

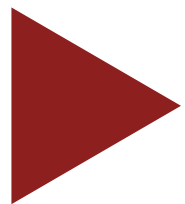
# Unlocking Insights: Harnessing Card Data to Measure Namibia's Cross-Border Digital Purchases

Sanette Schulze Struchtrup  
Bank of Namibia

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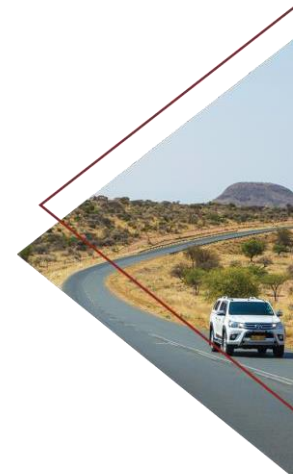
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# 01. ICT sector at a glance

As digitalization progresses, micro-digital transactions (trade) have become significant

Indicator	2013	2023
Mobile operators	2	2
Fixed line operators	1	1
Mobile subscribers	2,456,034	2,597,926
Fixed line subscribers	183,532	81,114
Mobile teledensity	91.4	96.7
Fastest mobile internet access	Fibre	Fibre
Internet users per 100 inhabitants	31.6	68.4
Internet users	849,079	1,837,869

Source: CRAN

## ENABLING DIGITAL TRADE

Namibia has invested heavily in the modernization and expansion of its (ICT) sector

### Facts about the ICT:

- Share to GDP of 1.3% in 2023.
- The sector registered growth of 0.4% in 2023, 2.5% in 2022, 6.9% in 2021, compared to a growth of 17.4% recorded in 2020.
- Namibia has 4G services and plans to implement 5G
- Implemented measures to ensure consumer protection through the Cybercrime bill and Data Protection Bill.

## 02. Digital trade in External Sector Statistics

- Cross-border digital trade and micro digital transactions has become significant
- Currently, there is an omission of cross-border digital services data in the official External Sector Statistics produced by BoN
- The aim is to enhance the data on the current account of the BOP by including cross-border transactions of digital goods and services by households and businesses



# 03. Literature

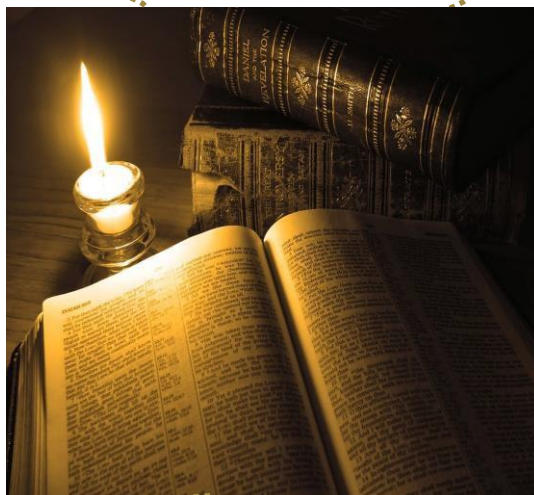
Namibia Leveraged from Literature to enhance its methodology

## Frameworks

- In terms of balance of payment statistics, more visibility on digital trade has been lacking and will be addressed in the upcoming (BPM7)
- However, the OECD Handbook on measuring digital trade has build a strong foundation

## Germany

- Estimated cross-border digital purchases of private households using freely available internet data following a bottom-up approach.



## Armenia

- Estimated international e-commerce using administrative data from payment and settlement organization and Customs Service, supplemented with data obtained from Armenian processing center (ArCa) database.

## El Salvador

- Measured digital trade using domestic issued card data for online purchases abroad, as well as purchases made domestically using foreign issued cards.



## 04. Estimation approach

### Data sources

- The Bank of Namibia Balance of Payments Customer Reporting System (BOPCUS), equivalent to ITRS
  - The BOPCUS was initiated for exchange control purposes, where all Authorized Dealers required to report their daily foreign financial reports.
  - The data is based on three payment transfer modules: BOPCUS (SWIFT transactions), Bobcard Resident, Bopcard Nonresident (card transactions)
  - The BOPCUS system is in BPM6 while card transactions are not categorized.
  - Granular dataset on credit/debit cards, including merchant names and codes at an individual transaction level

### Data Transformation



#### Data collection

Big data sets extracted from the BOPCUS system, over 600 000 transactions per month



#### Data transformation

Load data into R Studio, and use R scripts to merge monthly files into one dataset



#### Data cleaning

Review and Clean data, e.g currency conversions, remove duplicates, null values



#### Data categorization and classification

Assign transactions to market segments based on MCC codes.

