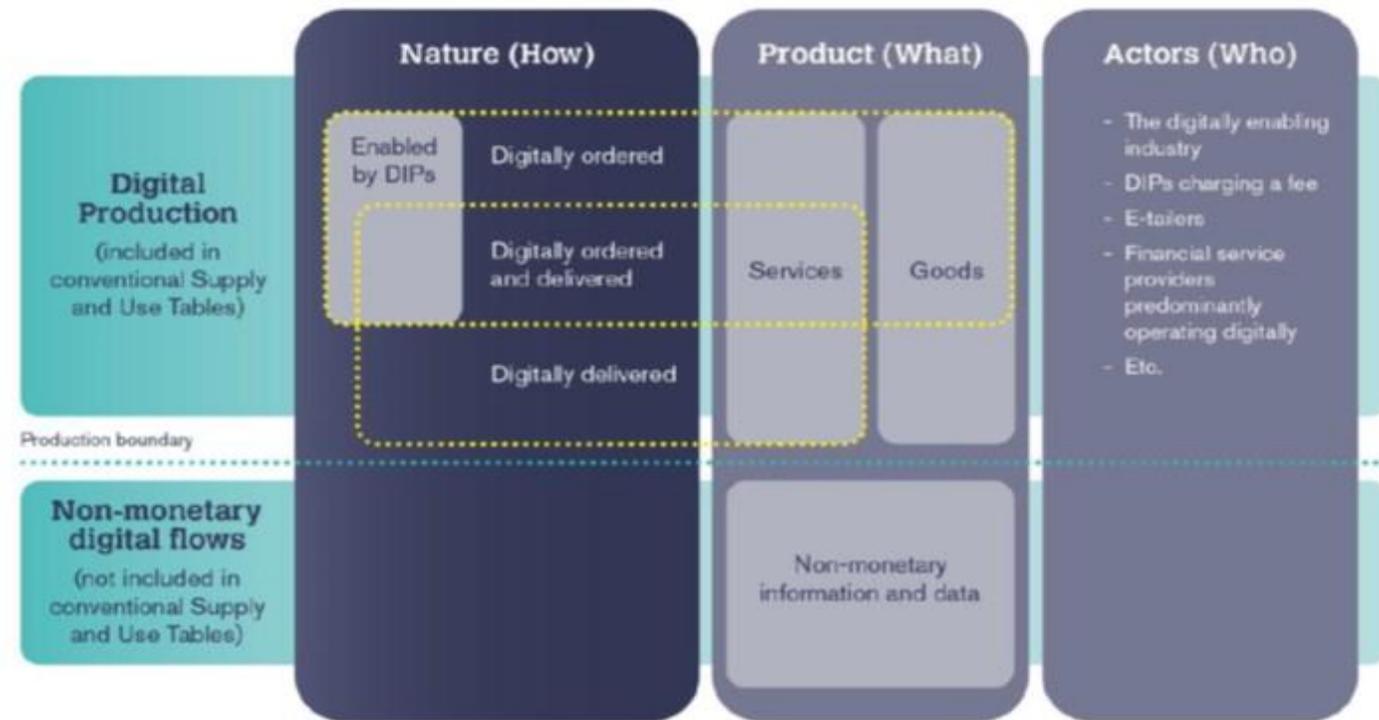
- The OECD, as a leading organization, and other international organizations agree that the value of the digital economy should be measured in the same way as the overall national economy, by adapting the processing methods from the System of National Accounts (SNA).
- The presentation of digital economy valuation results should be in the form of satellite accounts.
- The appropriate format for accounting for the digital economy is the Digital Economy Supply and Use Table.
- The OECD is interested in digital economic activities, both those already included in the scope of the Standardized National Assessment (SNA) and those that may not yet be included within the SNA (currently, there is no proposed appropriate methodology).
- In simple terms, a suitable method for measuring the value of the digital economy is to break down the value of economic activity within the existing national accounts system to show the size/proportion of economic activity between digital and non-digital sectors.

# Guidelines for defining the scope and classifying digital economic activities.

The OECD's conceptual framework for determining the criteria used to define the scope of economic activities takes into account factors related to digital transactions.

- How
- What
- Who

Figure 2.1. Proposed framework of Digital SUTs



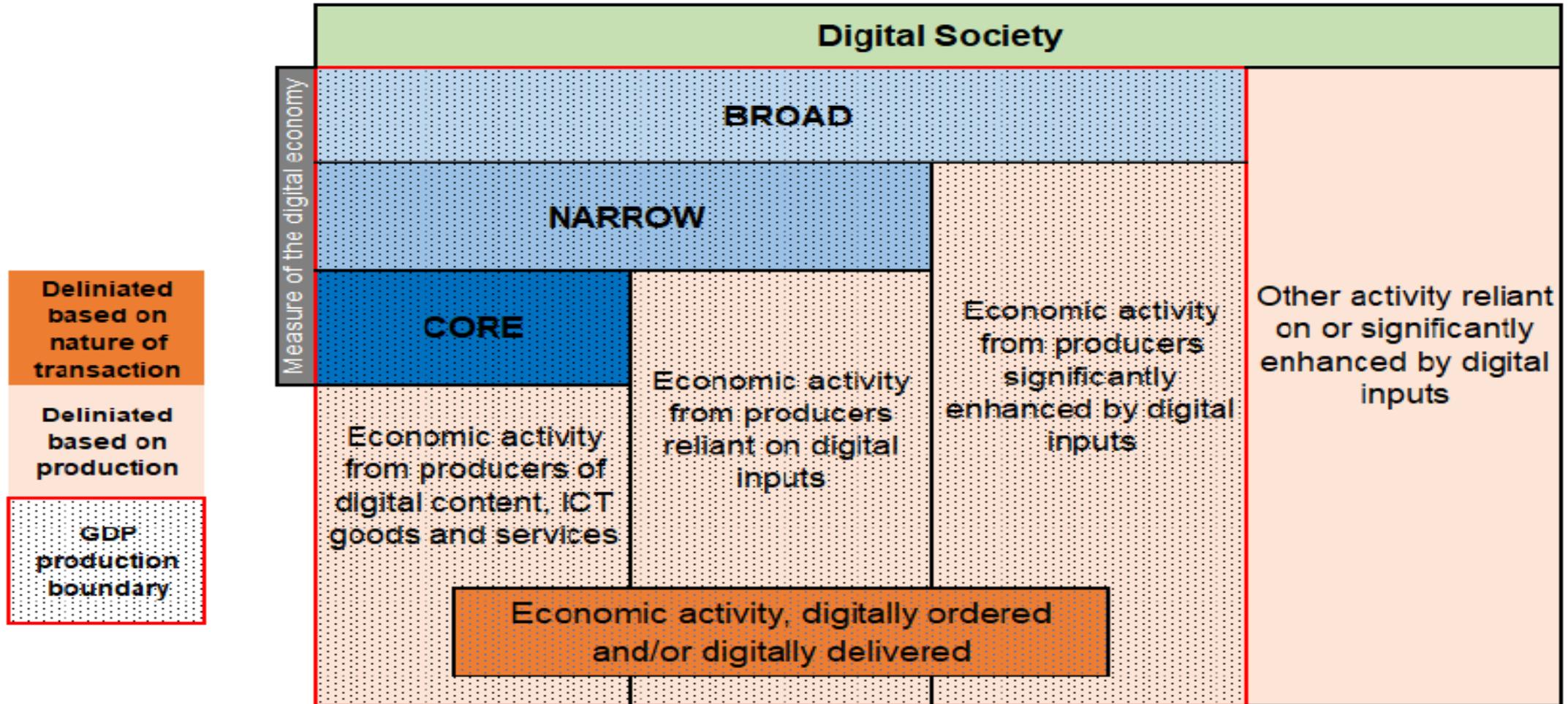
1. DIPs = Digital Intermediation Platforms.

2. There are currently seven new digital industries; the last column in Figure 2.1. shows examples. The full list is provided later in the chapter.

Source: (IMF, OECD, UNCTAD, WTO, 2023<sup>[13]</sup>) adapted.

# The OECD's consideration of the scope of the digital economy in recent years.

- The fundamental concepts that can be applied in defining the scope of digital economic activities are divided into four tiers.



# Measuring the value of the digital economy under the national accounts model.

Macro Economic theory (National income) :

$$Y = C + G + I + (X - M)$$

Nation Income accounts :

$$Y(\text{GDP}) = \text{PCE} + \text{GCE} + \text{GCF} + (X - M)$$

Digital economy :

$$Y(\text{DGDP} + \text{NDGDP}) = (\text{DPCE} + \text{NDPCE}) + (\text{DGCE} + \text{NDGCE}) + (\text{DGCF} + \text{NDGCF}) + (\text{DX} + \text{NDX}) - (\text{DM} + \text{NDM})$$

D = DIGITAL

ND = NON DIGITAL

# Studying the digital economy from the perspective of the National Accounts (SNA).

## 1. The OECD focuses on the broader scope of the digital economy than the SNA (Self-Assessment Network).

**GDP included :** The value of the digital economy, as defined by the SNA system, encompasses the production of goods and services within the market system (market output) that is already covered by GDP.

- ICT sector, content & media sector, Information
- e-commerce, e-money, e-services

**GDP not included :** Non-monetary activities (e.g., freeware, sharing economy, free digital services, etc.)

## 2. There are two main approaches to measuring the digital economy:

- **Top down approach :** Measuring the mainstream digital trend (trend-based).
- **Bottom up approach :** Measuring the overall impact of digital technology on the overall economy is crucial.

# Measuring the value of Thailand's digital economy.

Key components of measuring the value of the digital economy.

- Defining the scope of the digital economy.
- Classification of digital economic activities.
- How to measure the value of the digital economy.
- Data presentation format.

# Defining the scope of measurement for Thailand's digital economy.

Applying the OECD (Nadim Amed) concept to consider activities that should be included within the scope of the digital economy.

Tiers	Approach to consideration	Production activities/outputs/business units (what)	The World Economic Forum (WHO)
<p><b>Core :</b></p> <p>Key factors in enabling digital economic activities (digital enabler)</p>	<ul style="list-style-type: none"> <li>■ Top down approach</li> <li>■ Consider the characteristics of the product.               <ul style="list-style-type: none"> <li>○ Digital infrastructure</li> <li>○ The main tools and equipment that enable communication and economic activities through digital channels. (Digital enabler)</li> <li>○ Digital media and information.</li> </ul> </li> </ul>	<p><b>ICT sector :</b></p> <ul style="list-style-type: none"> <li>• Computers and peripheral devices, information technology systems, cables, and transmission systems.</li> <li>• Communication tools and equipment, such as transmitters, radio and television receivers, and smartphones.</li> <li>• Disc players and various smart devices, etc.</li> <li>• Software and various operating systems.</li> <li>• Digital services; digital product repair services.</li> </ul> <p>Digital content &amp; media : Games, movies, music, books, advertising, etc.</p> <p>Information : electronic data, Big Data, Cloud Computing</p>	
<p><b>Narrow :</b></p> <p>Activities that rely on digital technology.(reliant on digital input)</p>	<ul style="list-style-type: none"> <li>■ Top down approach</li> <li>■ Consider the nature of the transaction (How to).               <ul style="list-style-type: none"> <li>○ Digital order</li> <li>○ Digital delivery</li> </ul> </li> </ul>	<p>Digital goods : AI , DRONE , Robots, etc.</p> <p><b>Digital services :</b></p> <p>e-commerce, e-booking, e-banking etc.</p> <p>e -sport, games online, e-advertising, e-entertainment</p> <p>e-education</p> <p>e-health etc.</p> <p><b>Digital Platform :</b></p> <p>grab, line, facebook, youtube, ebay, amazon, shopy lazada etc.</p>	<ul style="list-style-type: none"> <li>• B2B B2C B2G C2C</li> <li>• Platform</li> <li>• Vender</li> <li>• trader</li> <li>• consumer</li> </ul>

# Defining the scope of measurement for Thailand's digital economy.

Applying the OECD (Nadim Amed) concept to consider activities that should be included within the scope of the digital economy.

Tiers	Approach to consideration	Production activities / Outputs / Business units (what)	Economic units (who)
<p><b>Broad :</b></p> <p>Activities that use digital technology to increase efficiency in production (significantly enhanced by digital inputs)</p>	<ul style="list-style-type: none"> <li>▪ bottom up approach</li> <li>▪ Consider the use of digital factors of production in the workplace, such as:               <ul style="list-style-type: none"> <li>○ Digital services</li> <li>○ Online media, for example.</li> </ul> </li> <li>▪ Considering the permanent investment in the production process.               <ul style="list-style-type: none"> <li>○ Computer</li> <li>○ High-value software</li> <li>○ Digital tools, machinery, and equipment such as AI robots, drones, etc.</li> </ul> </li> <li>▪ The proportion of digital inputs used should be at a significant level.</li> </ul>	<p>The production of other goods and services in the market system within the scope of the country's GDP measurement.</p> <ul style="list-style-type: none"> <li>- Agricultures</li> <li>- Industries</li> <li>- Services</li> </ul>	<ul style="list-style-type: none"> <li>• B2B B2C B2G C2C</li> <li>• Platform</li> <li>• Vender</li> <li>• trader</li> <li>• consumer</li> </ul>
<p><b>Social :</b></p> <p>Other activities that use digital technology for social purposes.</p>	<ul style="list-style-type: none"> <li>▪ bottom up approach</li> <li>▪ No method for measuring value has yet been considered.</li> </ul>	<p>Some non-market goods and services produced without charge may not be included in a country's GDP measurement.</p>	<p>C2C G2C NG2C</p>

# Examples of activities/products within the digital economy scope.

## Core :

- ICT (Information and Communication Technology) includes the production of computers, connectivity devices, software production and services, computer and internet services, digital communication tools and equipment, and telecommunication services, etc.
- The content and media sector includes the production of news, books, music, films, advertisements, games, reviewers, bloggers, etc.
- Data & Information includes digital data production, data processing services, data storage services (iCloud), etc.

