MULTI-YEAR EXPERT MEETING ON
Trade, Services and Development
Leveraging services, including infrastructure services, to achieve the Sustainable Development Goals

23–24 September 2020, ONLINE, 2–4 p.m. CET

Segment 2. Services-enabled digitization: potential and challenges for development

by*

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*The views expressed are those of the author and do not necessarily reflect the views of UNCTAD.

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The emergence of an IT-driven business paradigm

- In recent years, the discussion regarding the use of data in businesses has typically been assembled under headings such as "**digitization**", "**digitalization**", and "**digital**" (e.g., Brennen & Reiss, 2016; Ross, 2017; Weill & Woerner, 2018).

- According to Brennen and Kreiss (2016), the term "**digitization**" describes the transformation from analog to digital data: *"the technical process of converting streams of analog information into digital bits of 1s and 0s with discrete and discontinuous values"*.
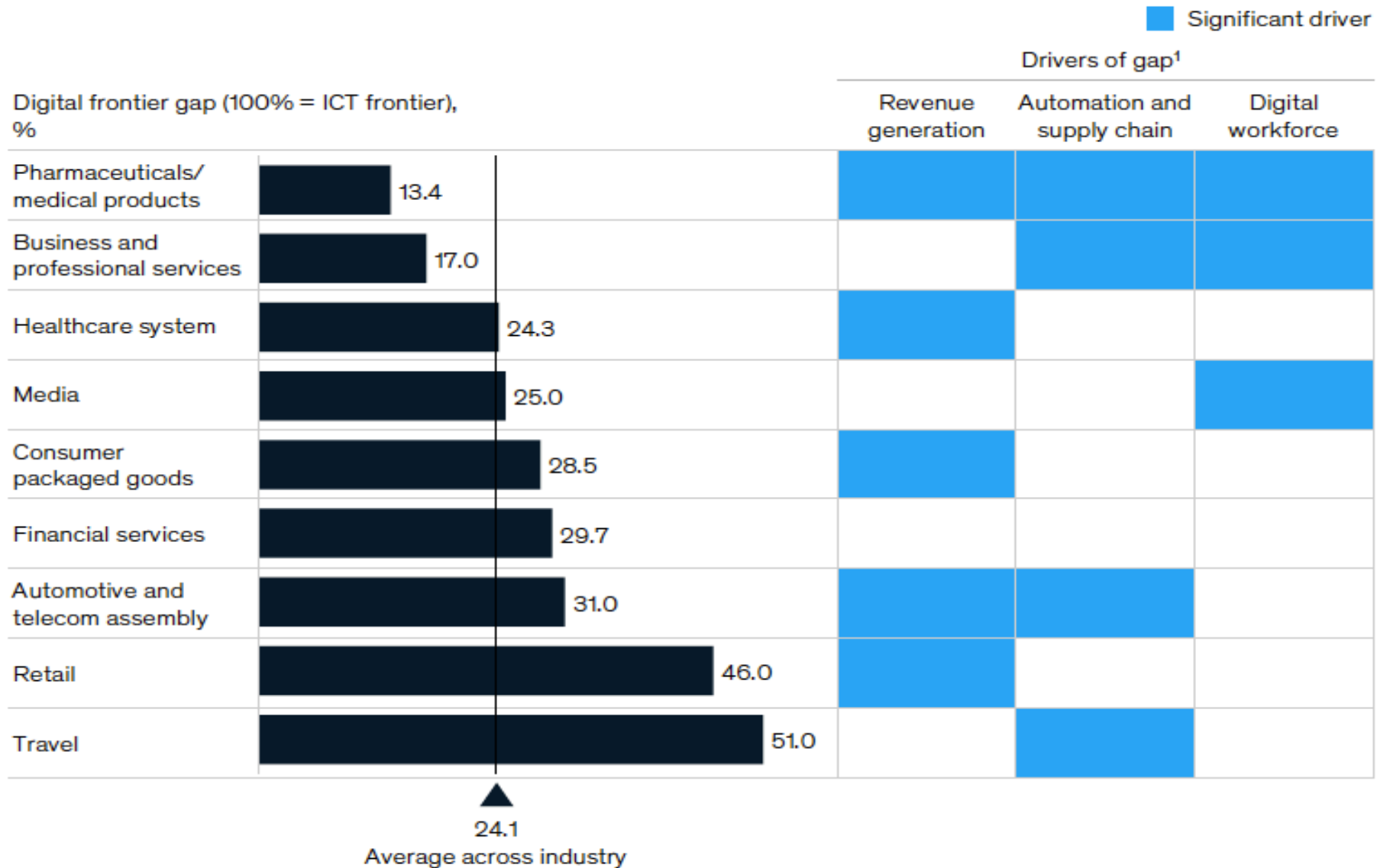
The emergence of an IT-driven business paradigm

- **Digitization** is the process of converting information into a digital format.

