

# Digital Identity Management In Botswana

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## ABSTRACT

Digital Identity Management

Digital Identity Management (DIM) is a very broad concept with no exact meaning, but it is used to refer to the use and implementation of identity attributes, privileges and credentials. DIM cannot be fully explained using just a single explanation. The following are concepts that are used mostly when dealing with DIM.

Identity Management (IDM) – Systems and procedures that monitor and govern who has access to resources as well as what each user is allowed to do with those resources in accordance with the policies of the organization.

Enterprise IDM – IDM that mainly serves the needs of the enterprise is referred to as Enterprise IDM. The enterprise, rather than the entity, is in charge of control.

Federated IDM – A relationship that enables one identity authority's authentication of an individual to be accepted by other identity authorities in the federation. Singular sign-on is possible with federated IDM.

Single sign-on is a form of software authentication that allows a user to authenticate once and gain access to all of the applications for which they have been given permission.

## INTRODUCTION

Digital Identity Management helps to keep sensitive details safe as there's now more personal information online that need to be protected. Online storages have a lot of sensitive information that keeps on increasing with the rapid growth of the internet. Keeping these kinds of information safe comes with a lot of struggle and difficulties, governments and organizations are facing that struggle. Some systems have more identifiers integrated to work together so they have to be properly linked to achieve that. IDM is being used by businesses to manage this dynamic process and provide dependable, effective and managed access to resources. The aim is to give the right people the right access at the most possible right time while still preventing identity fraud and theft. This entails developing new processes and standards, as well as a new level of partnership and trust, as well as new technology, all of which are cross-organizational.

## BOTSWANA'S READINESS

Botswana and its readiness when it comes to digital identity and its implementation timelines.

Botswana does not have an electronic identity card yet has a simple machine-coherent overlaid card which is additionally barcoded with biometrics. This multi-purpose simple identity card is fundamental and is utilized by holders to get to most administration off-line.

Botswana has a solitary basic Identity Management System which is an essential instrument for policy implementation and administration as well as help with services delivery to people in general. The national identity card is used to acquire other documents such as passports, driver's licenses and user registration cards. It is obtained at the age of 16. Other processes such as the electoral system, the Social Benefit Registration System, government payroll and the transportation system are linked to the National Identity Management System.

Botswana has taken a cautious approach to establishing a People Hub and implementing electronic identity cards in order to ensure integrity and reliability of processes for civil registration and Identity Management System, as well as that the systems are secure, robust and dynamic and not susceptible to fraud. This is accomplished by ensuring that before moving forward with computerization, the registry systems are dynamic and error-free, and that the ecosystem in fact ready to support a full-scale population.

## POLICIES SUPPORTING DIGITAL IDENTITY MANAGEMENT

Access to and use of identity information is governed by policy controls. Authorization policies determine how information is manipulated; privacy policies govern how identity information may be disclosed. Policy controls may cause events to be audited or even for the subject of an identity to be notified when information is accessed.

Botswana's embracing and utilization of information technology is still on its preliminary stages, there is no evidence that Botswana has implemented any policies that support digital identity management, no researcher has probed into that aspect. However, Botswana recognizes the importance of implementing such policies with the constant evolution of e-governance policies and e-records management. For instance, Botswana Police Service has criminal biometric database, when they obtain biometric

evidence, they match it to suspects instead of an existing database.

## **DIGITAL IDENTITY MANAGEMENT FRAMEWORKS**

Governments must carefully implement the governance models and supporting tools. Once it has selected which role it will play in the National Digital Identity Framework it is important to define the entire set of processes, roles and responsibilities that need to be implemented for the Government to efficiently play the role it has decided to adopt.

### **HOW BOTSWANA CAN ADOPT THE FRAMEWORK**

The digital services accessed by a generic entity require the implementation of an end-to-end process throughout the whole lifecycle of digital identity, which includes the following phases:

1. Collection:  
Information collection for the definition of the digital identity;  
This information could include all the government records the government uses to identify the person. National ID's, passport numbers and the person's digital footprint from various platforms the person utilizes. These are the necessary information pieces required to access the e-government services offered as an example.
2. Certification:  
Verify the match between the information collected and the real identity. This involves cross referencing the proclaimed identity by an individual's proclaimed online presence identification, the verification can be done by cross referencing with pre-existing national records of the individual in order to be identified as factual.
3. Provisioning:  
Creation and assignment of user, access credentials and rights for digital identity.  
Each identity plays a crucial role in a functioning system, there has to be some level of access control, user privileges must be assigned to individual digital identifications to control access rights. This matches the social roles the individual is playing in the country.
4. Data update facility:  
With the rapid changes of data attributes crucial for a digital identification, it is important to establish mechanisms through which the citizens can update their data in a secure yet convenient manner. Without a proper mechanism to monitor and commit to these updates, individual digital identities may no longer conform to the actual person's correct attributes and render the digital identity useless. Problems like inability to access e-

government services could arise because the systems can no longer verify the identity of the person and also the loss of privileges and access right to services.

5. Authentication:  
Perform a check of access credentials input during the access phase to the digital service. Various methods can be applied for verification and validation of user credentials as per access control mechanisms like passwords and biometric passwords.
6. Authorization:  
This is done in order to enforce access control, after authentication the digital identity needs to be assigned a role in the system.  
Perform a compliance check between the privileges assigned to digital identity and those necessary to the specific service.
7. Deprovisioning:  
Removal of accounts, credentials and/or privileges based on specific request, events or rules.

### **CONCLUSION**

Botswana needs to embrace digital identity management's advantages and it's policies and put measures into place to ensure safeguarding the collected digital identities in order to rely on their credibility.

### **REFERENCES**

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