

## **Strengthening Ghana's Tax System Through Digitalization**

Ghana's ability to finance national development depends largely on its capacity to mobilize domestic revenue efficiently and fairly. However, widening the tax net remains a major challenge, especially because of the large informal sector where many artisans, traders, small-scale entrepreneurs, and service providers operate outside formal tax structures. This gap contributes to a low tax-to-GDP ratio and limits the government's ability to fund public services and infrastructure sustainably.

Ghana's ambition to improve domestic revenue through tax digitalization will succeed only if backed by strong education and awareness. The informal sector—artisans, traders, masons, carpenters, hairdressers—often struggles to understand tax systems. While digital tools can simplify registration, payments, and compliance, without clear education many may resist or not fully appreciate their benefits. Education is therefore not just an add-on; it is the foundation of trust, inclusion, and sustainable compliance.

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### **Education and Digitalization**

A well-informed citizenry is essential for a modern tax system, especially as Ghana moves toward a more digital tax administration. Education helps both informal and formal workers understand their tax obligations, the benefits of compliance, and how to use the new digital tools provided by the Ghana Revenue Authority (GRA). As Ghana works to widen the tax net and improve domestic revenue mobilization, it is critical to empower artisans, traders, and informal workers with knowledge of these digital platforms. Through targeted education, public awareness, and digital literacy programs, the country can bridge the gap between policy and practice, ensuring that digitalization truly boosts tax compliance and supports national development.

To achieve this, Ghana needs more than traditional in-person sensitization. It must build a strong digital education framework aligned with its legal mandates, revenue goals, and technological realities. Digital tools alone are not enough: many taxpayers, especially in the informal sector, lack digital literacy and are unaware of their obligations, reducing the effectiveness of reforms. A well-crafted digital-education strategy can empower citizens to understand, access, and use the tax system confidently, building trust and compliance.

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### **1. Digital Awareness**

Raising awareness is the first step toward changing behavior. Many informal workers don't know about digital tax platforms or how they work. Awareness programs should include:

- **SMS Alerts and Reminders:** Send short, clear messages in local languages (Twi, Ewe, Ga, Dagbani, Hausa) to remind people of tax registration deadlines, e-filing schedules, and mobile payment options. Break down complicated processes into simple steps, for example: “Step 1: Dial \*550# to check your TIN. Step 2: Link your Ghana Card. Step 3: File your return via the GRA portal.”
  - **Online Tutorials, Videos, and Infographics:** Use videos to show how to register for a Taxpayer Identification Number (TIN), file returns, and make digital payments. Use infographics to simplify topics like VAT, income tax, and social insurance.
  - **Live Social Media Sessions:** Platforms like Facebook Live, YouTube, and Instagram can host real-time Q&A sessions with GRA officials. This interactive approach builds trust, clarifies tax processes, and reduces resistance to digital adoption.
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## 2. Digital Literacy Training

Beyond awareness, people need to develop actual skills to use digital tax tools. Training should include:

- **USSD & Mobile Payment Training:** Use interactive modules so people can practice filing returns in a simulated environment before using the real system. This helps include those without smartphones or reliable internet.
  - **Cybersecurity Training:** Teach safe password habits, how to spot phishing or fraud, how to verify legitimate platforms, and how to protect personal and financial information.
  - **Community Digital Centers:** Set up physical or mobile hubs (e.g., “tax vans”) with tablets, internet access, and facilitators that travel to markets, artisan communities, and remote areas to provide hands-on help.
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## 3. Local Language Accessibility

Language is a key barrier to digital adoption. To address this, digital tax education must:

- **Offer Multilingual Tutorials:** Produce videos, podcasts, and guides in Twi, Ewe, Ga, Dagbani, Hausa and other local languages.