## Narrow :

- Smart devices such as drones, robots, digital TVs, cameras, disc players, and other internet-connected devices, etc.
- Financial services, such as banking services, financial services, insurance services, etc.
- Digital services such as educational services, entertainment services, online games, e-sports, etc.
- E-commerce (B2B B2C B2G C2C).
- Digital platforms (digital order & digital delivery) include portal web and marketplace.

# Examples of activities/products within the digital economy scope (continued)

## Broad :

- Other digital services (online services) such as travel services, transportation services, insurance, securities trading, educational services, healthcare services, accounting services, etc. (This group counts the economic value only for the portion of services provided through digital channels, which is considered reliant on digital input, and therefore may be classified in the same group as narrow services.)
- The production of goods and services that incorporate digital technology as a component of the product, such as washing machines, air conditioners, electric rice cookers, as well as industrial machinery and equipment, office equipment, and various vehicles that operate automatically or semi-automatically, or that have digital electronic or electrical circuits controlling the mechanical operation (embedded software).
- The production of goods and services that utilize digital technology factors in the production process (automated/semi-automated production, in which the production process uses computers, AI, robots, and various electronic systems to command, control, or replace human labor) these activities are distributed across the agricultural, industrial, and service sectors.

## Examples of activities/products within the digital economy scope (continued)

**Digital Society:** This is not yet included in the measurement of Thailand's digital economy.

- Free digital services, or non-monetary services, refer to economic activities outside the market system that are not specified or included in the scope of economic measurement by the national accounts system (GDP not included).
  - Services from businesses or charitable organizations, such as free applications, Wikipedia, the sharing economy, etc.
  - Volunteer services such as providing information or sharing knowledge on health, food, careers, repairs, or DIY, etc.

# Guidelines for defining the scope of Thailand's digital economy.

Examples of the economic activity between De and Non-de categories.

TSIC	Description	Production		Order		Deliver		GDP		
		Digital	Non digital	Digital	Non digital	Digital	Non Digital	Digital	Non digital	
		A	B	C	D	E	F			
<b>core</b>										
26101	Manufacturing of display equipment components.	√		√	√		√	A,C,D,F	-	
26201	Computer manufacturing and/or computer assembly.	√		√	√		√	A,C,D,F	-	
26202	Manufacturing of data storage devices.	√		√	√		√	A,C,D,F	-	
62022	Software consulting services.	√		√	√	√	√	A,C,D,E,F	-	
<b>narrow</b>										
26403	Manufacturing of microphones, speakers, and amplifiers.	√	√	√	√		√	A,C	B,D,F	
26409	Manufacturing of other household electronic appliances not classified elsewhere.	√	√	√	√		√	A,C	B,D,F	
63911	Activities of news and print media organizations.	√	√	√	√	√	√	A,C,E	B,D,F	
<b>broad</b>										
xxxxx	Other products	√	√	√	√			A,C	B,D	
xxxxx	Other services	√	√	√	√	√	√	A,C,E	B,D,F	

Note: For the broad group, it is possible to specify within each TSIC whether to include all activities or only some of them.

# Classification of Digital Economic Activities in Thailand

- The current classification of digital economic activities uses the same approach as national accounts, in order to align with the overall GDP calculation of the country (NESDB)
  - The TSIC standard of 2009 from the Ministry of Labour serves as the framework for consideration. Currently, it includes 120 activities out of approximately 400 total activities.
  - UNSD's CPC VER 2.1 standard.
  - UNSD's COICOP COFOG standards.
- Considering digital economic activities: Use a hybrid approach combining top-down and bottom-up.

## The measurement of the digital economy consists of 3 approaches

- **Production Approach** : The measurement of final products is carried out through the estimation of value added generated by production activities of goods and services within the scope of the digital economy, classified according to the TSIC standard. The sum of value added represents the gross domestic product attributable to digital technologies (Digital GDP).

$$Y(\text{GDP})_d = \text{Digital Final Products} = \sum_{ij} VA_d$$

$$VA_d = GO_d - IC_{d, nd}$$

- **Income Approach** : Measurements of returns on factors of production include labor compensation, land rent, interest, and operating profits, and net taxes paid to the government, which occur within the digital economy scope.

- **Expenditure Approach** : Measuring final spending value within the digital economy.

$$Y(\text{GDE})_d = C_d + I_d + G_d + (X_d - M_d)$$

# Alternatives for measuring the value of the digital economy.

In practice, the approach depends on the availability and quality of the underlying data.

## 1. Direct method :

Calculate the economic value of each item using data according to the definition and scope of the national accounts system, such as:

- Measuring value added in production by calculating the Gross Output (go) - Intermediate Costs (ic) from data collected from the population.
- Measuring Private expenditure involves conducting a comprehensive survey of household spending using statistical principles.
- Measuring Government expenditure involves collecting complete expenditure data from government agencies.

## 2. Indirect method :

2.1 Using extrapolation or interpolation methods by adjusting data from a benchmark when direct data is available for only some years. For other years, calculations are made using the growth rate of the data for the appropriate indicator or one that is related to the item being measured, or has properties similar to the data being measured.

2.2 Using the commodity flow method, or reconciliation between production and expenditure.

2.3 Calculation using proportions, such as dividing the NESDB's value added by the proportion between digital and non-digital. This can be derived from survey results or calculated from appropriate indicators or those related to the item being measured.

2.4 Using mathematical and statistical techniques, such as multiplying the population size by the per capita average.

2.5 Other methods, based on information and techniques referenced from various academic sources.

## A summary of how Thailand is currently processing its digital economy.

	Processing method	Notes
Production	Direct/Indirect	Independent Compilation
Income	Indirect	Control total via Production Approach
Expenditures		
- Private consumption expenditure.	Direct/Indirect	Independent Compilation
- Government expenditure	Direct	Independent Compilation
- Gross fixed capital formation	Indirect	Control total via Production Approach
- Exports and imports	Goods – Direct / Services - Indirect	Independent Compilation

Measuring the value of the digital economy.

Production approach

# Basic concepts in measuring the digital economy.

Digital industries refer to sectors that intensively apply digital technology (Digital Technology Intensive Industry) and represent future industries that form the essential foundation for the development of other production and service sectors. These industries leverage digital technologies and include: .

## Classification of Digital Economic Activities:

- Hardware
- Software
- Smart Devices
- Digital content
- Digital services
- Telecommunications
- Digital Tourism
- Other related industries

# Measuring the value of the digital economy. (Production approach)

**Meaning:** A measure of the value of final goods and services produced from manufacturing activities within the country's digital economy during a calendar year

**Methods of measurement in production:** Measure the value added from production activities (the sum of the value added equals the final value of the goods and services).

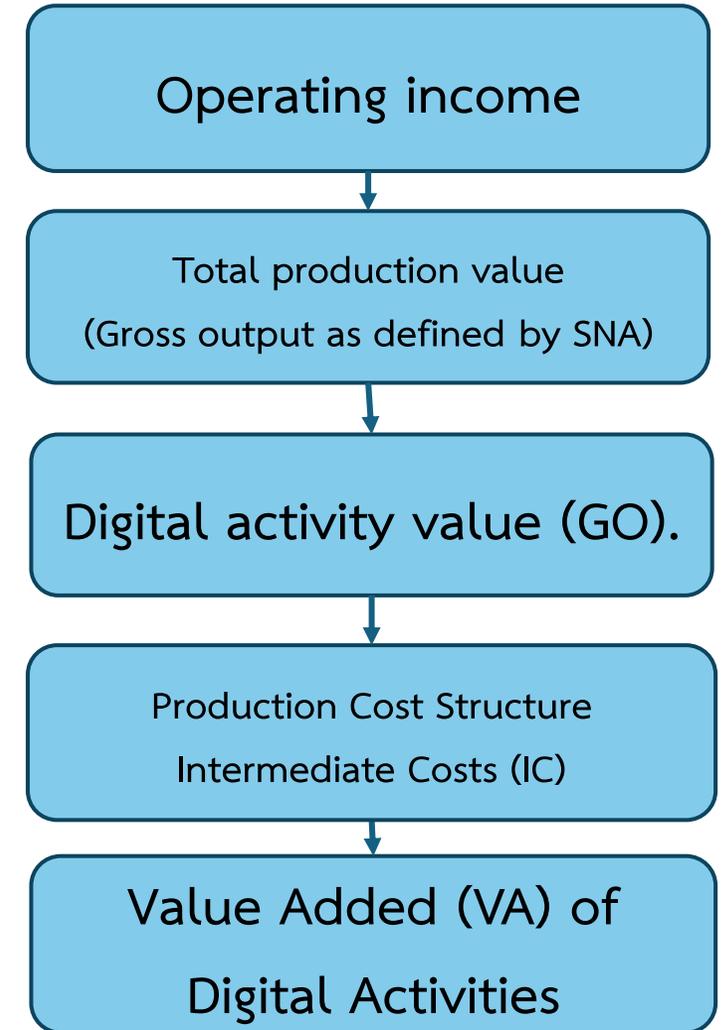
$$\text{Value added} = \text{Gross Output} - \text{Intermediate Cost}$$

Categorize using **TSIC 53 Economic activities**

**Data needed :**

1. Gross output of goods and services within the scope of digital economy activities is measured at producer prices, which include taxes on production but exclude transportation and marketing costs.
2. Percentage of digital production to total production.
3. The percentage of intermediate costs of the production activity to be measured.

Lists	Randomizing samples	Population calculation
Production value(gross output)	GO/revenue ratio, proportion of digital production.	GO
Production costs	IC/GO ratio	IC
Value added		VA = GO - IC



# How to measure the value added of the digital economy.

In practice, manufacturing processing is divided into two main groups: direct methods and indirect methods.

	Method	Sources of information
<b>Industrial and service sectors.</b>		
- Production of goods : ICT , software smart devices etc.	Direct	Financial statements / Industry surveys
- Services: Telecommunications, computer services, business services, repair services, etc.	Direct	Financial Statements/ICT Survey
<b>Wholesale and retail</b>		
- Wholesale and retail of digital products (regular sales).	Direct	Financial statements
- Online retail (E-commerce)	Direct	ETDA/Financial Statements
<b>Finance</b>		
- Financial service	Indirect	BOT
- Insurance	Indirect	OIC
- Securities trading	Indirect	SET

# Measuring the gross output of digital economic activities.

Types of activities	Example list of products and services.	Gross output
Manufacturing of ICT products.	For example, computers, telephones, and electronic devices.	Factory price value of output (output quantity x average price)
ICT services	Examples include telecommunications services, internet services, and software services.	Revenue from service fees and usage charges.
Online wholesale and retail sales (e-vender / e-tailer)	Examples include selling goods in a marketplace or trading goods online.	Revenue from trade margin (sales – cost of purchases)
Electronic marketplace (e-market place)	Examples include Lazada, Shopee, and Kaidee.	Revenue from service fees and advertising fees.
Finance (e-banking e-payment e-money)	Examples include banking services, insurance, and securities trading.	Revenue from service fees (actual fee)
Digital services and other business services.	Examples include online games, booking accommodations, and booking tickets.	Revenue from service fees/charges.
Repair services (ICT)		Revenue from service fees.

# Data sources for measuring the digital economy in terms of production.

Secondary sources of information.	Guidelines for using the data.
<p><b>DBD :</b></p> <ul style="list-style-type: none"><li>• Business registration and e-commerce registration according to Ministry Announcement No. 11 of 2010.</li><li>• Financial statement information for all types of businesses.</li></ul>	<ul style="list-style-type: none"><li>• The number and names of businesses are used as population and sampling values.</li><li>• Income and operating expenses of legal entities related to DE are used to calculate the production structure.</li></ul>
<p><b>NSO :</b></p> <ul style="list-style-type: none"><li>• The 2016 Business and Services Survey.</li><li>• 2017 Industrial Census</li></ul>	<ul style="list-style-type: none"><li>• The production value and intermediate costs of production activities within the scope of de</li><li>• Used as a benchmark for production value and intermediate cost structure at the survey year.</li></ul>
<p><b>DEPA :</b></p> <ul style="list-style-type: none"><li>• Results of a software value survey from businesses engaged in software development for various applications, 2017 – 2023.</li></ul>	<ul style="list-style-type: none"><li>• The value of software production and the scope of Digital Economy (DE) from 2017 to 2024 are used to assess the feasibility of the data.</li></ul>
<p><b>ETDA :</b></p> <ul style="list-style-type: none"><li>• Results of the survey of e-commerce entrepreneurs, 2017 – 2024.</li></ul>	<ul style="list-style-type: none"><li>• Value of sales through e-commerce channels, 2017 – 2024</li></ul>

## Data sources for measuring the digital economy in manufacturing in studies (continued)

Data source (Secondary)	Guidelines for using the data.
<p>Other agencies:</p> <ul style="list-style-type: none"> <li>• Financial transactions from BOT.</li> <li>• Securities trading from SET.</li> <li>• Purchasing insurance from OIC.</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic financial service fees.</li> <li>• Proportion of securities trading through electronic systems (internet and other digital channels such as DMA).</li> <li>• Financial statements of securities businesses; financial statements of the SET (Stock Exchange of Thailand).</li> <li>• Proportion of insurance purchases made online.</li> </ul>
<ul style="list-style-type: none"> <li>- National accounts data from NESDC.</li> </ul>	<ul style="list-style-type: none"> <li>• National income in 2023 and the input-output table for 2021.</li> </ul>
Data source (Primary)	Guidelines for using the data.
<p>A survey of entrepreneurs categorized by TSIC.</p>	<ul style="list-style-type: none"> <li>- Explore and collect data on production activities and the proportion of digital/non-digital output.</li> </ul>
<p>A survey of personal online businesses.</p>	<ul style="list-style-type: none"> <li>- Examine operating revenue, capital expenditures, and marketing channels.</li> </ul>

# Measurement of the Digital Economy

## Income Approach

# Measurement of the Digital Economy (Income Approach)

**Definition :** The primary factor income generated from the production of goods and services within the scope of the digital economy.