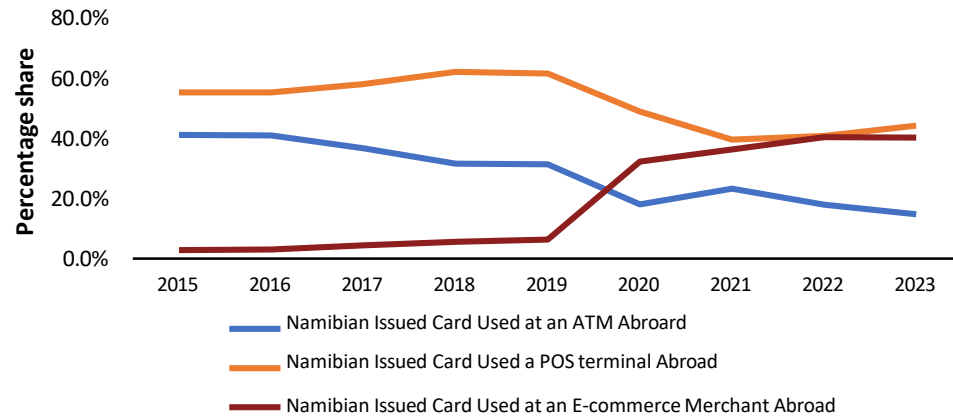


#### Data analysis

Aggregation into market segments, Analyzing and estimating digitally trade

# 05. Digital trade analysis

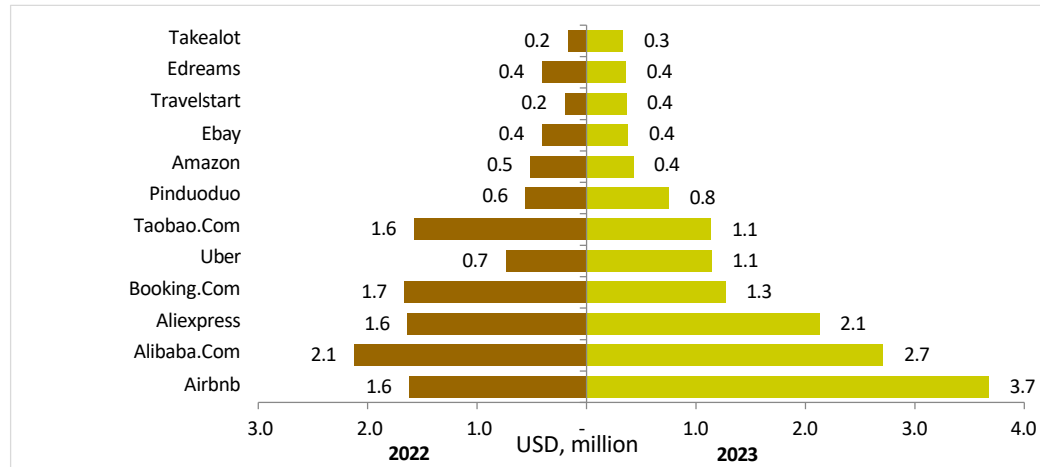
Card developments



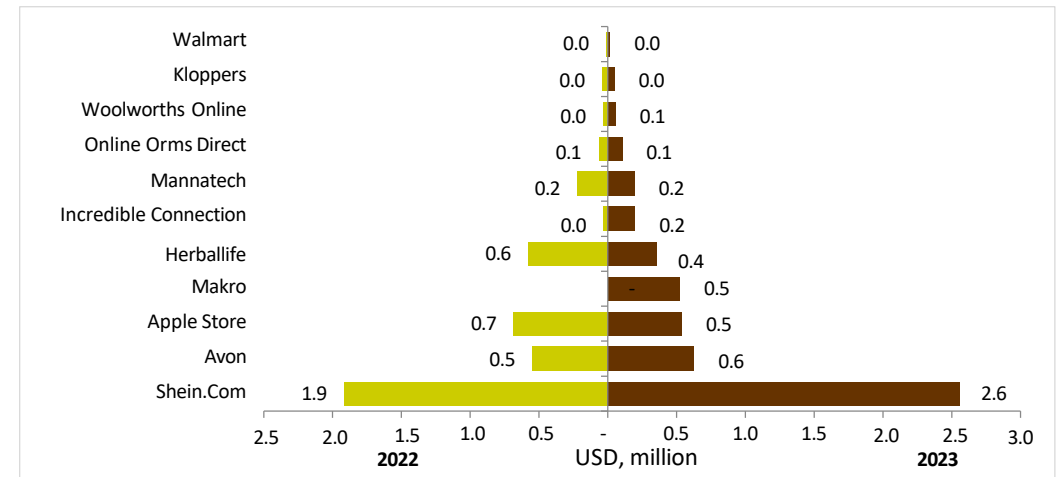
Digital Services

USD million	2020	2021	2022	2023
<b>Total Digital Services</b>	<b>26.6</b>	<b>42.8</b>	<b>52.8</b>	<b>71.8</b>
Video downloads or streaming services	3.8	5.3	6.8	8.2
Music downloads or streaming services	1.6	2.7	3.4	3.8
Software and cloud services	5.3	8.2	7.0	8.9
Online gaming	0.4	1.2	1.3	1.7
Online gambling	1.3	1.6	0.7	4.1
Online dating services and adult content	0.9	0.7	0.9	1.2
Online courses, eBooks, newspapers and audiobooks	5.7	8.2	7.2	10.7
Transportation services	0.2	0.8	0.7	0.7
Travel	5.6	12.2	22.8	29.3
Other services	1.6	2.0	2.1	3.2

Platform enabled (DIPs)