- **Use Infographics & Simple Guides:** Share visual guides on WhatsApp, social media, and community networks, using diagrams and icons instead of dense text.
  - **Provide Audio Tutorials:** Create short voice notes or audio clips that explain essential tasks (e.g. “How to check your TIN” or “How to verify a digital receipt”) so that rural or low-internet users can still benefit.
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## 4. Partnerships and Digital Networks

A strong digital education system requires collaboration with a variety of stakeholders:

- **Telecom & Fintech Companies:** Partner with these firms to deliver SMS reminders, mobile payment tutorials, and other digital tax resources at low cost.
  - **Influencers & Trade Associations:** Work with social media creators, union leaders, and trade organizations to make tax education more relatable and widely accepted.
  - **Vocational Training Platforms:** Integrate tax education into technical, vocational, and entrepreneurship training programs, so new business owners learn about compliance and digital tax tools from the start.
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### Why This Approach Matters

Digital education is not just about technology—it’s a strategic lever for national development. In Ghana’s large informal sector, it enables citizens to navigate digital tax systems, link their Ghana Card to their TIN, and meet their tax obligations more easily. It helps close knowledge gaps, build trust, and encourage voluntary compliance. This supports Ghana’s goal of raising its tax-to-GDP ratio to **18–20% by 2027**. By combining tutorials, chatbots, SMS alerts, local-language materials, and community digital hubs, the strategy ensures broad accessibility, including for rural and low-literacy populations, while promoting long-term digital engagement.

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### Established Foundations of Tax

Ghana has well-established tax laws, but some individuals evade the system because their income is not easily tracked. Many formal businesses are registered with the GRA and have Tax Identification Numbers (TINs), making them traceable. But many informal workers—artisan, traders, masons, plumbers, carpenters, hairdressers—don’t have that formal economic

presence, so their earnings are difficult to monitor. Yet, evidence suggests many of them earn significant income, possibly more than some formal-sector workers.

These individuals are often thought to be low income, but many earn daily rather than monthly, and their total monthly income may exceed the non-taxable threshold. To see how they fit into Ghana's tax system, we need to look at the legal tax framework.

Ghana's tax system divides taxes mainly into three categories: **income tax**, **business tax**, and **investment tax**. These are the primary ways to tax profits. There are also indirect taxes applied broadly to most citizens (except students). Informal workers typically fall under business tax and income tax.

**Income tax** applies to earnings from a job or business. If there is an employer-employee relationship, income tax applies (up to 35%). If someone is operating independently, that counts as business income: if it's a registered company, there's a flat 25% rate; if not, the rate can go up to 35%. People who make less than **GH¢ 3,132** annually are not taxed, but many informal workers make more than this amount.

Depending on whether a person's operation is classified as a business or a company, their tax rate differs—but in either case, they are supposed to pay tax. The problem is that many in the informal sector currently do not. These rules are explained in *Law of Taxation in Ghana* by Benjamin Kunbuor (PhD) and in the **Income Tax Act, Act 896, First Schedule**.

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#### CHARGEABLE INCOME RATE OF TAX (%)

Here is the current tax-rate table for **resident individuals**, as per *Income Tax (Amendment) Act, 2018 (Act 973)*:

No.	Chargeable Income	Rate of Tax (%)
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1	First <b>GH¢ 3,132</b>	0% (Nil)
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2	Next <b>GH¢ 840</b>	5%
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3	Next <b>GH¢ 1,200</b>	10%
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4 Next GH₵ 33,720 17.5%

5 Next GH₵ 81,108 25%

6 Exceeding GH₵ 120,000 35%

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### Application to the Plan

The discussion above explains how Ghana's tax system works. The digitalization plan aims to reduce physical cash in circulation and encourage mobile-money payments. This makes financial flows more transparent, easier to monitor, and easier to tax. Similar ideas exist in other countries under **fractional reserve banking**, where only a small fraction (e.g., ~10%) of a country's cash supply is physically in circulation.

#### Main Ideological Context

This system makes it easier to tax income and business payments by using a short code. It introduces a "2 cedis, 20 pesewas" prototype. The idea is that when someone pays through the short code, the sender pays only 20 pesewas, and the receiver pays the full tax on the money received. This also means the sender pays a small early tax.