**Income Components :** Classified according to the System of National Accounts as follows:

1. Compensation of employees, comprising salaries, wages, remuneration, bonuses, and benefits, both in cash and in kind
2. Operating surplus (the sum of profits, land rent, and interest) and mixed income
3. Depreciation
4. Net taxes on production (Overall taxes on production - subsidies received from the government)

**Method :** Indirect approach employed by classifying the components of value added (generation of income)

The value added obtained from the production-side calculation is disaggregated into four components (Compensation of employees, operating surplus and mixed income, taxes on production, and depreciation)

**Data Source :** Financial statements of businesses are used in conjunction with production-side data. The percentage shares of each factor income component relative to the value added in each TSIC category are derived from sampled financial statements (collected simultaneously with the production-side survey). These percentage shares are then applied to allocate the total value added for each corresponding TSIC.

# Measurement of the Digital Economy

## Expenditure approach

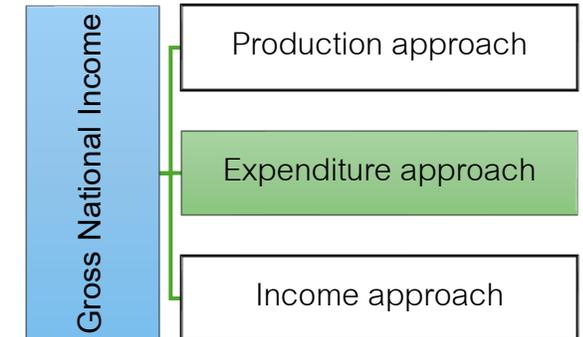
# GDP

(Expenditure  
Approach )

(Expenditure  
on gross  
domestic  
product)

$$Y = C + I + G + (X - M)$$

- C** = Private Final Consumption Expenditure (PFCE)
- I** = Investment or Capital Formation
- G** = Government Final Consumption Expenditure (GFCE)
- (X-M)** = Exports & Imports





## Digital Private Final Consumption Expenditure (DPCE)

---

# Private Final Consumption Expenditure

## Definition of PCE

Private final consumption expenditure refers to household expenditures on goods and services for consumption, both domestically and abroad. This includes goods and services obtained through barter transactions, in-kind goods and services, and goods and services produced by households for their own use. However, it excludes household expenditures on the purchase of dwellings and valuables, as these are classified as capital formation. It also encompasses expenditures on goods and services made by non-profit institutions serving households.

## Definition of Digital PCE

Digital private final consumption expenditure refers to household expenditures on goods and services for consumption, both domestically and abroad—including goods and services obtained through barter transactions, in-kind goods and services, and goods and services produced by households for their own use—**strictly for those goods and services classified as digital.**

# Data collection

## Secondary data

- ❑ The annual Socio-Economic Survey (SES) conducted by the National Statistical Office, specifically the items related to digital consumption, such as household furnishings and other personal effects, travel expenditures, communication-related expenses, and expenditures on entertainment and sports equipment.
- ❑ Data from the Digital Content Industry Survey, which covers three sub-industries: the animation industry, the character industry, and the gaming industry. The data are compiled from the annual Survey and Assessment of the Digital Content Industry (Animation, Game, and Character) conducted by the Digital Economy Promotion Agency.

## Primary data

- ❑ Field surveys on household expenditures.
- ❑ Distribution of sample households to ensure coverage across all regions of the country, including Bangkok.
- ❑ Design and development of a household expenditure survey questionnaire, comprising general household information and data on digital-related expenditures.
- ❑ Recording of sample household data using Microsoft Excel.

# Socio-Economic Survey (SES)

## Expenditures on Food, Beverages, and Tobacco

- Food and non-alcoholic beverages
- Alcoholic beverages
- Tobacco and narcotics

## Expenditures on Goods and Services

- Housing, furnishings, and household equipment
- Clothing and footwear
- Personal care and personal expenses
- Medical supplies and healthcare services
- Transportation and communication
- Vehicle purchases and related expenses
- Regular travel / tourism
- Communication
- Education services
- Recreation / special ceremonial events
- Expenditures related to religious activities

# Classification of Individual Consumption According to Purpose (COICOP)

## 12 major categories

- (1) Food and non-alcoholic beverages
- (2) Alcoholic beverages, tobacco and narcotics
- (3) Clothing and footwear
- (4) Housing, water, electricity, gas and other fuels
- (5) Furnishings, household equipment and routine household maintenance
- (6) Health
- (7) Transport
- (8) Information and Communication
- (9) Recreation, sport and culture
- (10) Education services
- (11) Restaurants and accommodation services
- (12) Miscellaneous

# Gross Fixed Capital Formation (GFCF) Expenditure

**Definition :** Gross Fixed Capital Formation (GFCF) refers to the value of fixed assets acquired or produced for use in the operations of private sector business units and government agencies. Under the System of National Accounts (SNA), GFCF can be measured using two approaches:

1. Investment Expenditure on Fixed Assets (with a service life exceeding one year) in digital economy activities (138 TSIC categories). This includes land, buildings, structures, machinery and equipment, vehicles, computers and packaged software, as well as contracted services for developing computer programs (software, websites, and high-cost applications).
2. Expenditure on the purchase or acquisition of fixed assets (with a service life exceeding one year) at the national level, specifically those considered foundational tools for digital economy activities (digital enablers). These include computer equipment and accessories, communication and telecommunication tools and devices, software, and operating systems used for computer processing.

# Method of Measurement of Gross Fixed Capital Formation

## Gross Fixed Capital Formation in Digital Economy Activities (Method 1)

Data are compiled and processed in conjunction with production-side calculations.

- ❑ A sample of financial statements submitted by establishments to the Ministry of Commerce is selected. Annual fixed asset data of each establishment are recorded as part of the same process used in production-side calculations.
- ❑ Details are classified according to the TSIC (5-digit) code, using the following steps:
  - Process the sample data to determine the percentage share of fixed asset expenditure by asset type relative to the gross output of the corresponding TSIC category.
  - Multiply the percentage obtained in Step 1 by the gross output to derive the value of gross fixed capital formation, classified by the required asset types.

## Gross Fixed Capital Formation in Digital Economy Activities (Method 2)

This follows directly from the production-side processing.

- ❑ Calculate the value of gross fixed capital formation by multiplying the gross output by the fixed capital formation distribution coefficients from the NESDC 2021 Input-Output (I-O) Table (after mapping IO codes to the corresponding TSIC codes).
- ❑ Classify the results under TSIC codes relevant to the ICT sector.

## Method of Measurement of Gross Fixed Capital Formation (Method 2)

1. Calculate the output distribution coefficients



Process data from the row vectors of the 2015 Input-Output (I-O) Table by calculating the fixed capital formation coefficient, obtained by dividing the value of gross fixed capital formation (code 303) by the total gross output (code 600). This calculation is performed for products within the scope of the digital economy that qualify as fixed assets, such as computers and related equipment, office machinery, radio and television transmission equipment, telephones, scientific instruments, and computer software.

2. Calculate the value of gross fixed capital formation



Multiply the gross output derived from the production-side calculations in this study by the fixed capital formation coefficient obtained in Step 1.

3. Measurement of gross fixed capital formation



Use the resulting values to construct the Supply and Use Table. Adjustments may be required to ensure consistency and balance between the supply and demand components of the dataset.



# Export and Import of Goods and Services (Import & Export)

• **Definition** : The import and export of goods and services within the scope of the digital economy encompass production activities in the ICT sector, including computer hardware and software, telecommunications services, internet-based services, as well as digital content such as information, documents, music, films, games, and other services that can be delivered via the internet-based platforms.

• **Data Sources**: Statistics on imports and exports are compiled by classifying product codes under the Harmonized System (HS) within the digital economy, followed by processing and categorizing the data according to the CPC classification.

**Example of HS and CPC mapping**

HS codes	CPC codes
950300	385
950300	385
950300	385
950300	385
950300	385
950300	385
950440	385
950450	385
950450	385
950420	385
950430	385
950490	385
847130	452
847141	452
847149	452
847150	452

## Classification and Data Sources

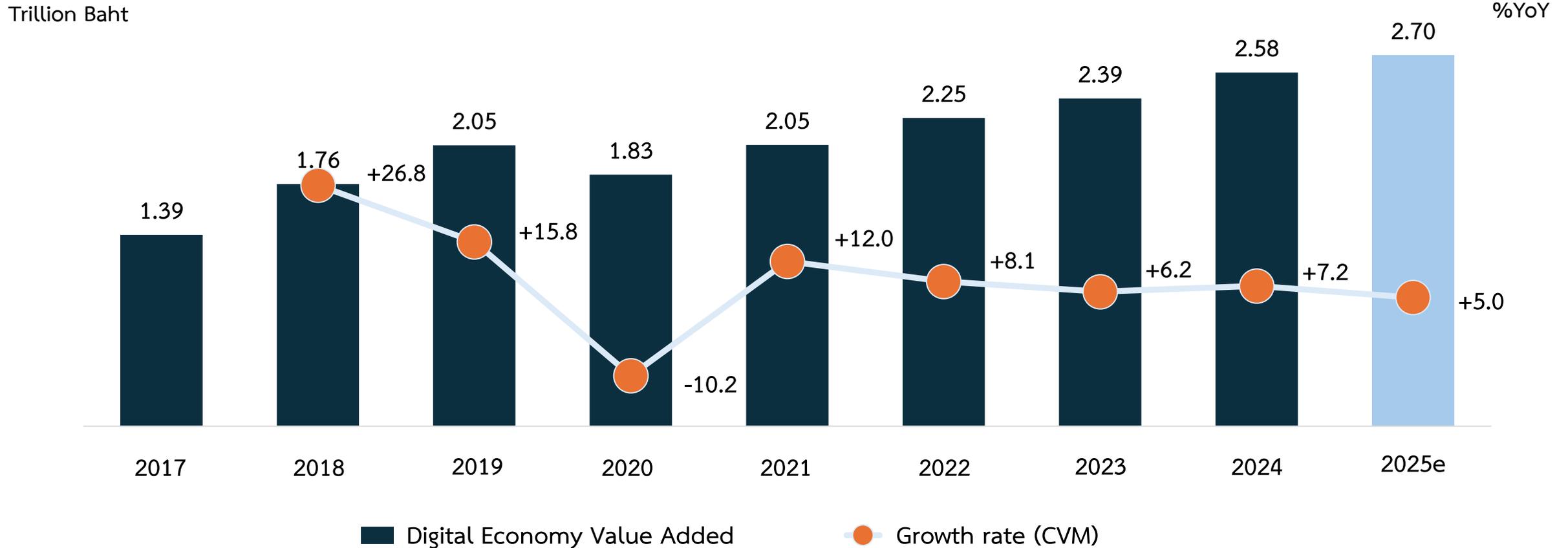
- 1) Data Collection - This study utilizes international trade statistics from the Customs Department, responsible for supervising and taxing imported and exported goods. Data obtained from the department are recorded in Excel spreadsheets and categorized by HS codes.
- 2) Classification of imported and exported goods and services is conducted by comparing HS codes with ISIC Revision 4 and CPC 2.1, which are standardized coding systems developed jointly by international organizations such as the United Nations and other institutions including the IMF. Mapping guides are available to support countries in aligning their data classification with international standards.
- 3) Import and export data processing categorized by CPC codes are further processed to align with the digital industry classifications of the BDE.