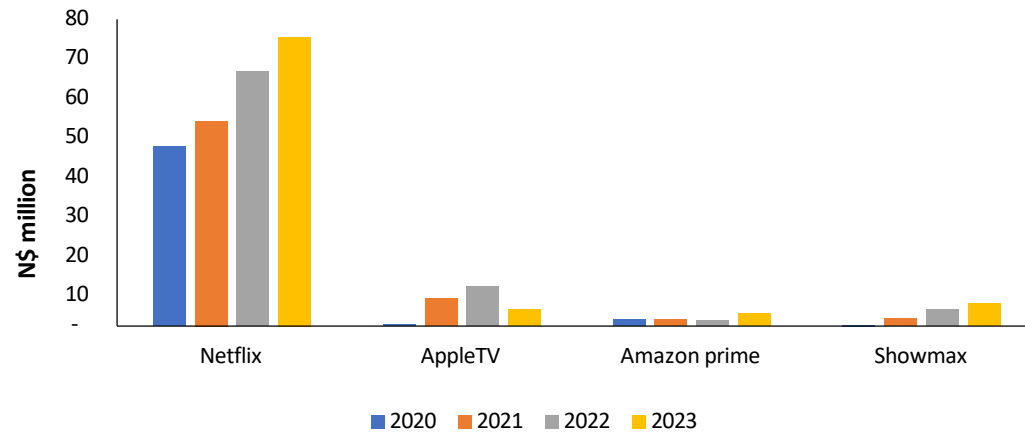


E-tailers

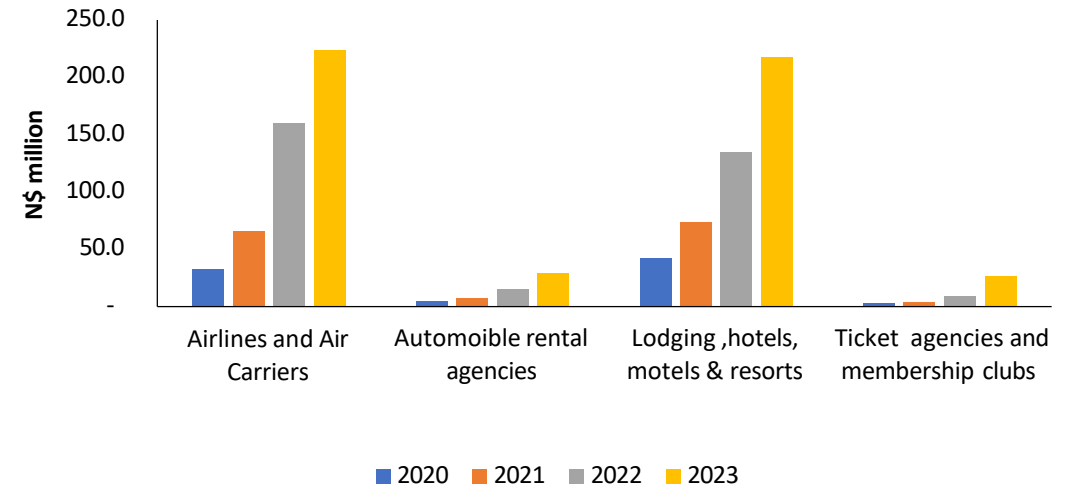


## 06. Digital trade analysis

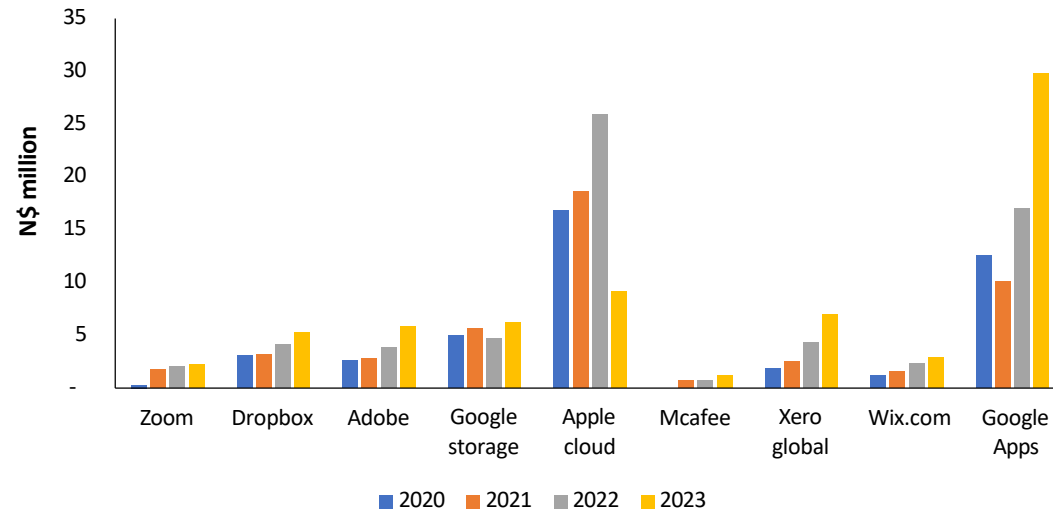
Video downloads or streaming



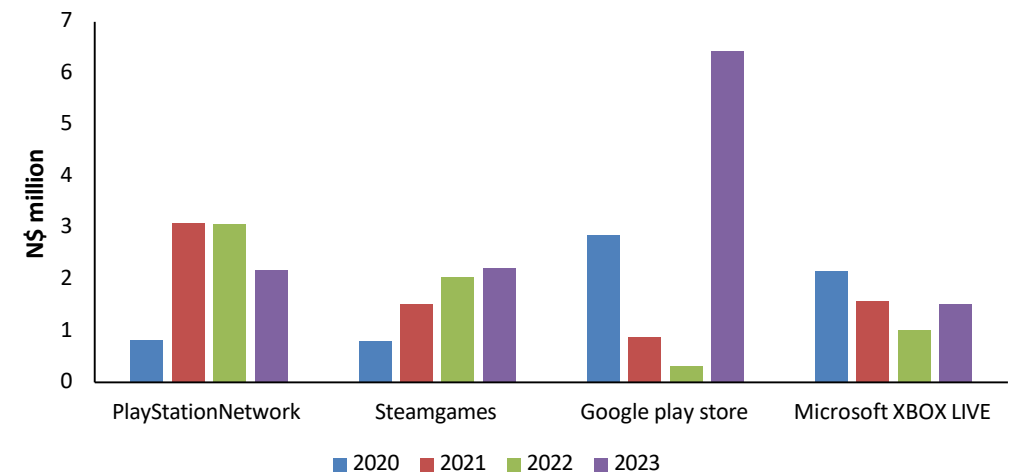
Travel



Software, cloud and applications



Online Gaming





# 07. Challenges

## Limitations



01

**Categorization of multi-service merchants**

## Remedies



MCC were used to classify merchants based on transaction type  
Pricing information from various websites assisted in categorizing transactions with similar costs

02

**Distinguishing between residents and non-residents transactions**

We adjusted the overall data by trimming 2 percent, using the ratio of expatriates abroad to the total population

03

**Some DIPs handle domestic payments with settlements abroad can overstate digital purchases**

Adjustments were made to platforms known to handle domestic transactions, where settlement happens abroad, such as Airbnb

## 08. CONCLUSION



- BON conducted an exercise to explore the use of card data to measure purchases from non-residents captured through the BOPCUS System.
- Digital purchases of goods and services are significant and will be included in the compilation of official BOP statistics for Namibia
- Card payment data is a good proxy to measure cross-border digital trade and should be explored by other countries that have access to such granular datasets.
- However, there is still room to supplement card transaction data with other sources.
- Challenges need to be addressed before the incorporation of these data in official BOP Statistics.