Some people may try to avoid tax by sending money personally. If they do, they would be charged 2 cedis for the personal transfer. But if they use the new tax short code, they pay only 20 pesewas and avoid the personal transfer charge.

For people who prefer convenience, choosing the 20-pesewa option still counts as taxable income in the normal tax system. This makes sure everyone meets their tax obligations.

Fractional reserve banking means banks keep only 10% of the money people deposit and lend out the other 90%. This makes it seem like there isn't much physical cash in the system. Because of this, using digital money can make money flow faster and more safely. It also supports a debt-based banking system, which many countries use to grow their economies.

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## Process Involved In The New Taxation Model.

- **USSD to Register**  
A short code (USSD) is created so users can easily register using their mobile phones. This allows everyone—including informal workers—to sign up without needing a smartphone or internet.
- **Link Ghana Card to TIN Number**  
After registering, the system links the user's Ghana Card to their Tax Identification Number (TIN). This connects their identity to the tax system and makes tracking easier.
- **Registry**  
All registered users are stored in a national tax registry. This helps the Ghana Revenue Authority (GRA) keep accurate records of individuals and businesses.
- **License Online**  
Users can apply for or renew licenses (business licenses, trade licenses, etc.) online through the same system. This removes the need for physical offices and reduces delays.
- **Produces Number**  
Once registered and licensed, the system generates a unique identification number. This number is used for tax payments, compliance checks, and business verification.
- **Reduce Cashflow**  
Since taxes and payments are done electronically, there is less need for physical cash. This reduces leakage, corruption, and untracked transactions in the economy.
- **Payment Infrastructure**  
A secure digital payment system is used to collect taxes and fees. This includes mobile money, bank transfers, USSD payments, and QR codes.
- **Network Provider Takes Tax**  
Telecom companies automatically apply the correct tax when users make payments through the USSD system. They submit the collected taxes directly to GRA.
- **Non-Compliance**  
Anyone who refuses to register, link their ID, or pay taxes through the system can be flagged for non-compliance. Penalties or restrictions (e.g., no license renewal) can be applied.

## Pseudo Code

START

Prompt user: "Please input the short code"

IF short\_code == "\*800#" THEN

    CALL USSD\_Menu

ELSE

    Display "Invalid option. Please try again"

ENDIF

END

PROCEDURE USSD\_Menu

    Display "Welcome to TaxLink Ghana"

    Display "1. Register"

    Display "2. Make Payment"

    Display "3. View Tax Status"

    Prompt user: "Select an option"

IF choice == "1" THEN

    CALL Register

ELSE IF choice == "2" THEN

    CALL Make\_Payment

ELSE IF choice == "3" THEN

    CALL View\_Status

ELSE

```
Display "Invalid option. Please try again"  
ENDIF  
END PROCEDURE  
  
PROCEDURE Register  
Prompt user: "Enter your Ghana Card Number"  
Display "1. Trader, 2. Mason, 3. Hairdresser, 4. Carpenter, 5. Plumber"  
Prompt user: "Select your trade"  
Generate Tax_ID = "TXGHA-" + last 4 digits of Ghana Card Number  
Display "Registration successful! Your Tax ID is [Tax_ID]"  
END PROCEDURE  
  
PROCEDURE Make_Payment  
Display "Enter payment method: 1. Bank Transfer, 2. MoMo User"  
Prompt user: "Enter your choice"  
  
IF choice == "1" THEN  
    Prompt user: "Enter amount to pay (GHS)"  
    Calculate tax = amount - (amount * 25%)  
    Prompt user: "Enter banking number"  
    IF banking number is valid THEN  
        Display "Tax after 25% deduction: [tax]"  
        Display "Payment of [amount] to account number [banking number]"  
    ELSE
```

```
Display "Incorrect bank number"  
ENDIF  
  
ELSE IF choice == "2" THEN  
    Prompt user: "Enter amount to pay (GHS)"  
    Calculate tax = amount - (amount * 25%)  
    Prompt user: "Enter recipient number"  
    IF recipient number is valid THEN  
        Display "Tax after 25% deduction: [tax]"  
        Display "Payment of [amount] to recipient number [recipient number]"  
    ELSE  
        Display "Invalid number"  
    ENDIF  
  
ELSE  
    Display "Invalid option. Please start over"  
ENDIF  
END PROCEDURE
```

```
PROCEDURE View_Status  
    Display "Status: Active"  
END PROCEDURE
```