# Thailand Digital Economy 2025

Thailand Digital Economy 2025 by

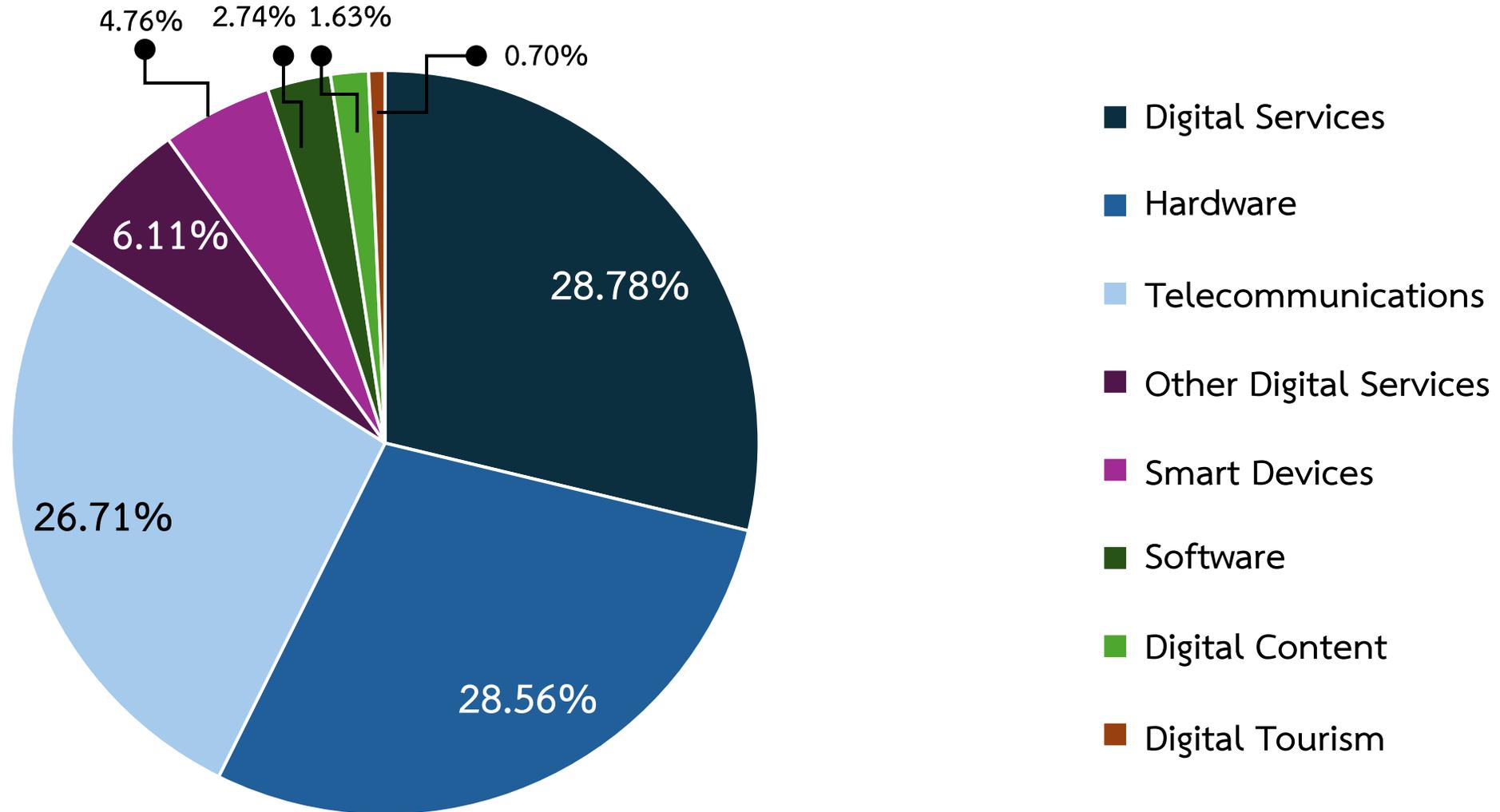
**Production Approach**

# Digital Economy Value Added from 2017–2025e

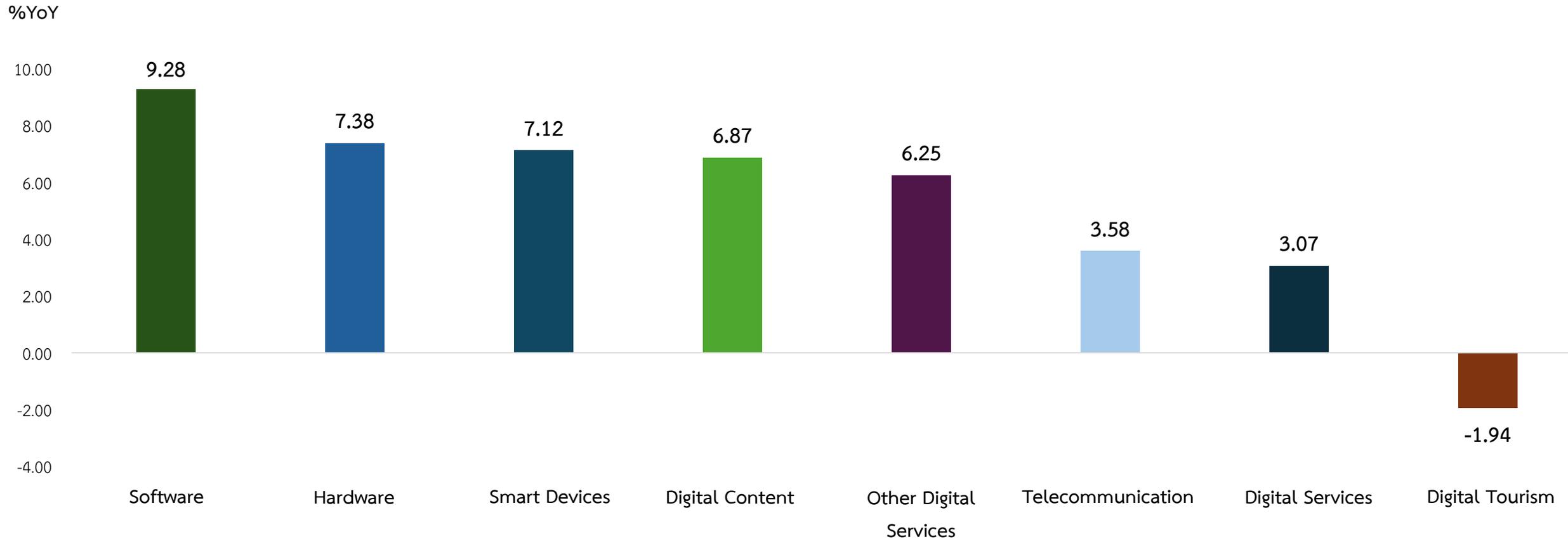


In 2025e, the digital economy generated a value added of **2.70 trillion baht**, expanding by 5.0%

