

Global Cyber Exposure & Digital Behavior

Index — Analytical Report

1. Introduction

This project analyzes global digital behavior and cyber-exposure patterns using country-level metrics across 44 nations. The goal was to quantify how regions differ in digital dependency, engagement, connectivity strength, and exposure risk. Everything was built inside Excel using **Power Query** (cleaning), **Power Pivot** (data modeling + calculated measures), and **Pivot Tables/Charts** (KPI visuals and dashboard design).

2. Data Preparation

The raw CSV dataset required standard cleanup:

- Fixed inconsistent continent names
- Removed duplicate records
- Converted numeric columns into proper data types
- Filled or removed missing values
- Standardized column formats

After cleaning, several calculated fields and measures were created in **Power Pivot**, including:

- **DDI (Digital Dependency Index)**
- **CSI (Connectivity Strength Index)**
- **ERS (Exposure Risk Score)**
- **Engagement Penetration Index (EPI)**
- **SocialMedia_Time_Ratio**

These allowed deeper, structured insights when constructing KPIs and charts.

3. KPIs Developed

Six core KPIs were developed to capture the global digital landscape:

3.1 Digital Dependency (DDI)

Average DDI by continent shows who leans hardest on digital tools:

- **South America (5.45)** and **Africa (5.26)** show the highest dependency.
- Europe is significantly lower at **3.28**, suggesting more balanced digital habits.

3.2 Engagement Penetration Index (EPI)

Maximum engagement per continent highlights adoption intensity:

- Asia leads with **83.12**, followed closely by North America (**81.34**) and South America (**80.99**).
- Europe remains the most conservative at **74.30**.

3.3 Connectivity Strength Index (CSI)

Average CSI signals digital infrastructure strength:

- Oceania (**37.20**) and Europe (**36.95**) dominate.
- Africa remains lowest at **28.06**, reflecting infrastructure gaps.

3.4 Exposure Risk Score (ERS)

ERS shows potential over-exposure to heavy digital usage:

- Oceania (**4.62**) and Europe (**4.58**) are notably high.
- South America has the lowest exposure at **3.08**, despite high dependency.

3.5 Social Media Intensity

Average social media time ratio per continent:

- Africa (**0.37**) and South America (**0.36**) top the list.
- Europe remains lowest at **0.30**.

3.6 Gaming Console Usage

Max gaming time per continent:

- Africa is unexpectedly the highest at **2.05 hours**, indicating pockets of heavy gaming culture.
- Europe sits at the bottom with **1.03 hours**.

4. Dashboard Overview

The final Excel dashboard includes:

- KPI tiles for all six measures
- Six corresponding charts for visual interpretation
- Slicers for continent and country-level filtering
- Clean, intuitive layout designed for quick insights

This layout makes it easy to compare behavior patterns across continents and switch instantly using slicers.

5. Insights & Interpretation

The numbers paint a picture of a strangely uneven digital world:

- South America mixes **high dependency** with **low exposure**, hinting at efficient but not obsessive usage.
- Europe is balanced digitally but scores **high on exposure**, suggesting mature but heavy digital lifestyles.

- Oceania quietly ranks high on both **connectivity** and **exposure**, shaping a highly digital-centric culture.
- Africa's mix of **high gaming time**, **high DDI**, but **low connectivity** shows a region with fast-growing but uneven digital adoption.

6. Conclusion

This analysis uncovers deep contrasts in how different continents connect, engage, and depend on WhatsApp-driven digital ecosystems. Using Excel's full analytical stack (Power Query → Power Pivot → Pivot Tables → Dashboard), the project demonstrates data cleaning, modeling, KPI engineering, and dashboard design — all core skills for a Data Analyst role.