## Python Codes For The USSD

```
def ussd_menu():

    print("Welcome to TaxLink Ghana")

    print("1. Register")

    print("2. Make payment")

    print("3. View Tax Status")

    choice = input("Select an option: ")




    if choice == "1":

        register()

    elif choice == "2":

        make_payment()

    elif choice == "3":

        view_stat()

    else:

        print("Invalid option. Please try again.")

    return choice



def register():

    reg_num = input("Enter your Ghana Card Number: ")

    print("1. Trader\n2. Mason\n3. Hairdresser\n4. Carpenter\n5. Plumber")

    trade = input("select your trade: ")




    print(f"Registration successful!\nYour Tax ID: TXGHA-{reg_num[-4:] }")



def make_payment():
```

```
print('Enter payment Method:\n1. Bank transfer\n2.MoMo User ')

choice1 = input("Enter your choice: ")

if choice1 == "1":

    amount = float(input("Enter amount to pay (GHS): "))

    tax = amount - (amount * (25 / 100))

    number = int(input('Enter banking number: '))

    if number <= 999999999999:

        print(f"Tax after 25% deduction: GHS {tax}")

        print(f"Payment of GHS {amount} to account number: {number} .\n tax deducted from your account is GHC")

    else:

        print('Incorrect bank number')

elif choice1 == "2":

    amount = float(input("Enter amount to pay (GHS): "))

    tax = amount - (amount * (25 / 100))

    number = int(input('Enter recipient number: '))

    if number <= 999999999:

        print(f"Tax after 25% deduction: GHS {tax}")

        print(f"Payment of GHS {amount} to {number} .\n tax deducted from your account is GHC")

    else:

        print("Invalid option. Please start over.")

def view_stat():

    print('Status: Active')

def start_ussd():
```

```
short_code = input('Please input the short code: ')

if short_code == '*800#':
    ussd_menu()

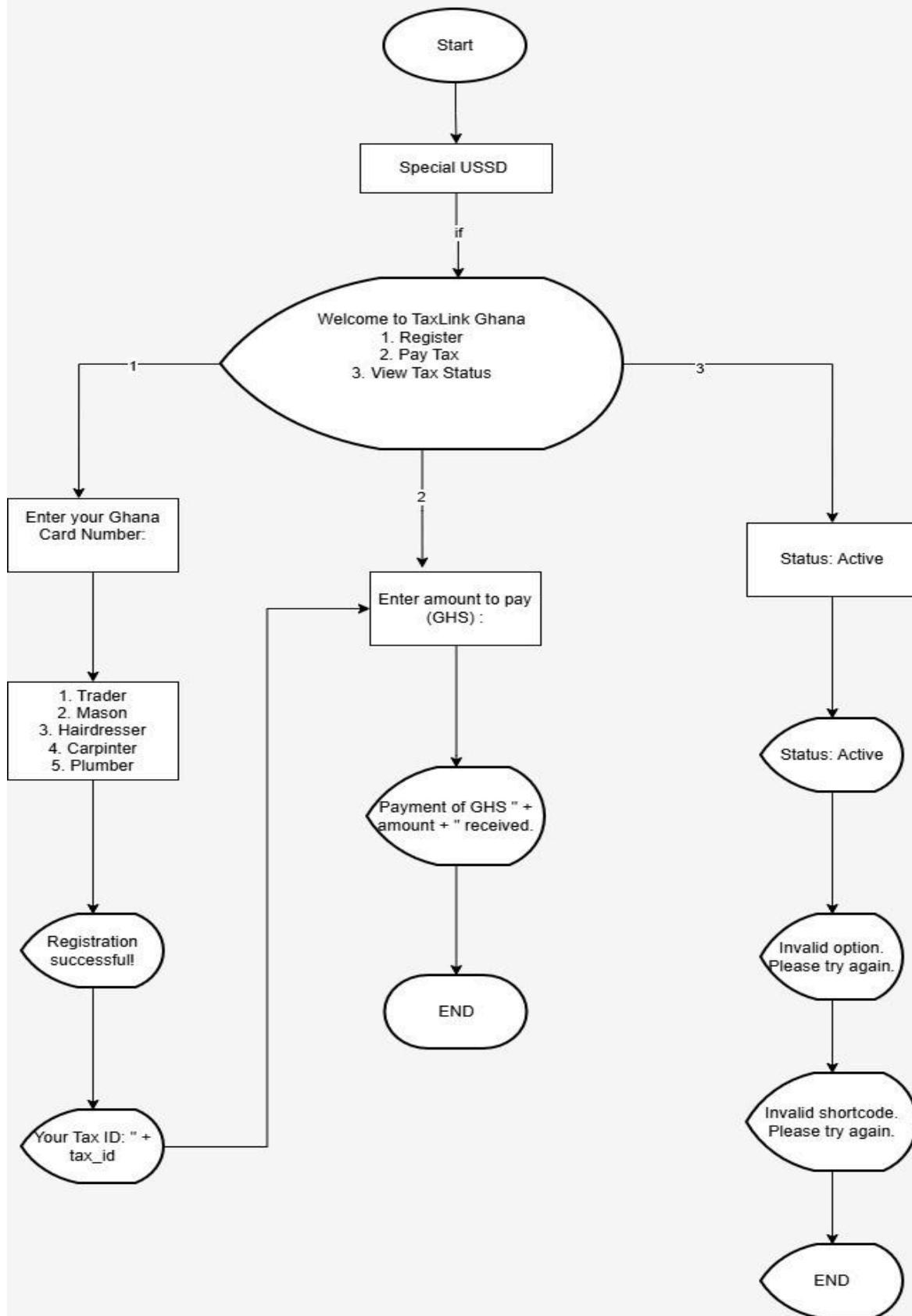
else:
    print("Invalid option. Please try again.")

return short_code

start_ussd()
```