## Share of Value Added by Industries in 2025e



## Digital Economy Growth by industries in 2025e



Thailand Digital Economy 2025 by

**Income Approach**

# Digital Economy Value in 2025e by Income Approach



## Labor Compensation

1,679,561.90 Million Baht



## Operating Surplus & Mixed Income

443,872.21 Million Baht



## Net Production Tax

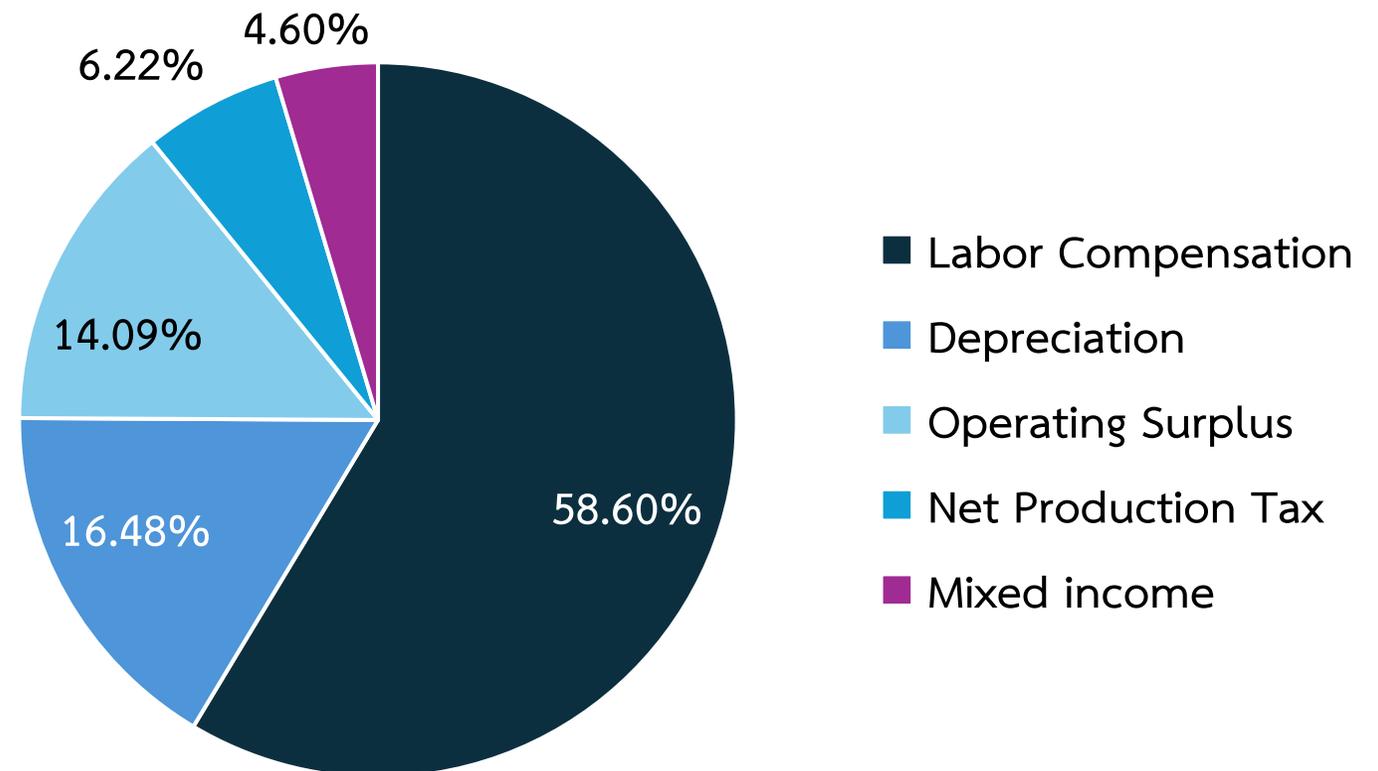
168,220.04 Million Baht



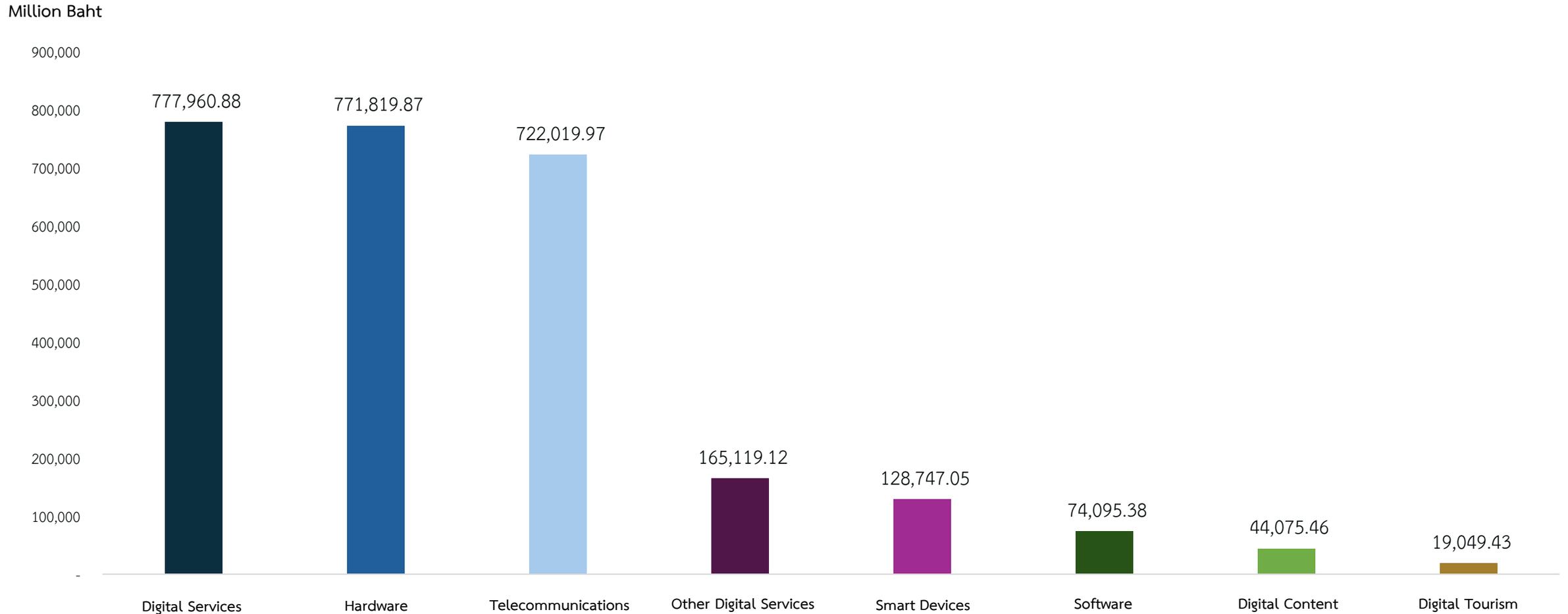
## Depreciation

474,298.90 Million Baht

Factor Income Share in Digital Economy in 2025e



# Digital Economy Value in 2025e by Income Approach classify by Industries

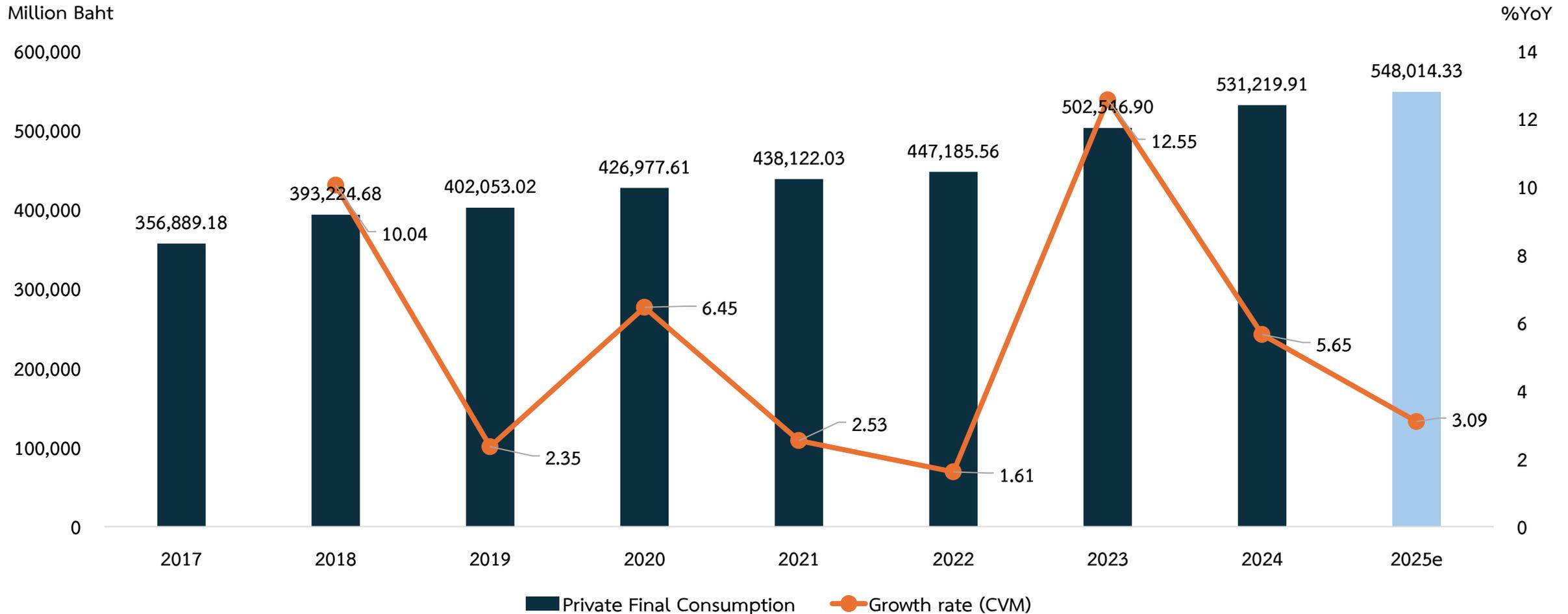


Thailand Digital Economy 2025 by

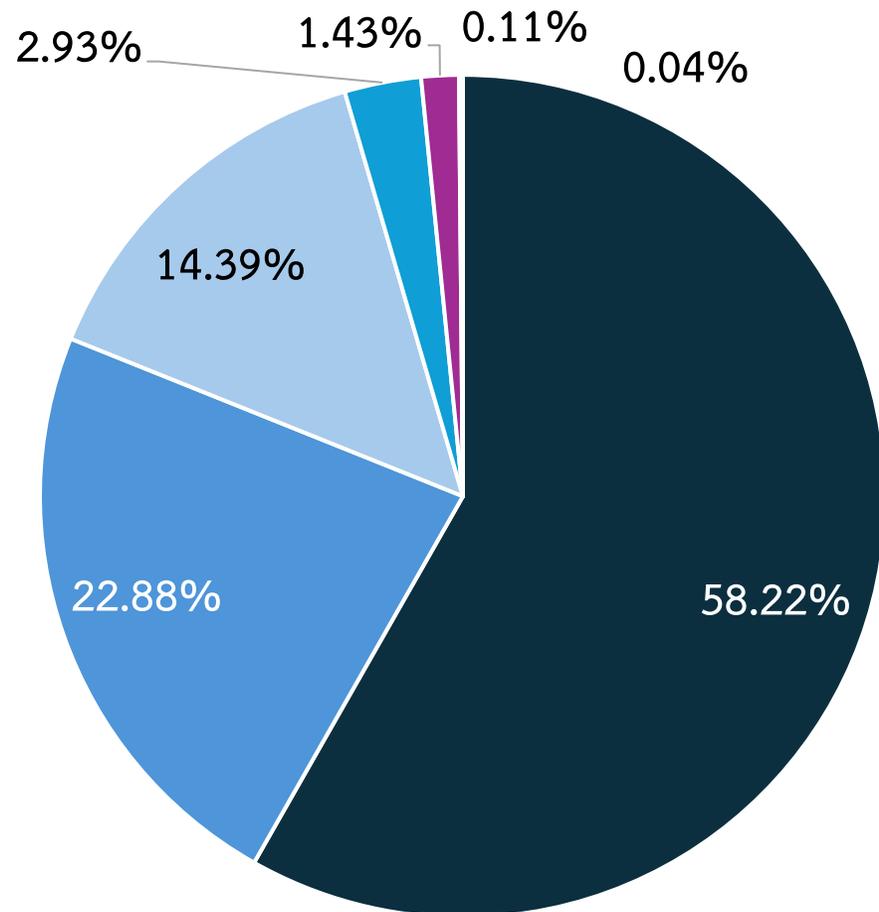
Expenditure Approach

Private Final Consumption Expenditure

# Private Final Consumption Expenditure on Digital Goods and Services from 2017-2025e



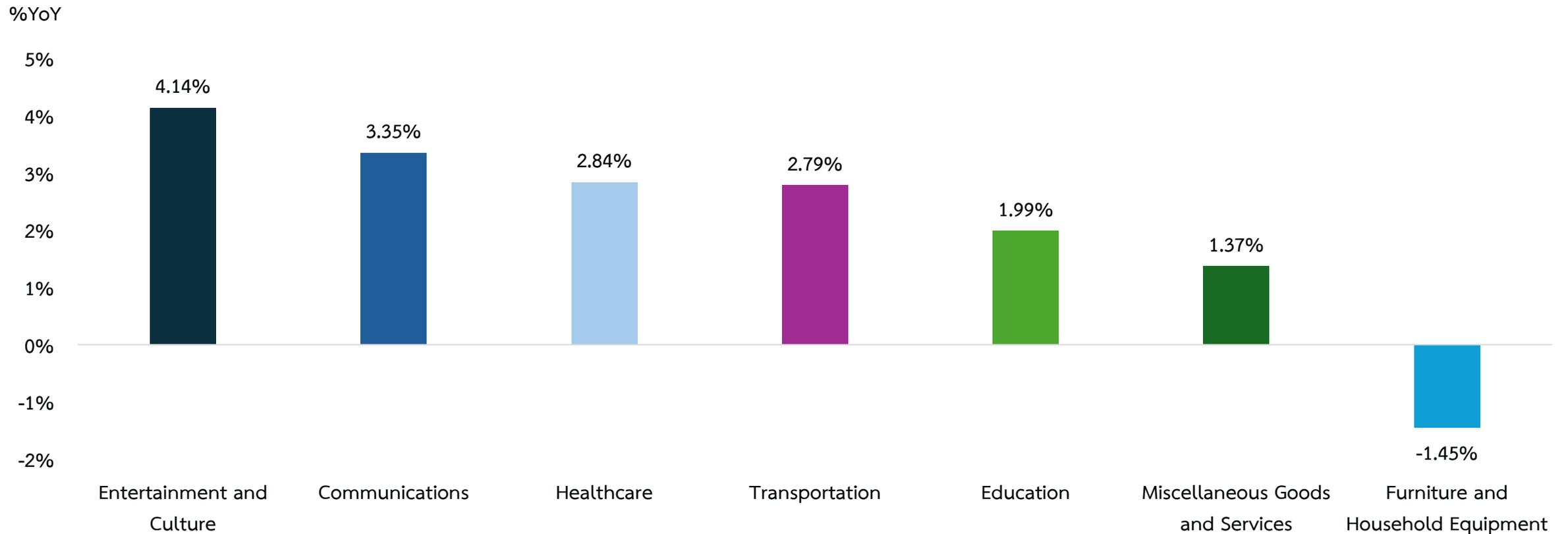
## Share of Digital Consumer Spending by Category in 2025e



2025e : 548,014.33 Million Baht



## Growth Rate (CVM) in Digital Consumer Spending by COICOP in 2025e

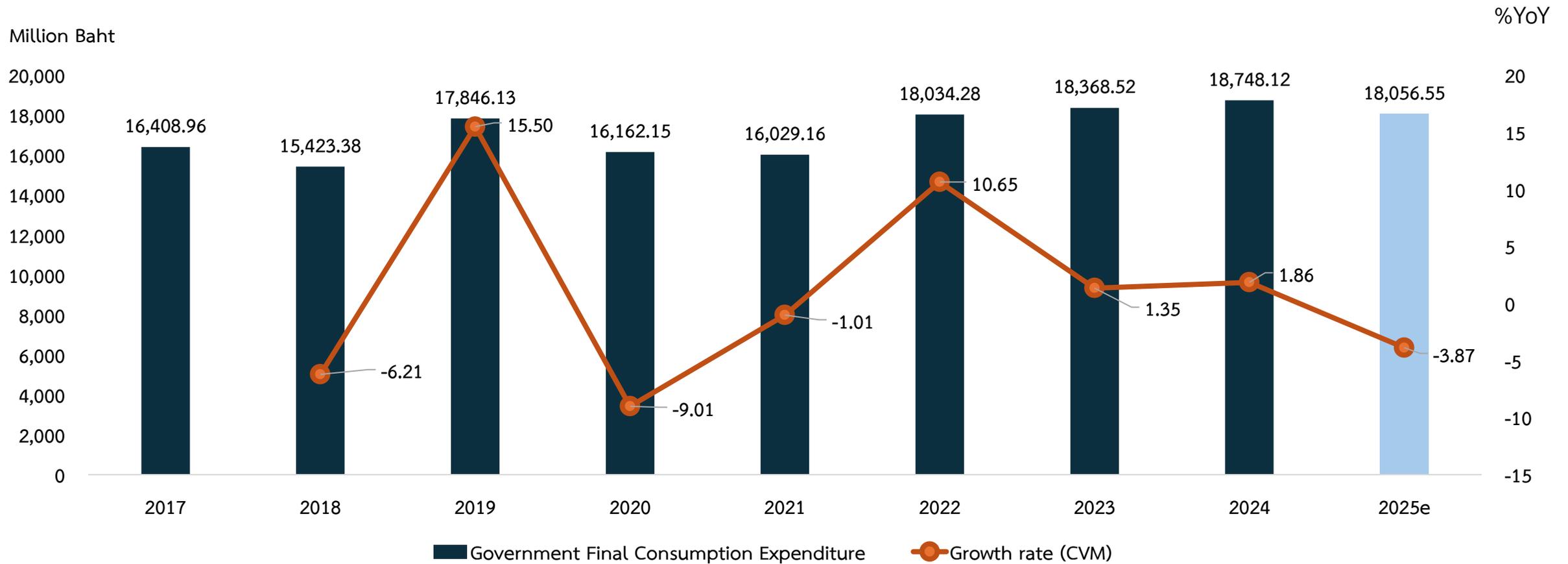


Thailand Digital Economy 2025 by

Expenditure Approach

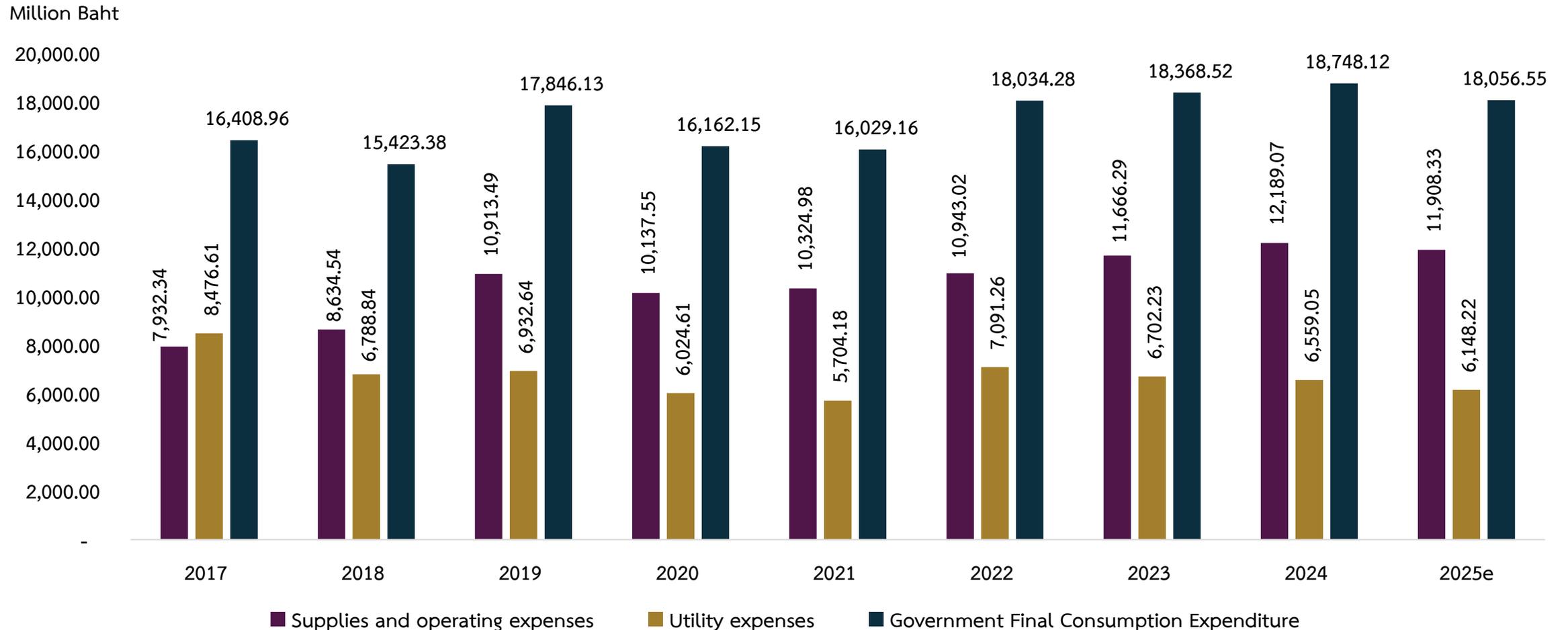
Government Final Consumption Expenditure