- **Digitalization** refers to enabling or improving processes by leveraging digital technologies and digitized data. It is the impact of digitization on society. Thus, <u>digitalization presumes digitization</u>.

- **Digital Transformation** is business transformation enabled by digitalization. Digitalization of the economy or **Industry 4.0** is the combination of Digital Transformation and Digitalization.

The digital transformation

- The swift development of information and communication technologies (ICT) has enabled the prevailing **digital transformation** (i.e. **digitalization**) on advanced economies and emerging markets, where physical products can be readily **digitized** and smoothly **interconnected**.

- Industries are increasingly embracing **innovative service business models** (i.e. **servitization**) and offering not only physical goods but also services as a solution bundle to satisfy individual customer needs.

- The **convergence** of both **digitalization** and **servitization** (i.e. **digital servitization**) has sparked an emerging IT-driven business paradigm, **smart product-service systems (Smart PSS).**

Exhibit 1

The gap to the digital frontier remains large across industries.

Digital frontier gap (100% = ICT frontier), %	Drivers of gap[1]		
	Revenue generation	Automation and supply chain	Digital workforce
Pharmaceuticals/ medical products — 13.4	■	■	■
Business and professional services — 17.0		■	■
Healthcare system — 24.3	■		
Media — 25.0			■
Consumer packaged goods — 28.5	■		
Financial services — 29.7			
Automotive and telecom assembly — 31.0	■	■	
Retail — 46.0	■		
Travel — 51.0		■	

■ Significant driver

24.1 Average across industry

Exhibit 2

Digital performance is widely distributed with a small number of superstars dominating value created.

Top 10 percent contribution to digital revenue by sectors,
%

Sector	%
Media/telecom	95
Financial industry	85
Retail	93
Automotive	77
High-tech services	77
Professional services	60

The productivity dividend

- While large **economic potential** and **productivity gains** are linked to **digitization**, the emergence and diffusion of new families of digital technologies including social media, Enterprise 2.0, big data, and Artificial Intelligence (AI) is clearly affecting economies, sectors and firms.

- In 2018, McKinsey Global Institute (MGI) estimated that an additional $13 trillion could be added to global GDP by 2030 from today through **digitization**, **automation**, and **AI** as these technologies create major new business opportunities and productivity gains are reinvested in economies.

International and regional frameworks

- **Inclusive digitization** and the resulting **digitalization of trade** is barely touched upon in the regulation of the world trading system as embedded in the WTO.

- The **world trading system** is not keeping the pace of digital trade, E-Commerce and disruptive technologies including blockchain technologies, 3-D printing, IoT, 5G mobile broadband, cloud computing, automation and robotics, artificial intelligence (AI) and data analytics.

- **New rules** are reflecting these transformations which are gradually and partially introduced in regional or bilateral frameworks.

- The world is witnessing different cooperation frameworks to harvest the benefits of the digital economy – most notably in the US, Europe, and China.

Conclusions

- The way firms use digital technologies on the ground strongly reveals the **productivity dividend** that is possible.

- Sectors with a **high level of digitization** also display the **largest productivity growth**.

- **Industries that are ahead in digitization tend to be services** or sectors that deliver products that are less physical and more immaterial than physical.

- Other sectors that display more **rapid digitization** include those with direct consumer links, faster capital turnover, and are more global than local.

- Among the sectors that are most advanced in digitization are **media and finance**; among the laggards are **pharmaceuticals**, and sub-sectors in **manufacturing**.

Conclusions

- Even before the COVID-19 crisis erupted and with almost every organization and governments having to depend on **data**, **analytics**, **digital tools**, and **automation**, **digital technologies** will constitute an increasingly critical element of concern.

- Thus, several challenges ought to be faced, including **business resilience**, **"inclusive" digitization**, **self-adaptiveness with sustainability**, **advanced IT infrastructure**, **human-centric perspectives**, and **circular lifecycle management.**