## **FLOW CHART**

**GHANA REVENUE TAXING USSD PAYMENT AND REGESTRATION  
SYSTEM**



## Conclusion

Strengthening Ghana's tax system through digitalization is not simply a technological upgrade—it is a national development imperative. The country's large informal sector represents both a challenge and an opportunity. By combining effective digital tools with strong education, local-language accessibility, partnerships, and simplified processes such as USSD registration, automatic Ghana Card–TIN linking, and secure payment systems, Ghana can create a tax environment that is transparent, inclusive, and easy for all citizens to navigate.

A digital-first tax approach reduces physical cash dependency, enhances financial traceability, and builds a more reliable revenue base. It also helps eliminate long-standing barriers such as low literacy, mistrust, and lack of access to formal banking. With collaborative stakeholder involvement—telecoms, fintechs, trade groups, influencers, and vocational institutions—the system becomes scalable and sustainable.

Ultimately, successful tax digitalization strengthens national development by increasing domestic revenue mobilization, improving social services, and supporting Ghana's long-term goal of raising its tax-to-GDP ratio. When citizens understand the system, trust it, and can use it easily, compliance becomes voluntary rather than forced. This builds a more equitable, efficient, and future-ready tax ecosystem that supports Ghana's growth in the digital age.

## **Group Members**

Delasey Bernard Ashilly Titiati

Kabutey Ahuma Brian

Kefaya Kassim

Seyram Kumadie Yawa

Hector Kelvin Quarshie

Ampofo Joel Benedict Andyglow

Denis Pappoe

Kwesi Boadu Boafo