# Government Final Consumption Expenditure on Digital Goods and Services from 2017–2025e

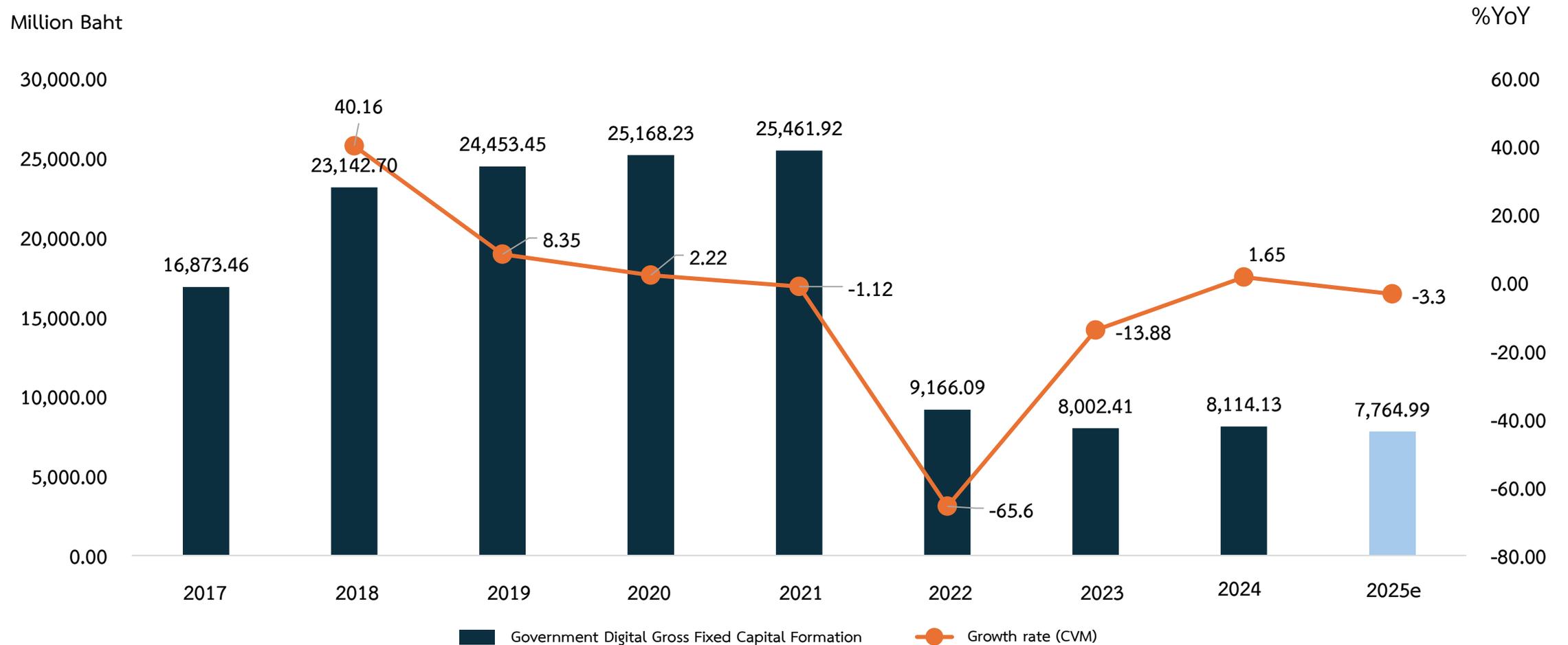


# Government Final Consumption Expenditure on Digital Goods and Services

## Classify by expense



# Government Digital Gross Fixed Capital Formation from 2017–2025e

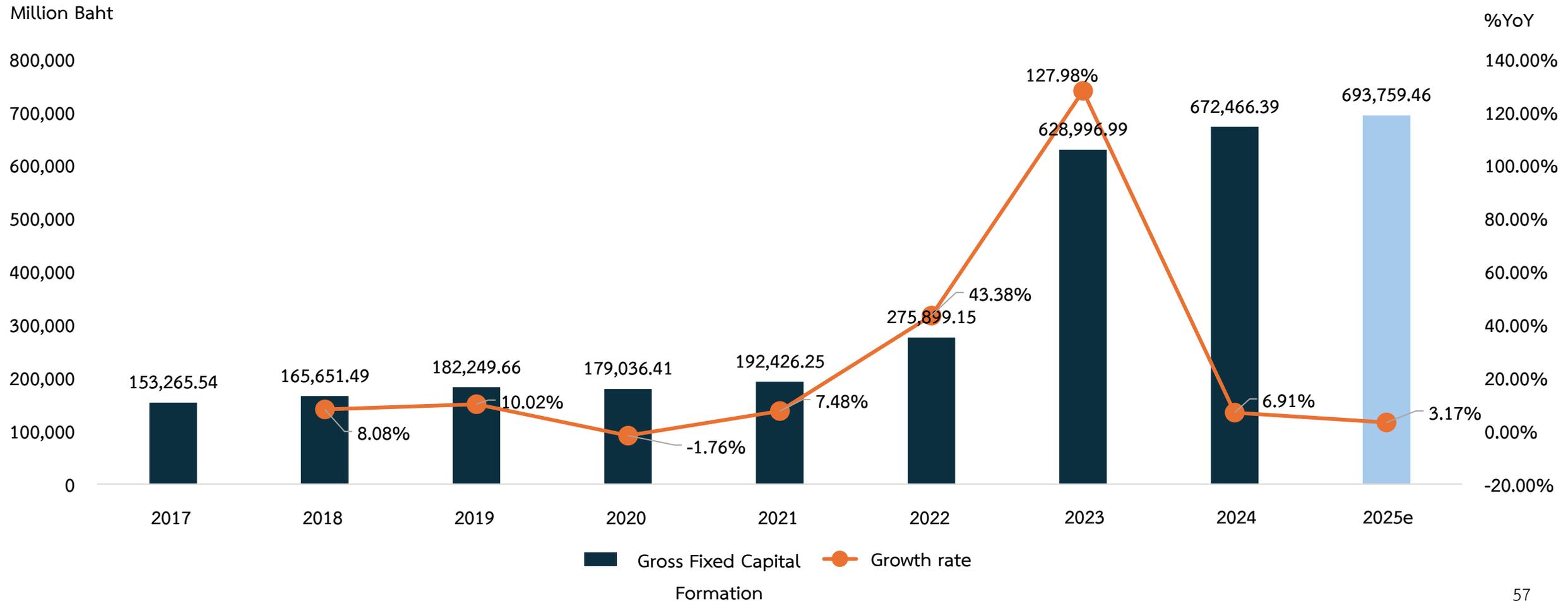


Thailand Digital Economy 2025 by

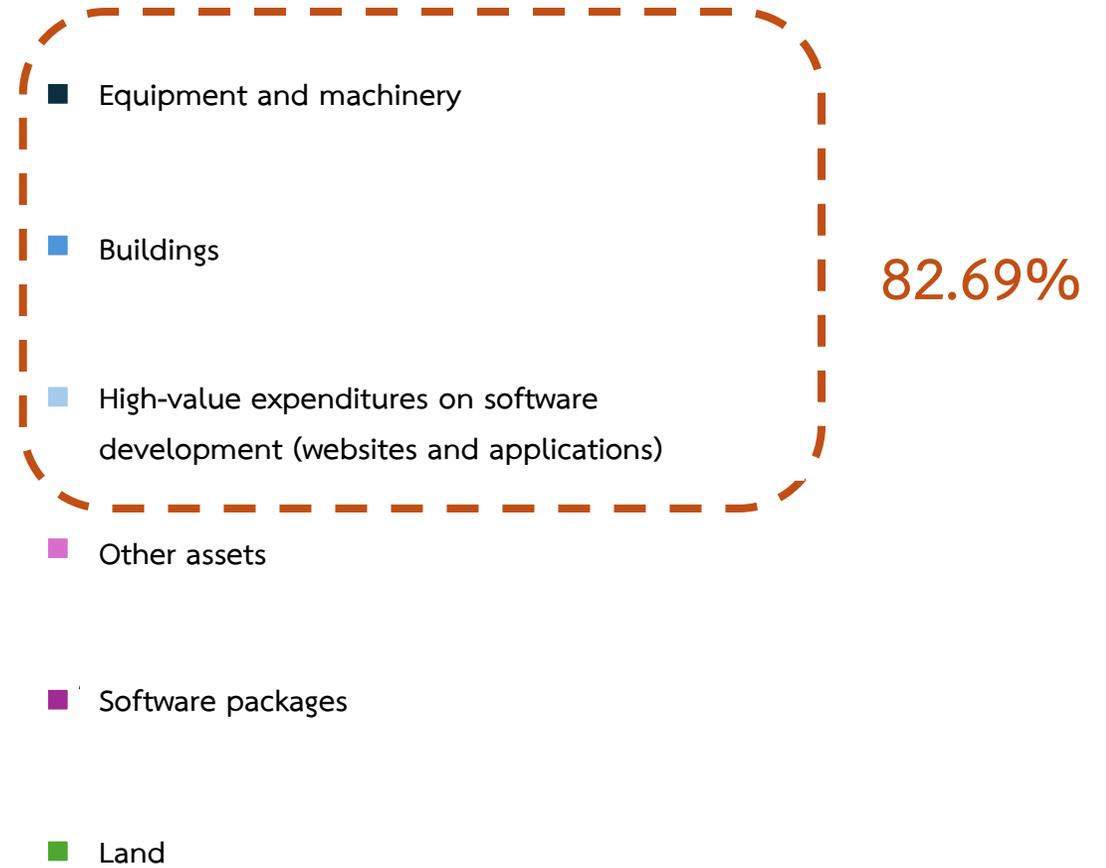
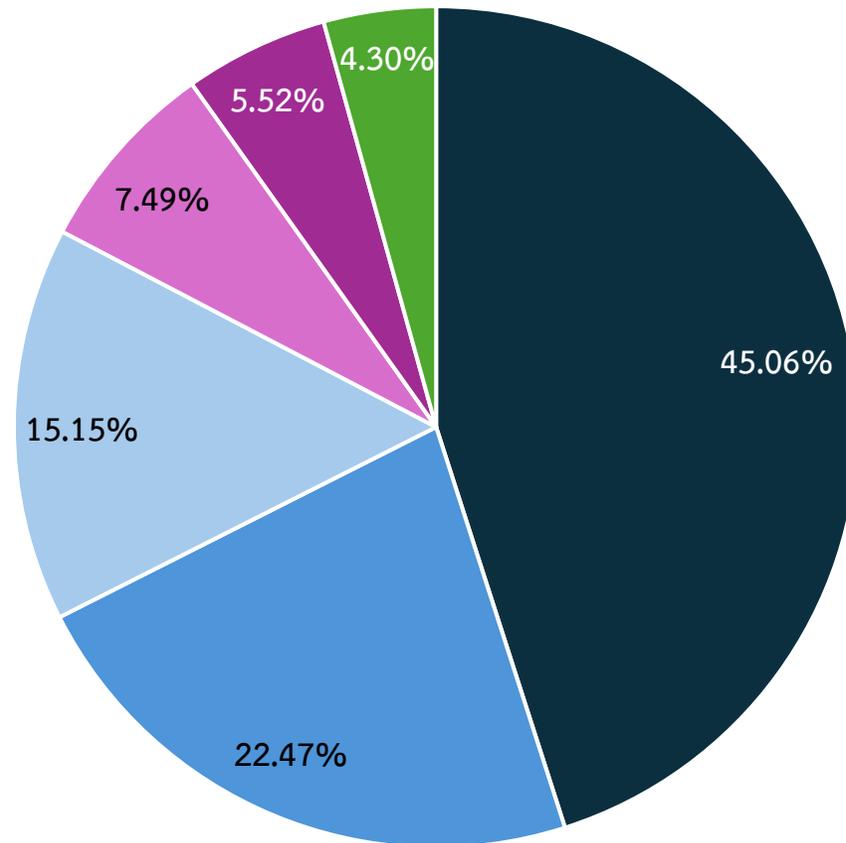
Expenditure Approach

Gross Fixed Capital Formation

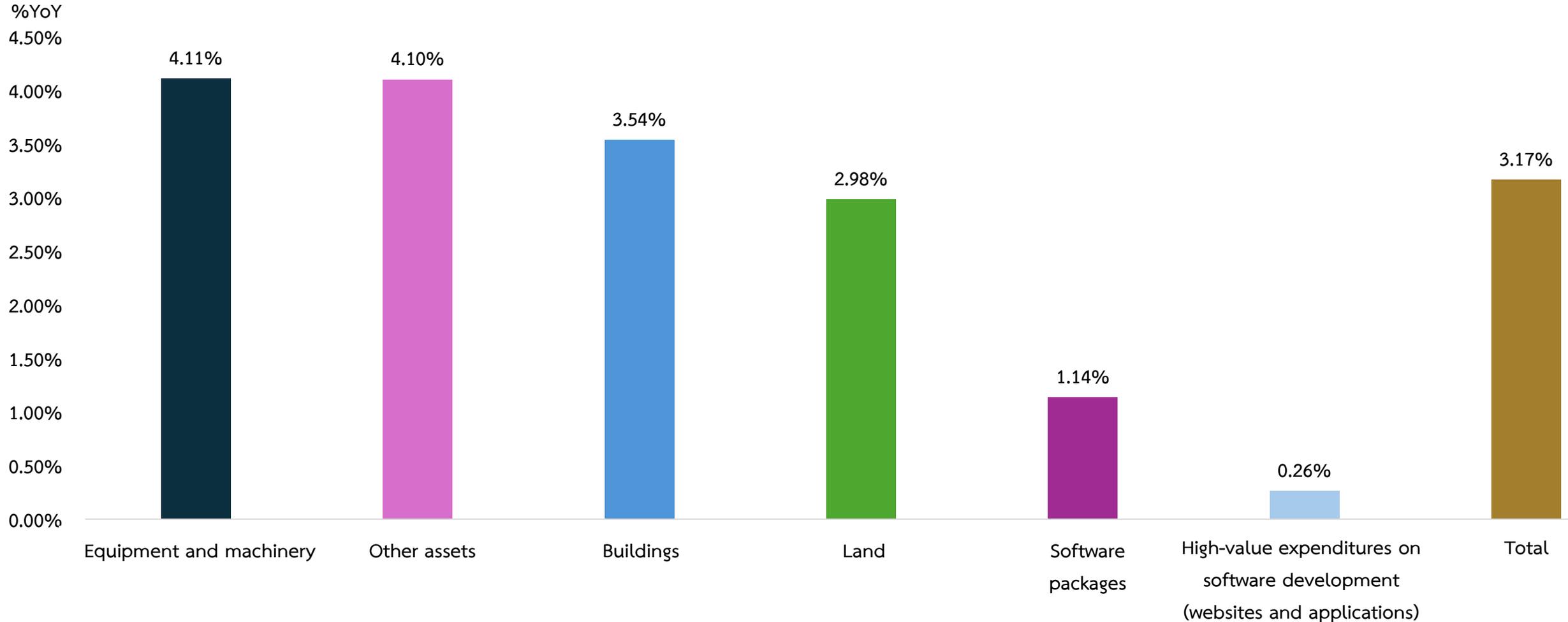
# Gross Fixed Capital Formation in the Digital Economy by method 1



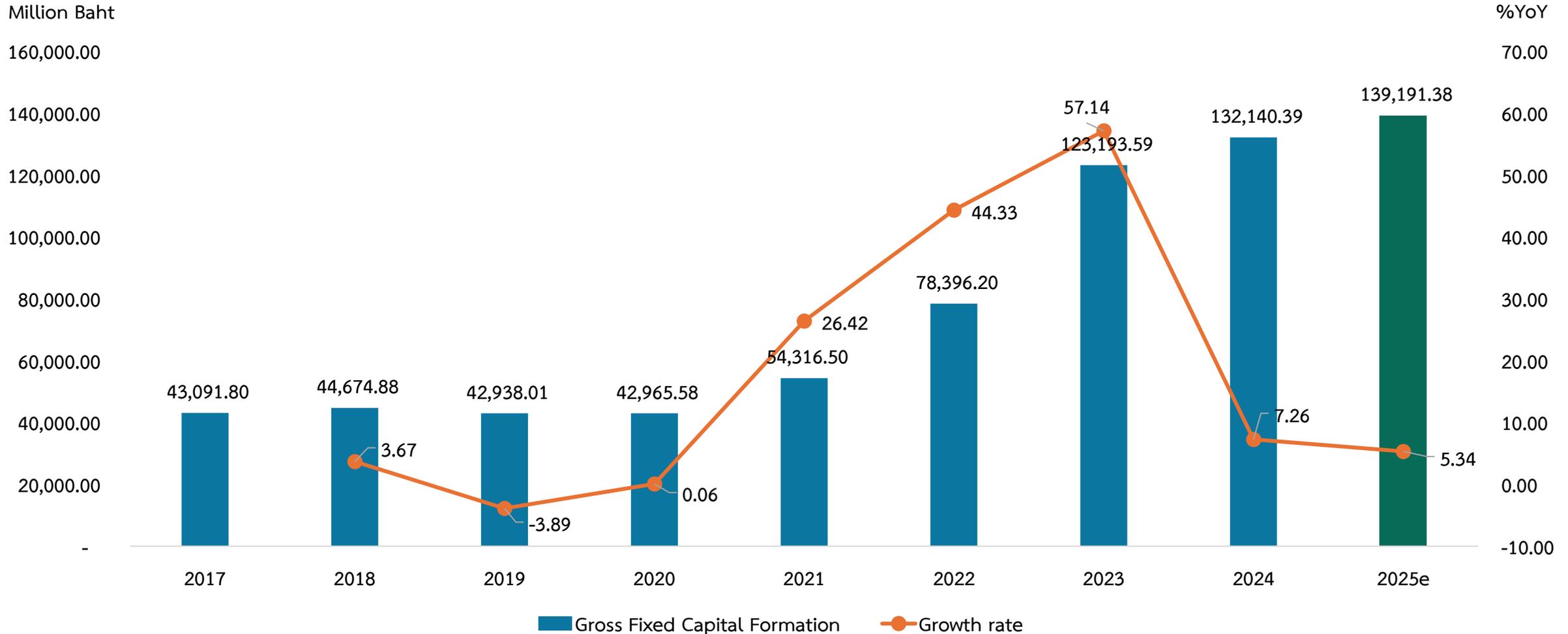
# Share of Gross Fixed Capital Formation in the Digital Economy by method 1, 2025e



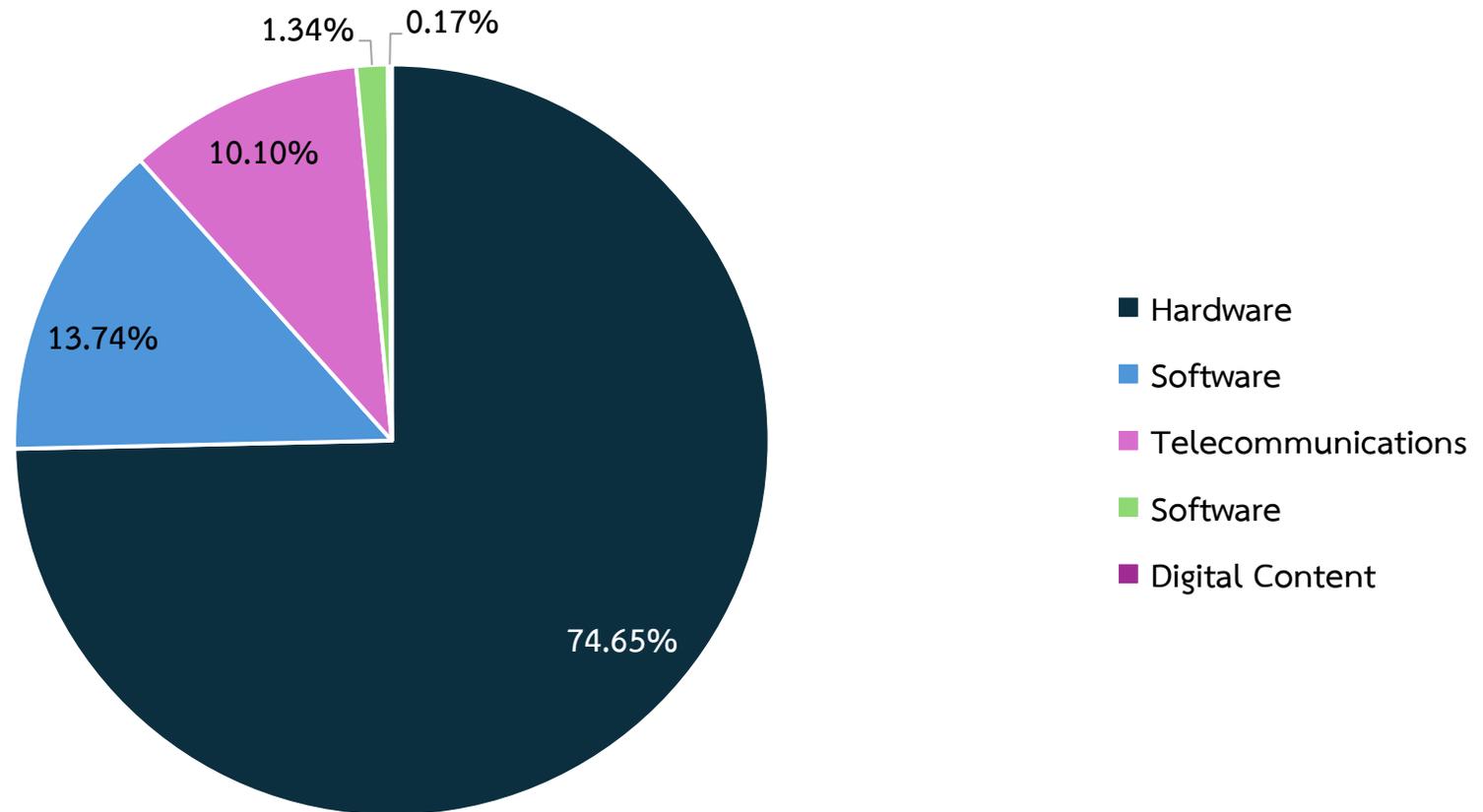
# Growth rate of Gross Fixed Capital Formation in the Digital Economy by method 1 in 2025e



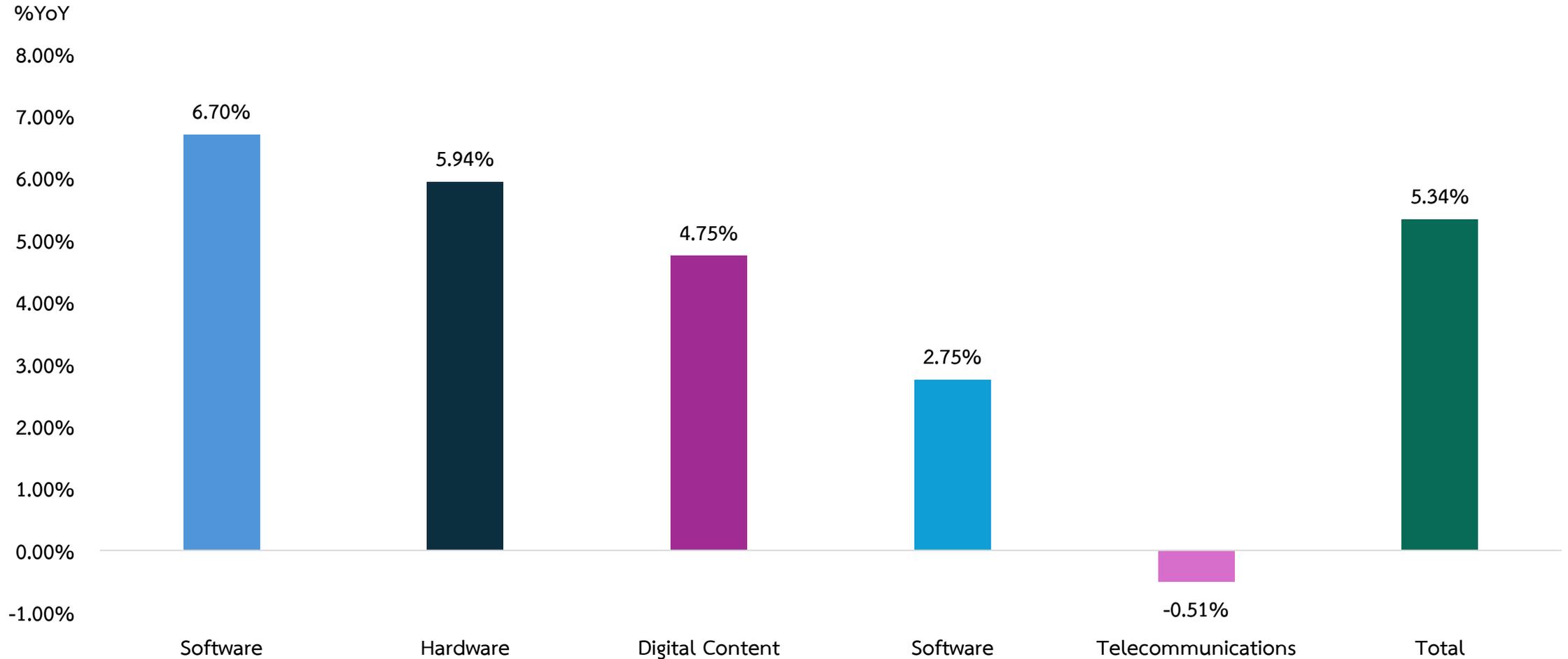
# Gross Fixed Capital Formation in the Digital Economy by method 2



## Gross Fixed Capital Formation in the Digital Economy by method 2 in 2025e



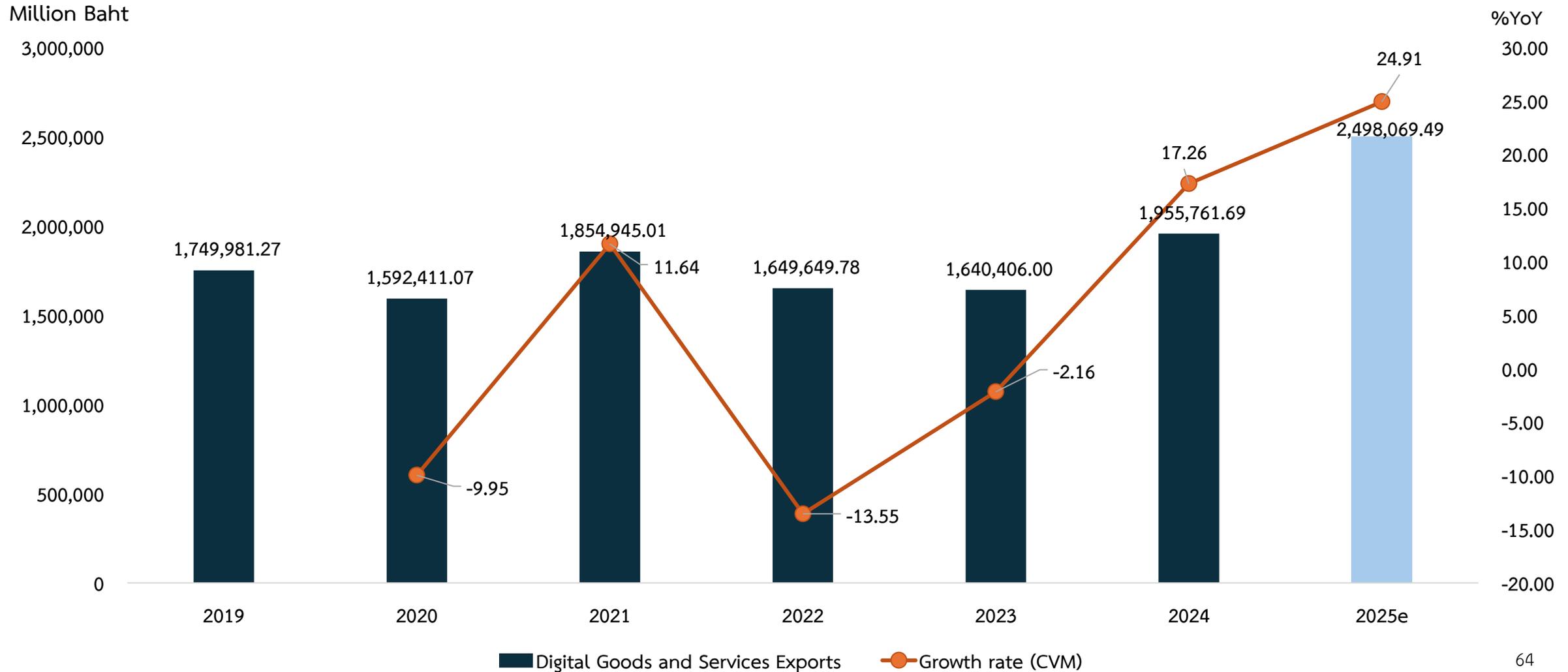
## Growth rate of Gross Fixed Capital Formation in the Digital Economy by method 2 in 2025e



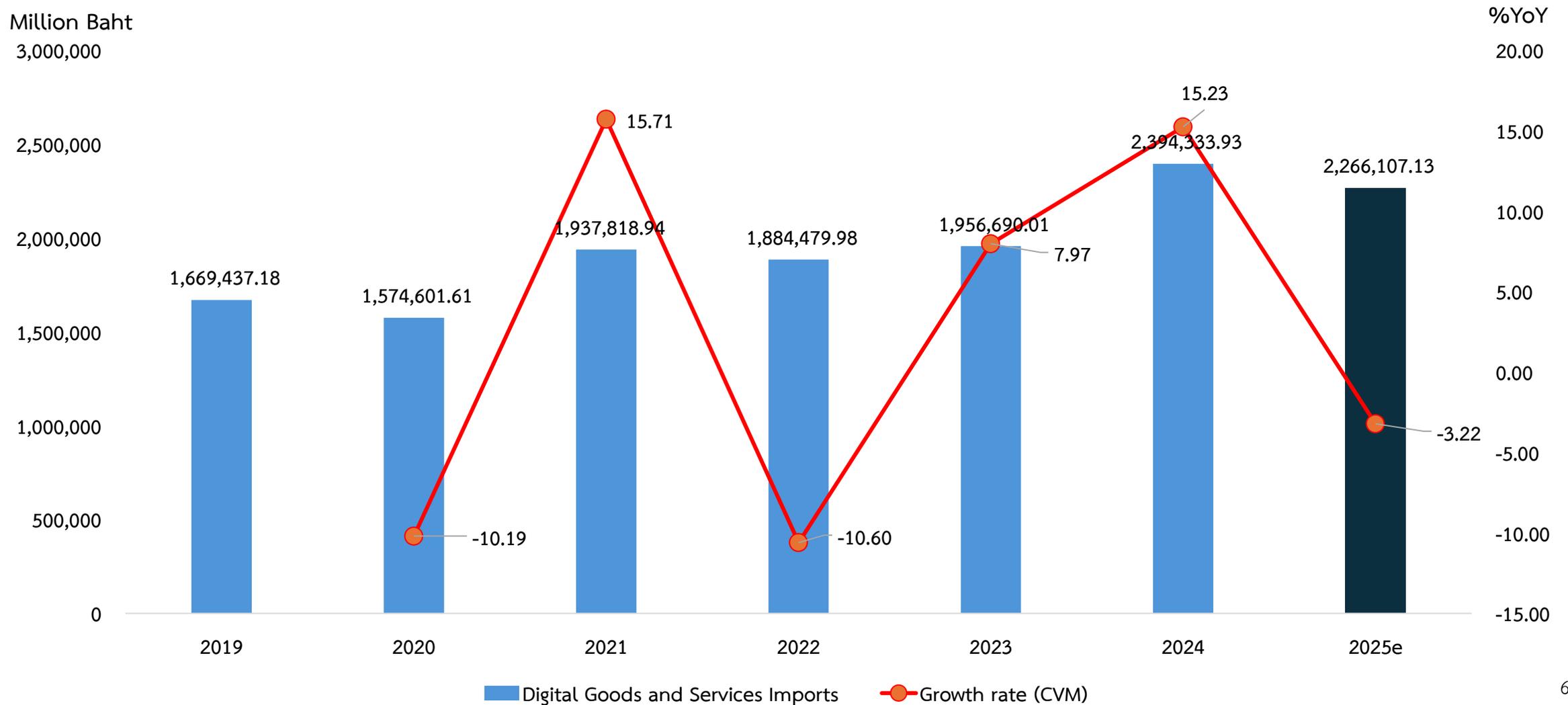
Thailand Digital Economy 2025 by

Expenditure Approach  
Exports and Imports

# Digital Goods and Services Exports

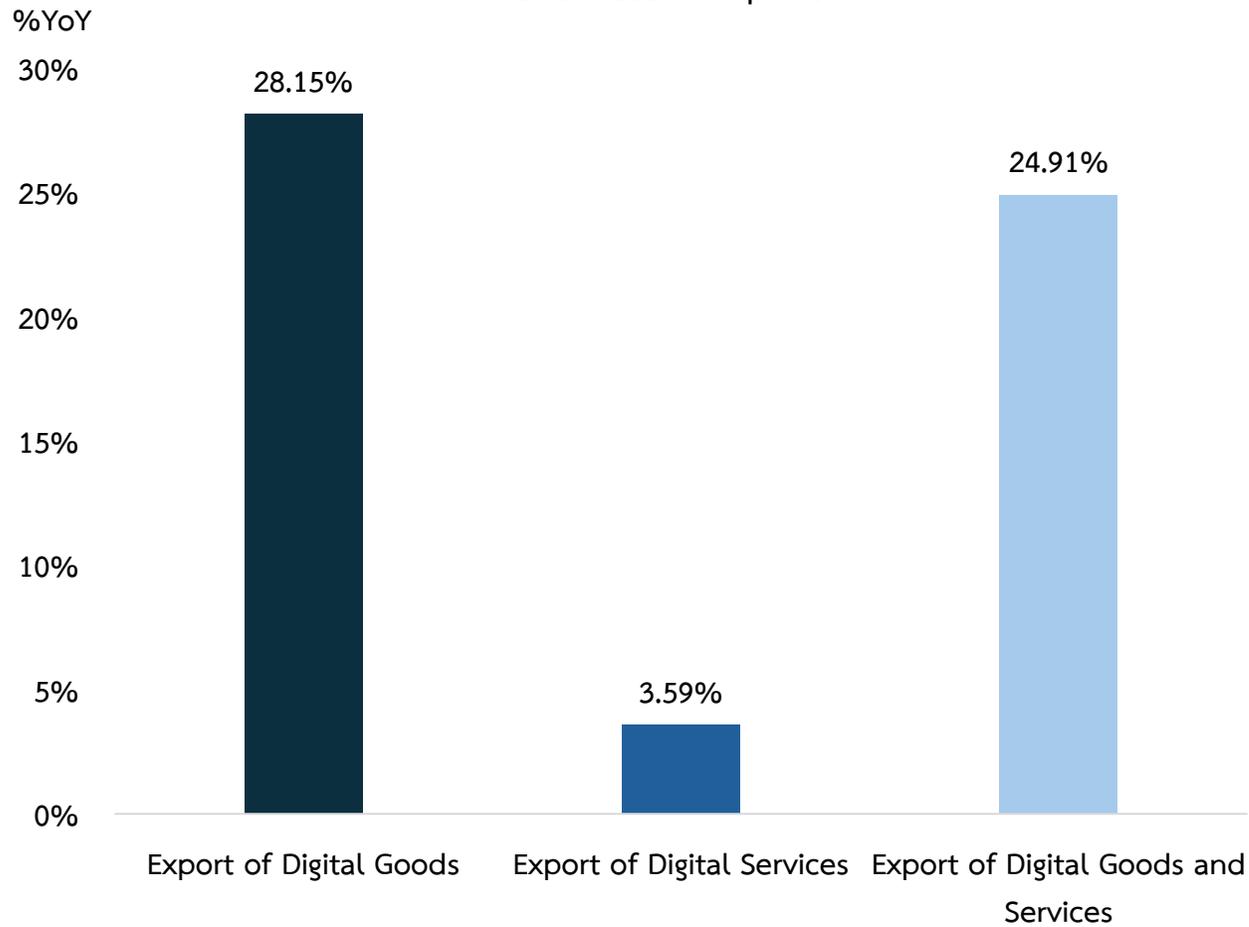


# Digital Goods and Services Imports



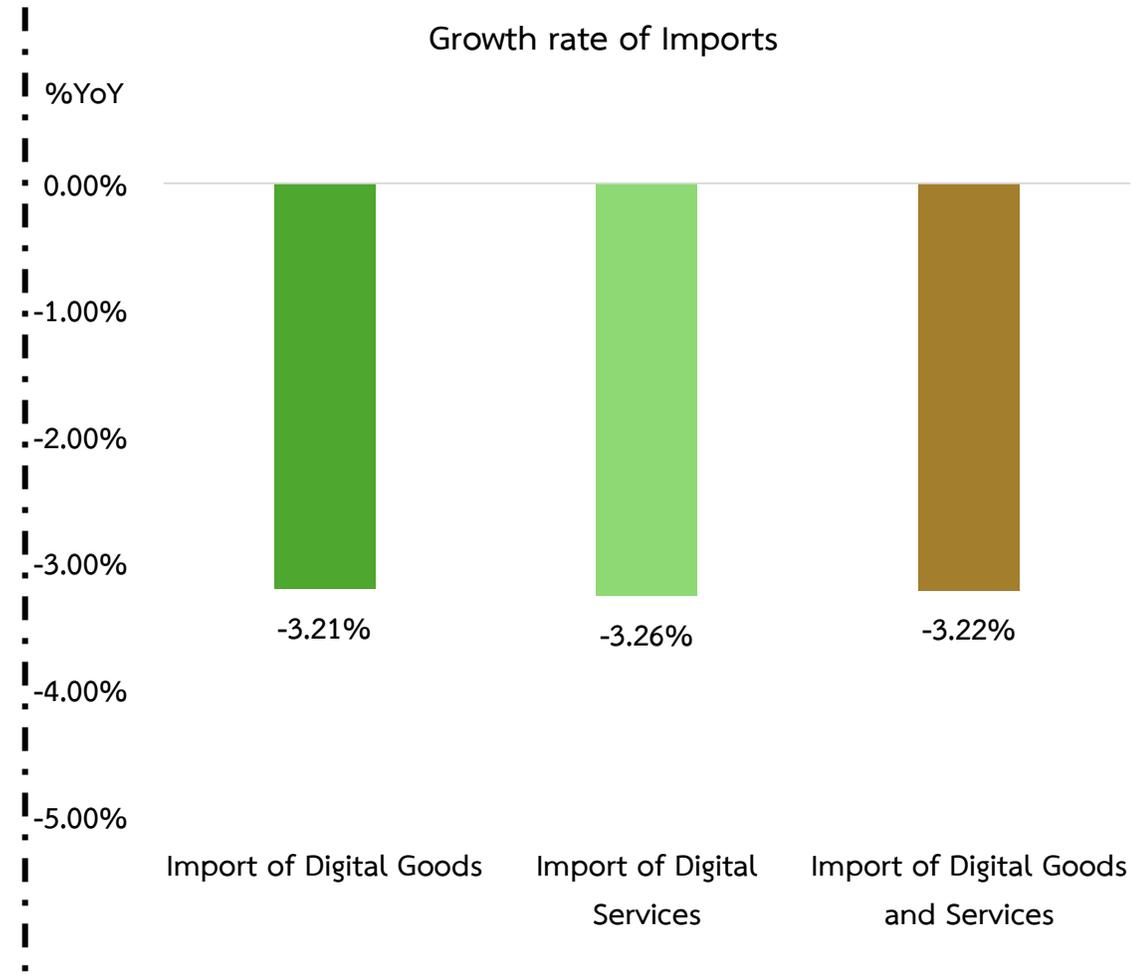
# Growth rate of Exports and Imports of Digital Goods and Services

Growth rate of Exports



Export of Digital Goods and Services

Growth rate of Imports



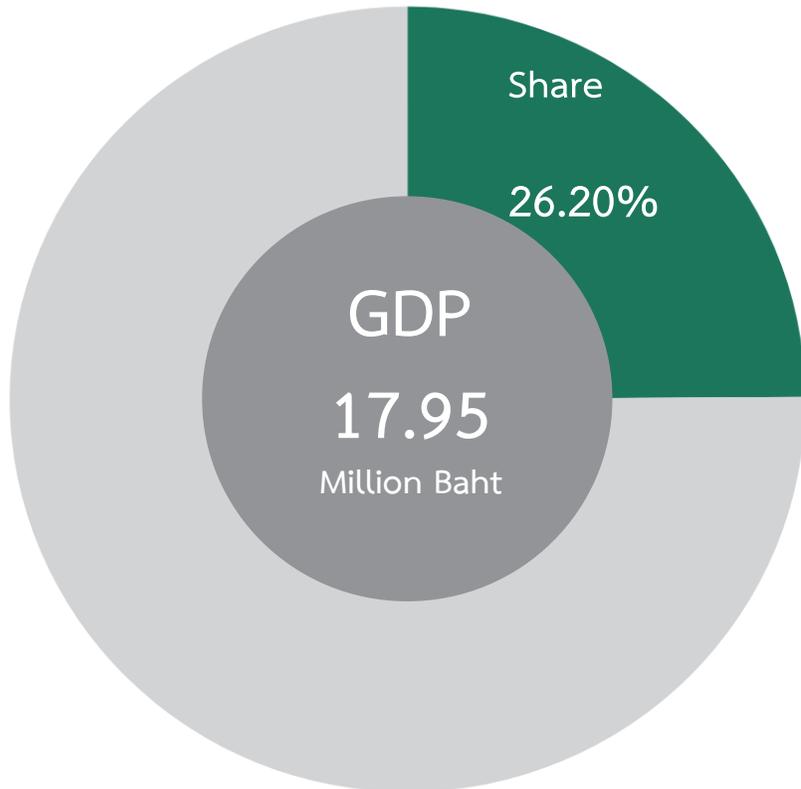
Import of Digital Goods and Services

Thailand Digital Economy 2025 by

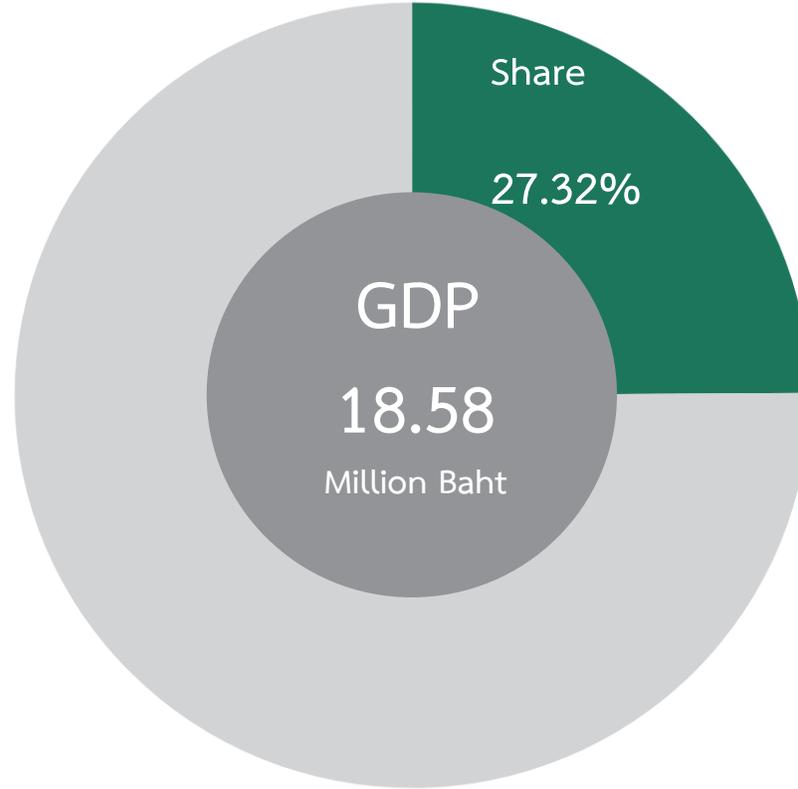
**Broad Digital Economy**

# Broad Digital Economy Value

2023 = 4.70 Million Baht



2024 = 5.08 Million Baht



2025e = 5.32 Million Baht

