



Implementing a Unique Business Identifier in Government

Guidance Note for Practitioners and Nine Country Case Studies



Implementing a Unique Business Identifier in Government

*Guidance Note for Practitioners and
Nine Country Case Studies*

© 2016 International Bank for Reconstruction and Development / The World Bank
1818 H Street NW, Washington, DC 20433
Telephone: 202-473-1000; Internet: www.worldbank.org

Some rights reserved
1 2 3 4 19 18 17 16

This work is a product of the staff of The World Bank with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Nothing herein shall constitute or be considered to be a limitation upon or waiver of the privileges and immunities of The World Bank, all of which are specifically reserved.

Rights and Permissions



This work is available under the Creative Commons Attribution 3.0 IGO license (CC BY 3.0 IGO) <http://creativecommons.org/licenses/by/3.0/igo>. Under the Creative Commons Attribution license, you are free to copy, distribute, transmit, and adapt this work, including for commercial purposes, under the following conditions:

Attribution—Please cite the work as follows: World Bank. 2016. “Implementing a Unique Business Identifier in Government: Guidance Note for Practitioners and Nine Country Case Studies.” World Bank, Washington, DC. License: Creative Commons Attribution CC BY 3.0 IGO

Translations—If you create a translation of this work, please add the following disclaimer along with the attribution: *This translation was not created by The World Bank and should not be considered an official World Bank translation. The World Bank shall not be liable for any content or error in this translation.*

Adaptations—If you create an adaptation of this work, please add the following disclaimer along with the attribution: *This is an adaptation of an original work by The World Bank. Views and opinions expressed in the adaptation are the sole responsibility of the author or authors of the adaptation and are not endorsed by The World Bank.*

Third-party content—The World Bank does not necessarily own each component of the content contained within the work. The World Bank therefore does not warrant that the use of any third-party-owned individual component or part contained in the work will not infringe on the rights of those third parties. The risk of claims resulting from such infringement rests solely with you. If you wish to re-use a component of the work, it is your responsibility to determine whether permission is needed for that re-use and to obtain permission from the copyright owner. Examples of components can include, but are not limited to, tables, figures, or images.

All queries on rights and licenses should be addressed to the Publishing and Knowledge Division, The World Bank, 1818 H Street NW, Washington, DC 20433, USA; fax: 202-522-2625; e-mail: pubrights@worldbank.org.

Cover photo: © Mariam Bulbulashvili/World Bank. Further permission required for reuse.
Cover design: Bill Praguski, Critical Stages, LLC.

Contents

<i>Acknowledgments</i>	<i>ix</i>
<i>Abbreviations</i>	<i>xi</i>
1. Implementing a Unique Business Identifier in Government: Guidance Note for Practitioners	1
Executive Summary	1
Introduction	3
The Case for Change	4
Emerging Good Practices	7
Technology and Architecture Considerations	9
Challenges Encountered	11
Implementation Roadmap and Maturity Model for UBI Deployments	13
Conclusions	16
Annex 1A UBI-Related Statistics	18
Annex 1B UBI Numbering Schemes	20
Annex 1C Doing Business Impacts	22
2. Albania Case Study	25
Background	25
Organizational Approach	25
Legislative and Administrative Considerations	27
Implementation Approach	28
Challenges Encountered	30
Benefits Realized	30
Summary	31
Annex 2A Registered Entities	32
Annex 2B Doing Business Distance to Frontier	33
Annex 2C Architecture and Technology	34
3. Canada Case Study	37
Background	37
Organizational Approach	37
Legislative and Administrative Considerations	38
Implementation Approach	38
Challenges Encountered	39
Benefits Realized	41
Summary	42
Annex 3A Registered Entities	43
Annex 3B Doing Business Distance to Frontier	44
Annex 3C Architecture and Technology	45
Annex 3D Business Number Implementation Timeline	47
4. Georgia Case Study	49
Background	49
Organizational Approach	50

Legal and Administrative Considerations	51
Implementation Approach	52
Challenges Encountered	53
Benefits Realized	54
Summary	54
Annex 4A Registered Entities	55
Annex 4B Doing Business Distance to Frontier	56
Annex 4C Architecture and Technology	57
5. Jordan Case Study	59
Background	59
Organizational Approach	59
Legal and Administrative Considerations	60
Implementation Approach	60
Challenges Encountered	62
Benefits Realized	62
Summary	62
Annex 5A Registered Entities	64
Annex 5B Doing Business Distance to Frontier	65
Annex 5C Architecture and Technology	66
6. New Zealand Case Study	69
Background	69
Organizational Approach	70
Legislative and Administrative Considerations	70
Implementation Approach	71
Challenges Encountered	71
Benefits Realized	72
Summary	72
Annex 6A Registered Entities	73
Annex 6B Doing Business Distance to Frontier	74
Annex 6C Architecture and Technology	75
7. Norway Case Study	77
Background	77
Organizational Approach	77
Legislative and Administrative Considerations	79
Implementation Approach	79
Challenges Encountered	80
Benefits Realized	80
Summary	81
Annex 7A Registered Entities	82
Annex 7B Doing Business Distance to Frontier	83
Annex 7C Architecture and Technology	84
8. Philippines Case Study	87
Background	87
Organizational Approach	87

Legislative and Administrative Considerations	88
Implementation Approach	88
Challenges Encountered	89
Benefits Realized	89
Summary	90
Annex 8A Registered Entities	91
Annex 8B Doing Business Distance to Frontier	92
Annex 8C Architecture and Technology	93
9. Rwanda Case Study	95
Background	95
Organizational Approach	95
Legislative and Administrative Considerations	96
Implementation Approach	96
Challenges Encountered	97
Benefits Realized	98
Summary	98
Annex 9A Registered Entities	100
Annex 9B Doing Business Distance to Frontier	101
Annex 9C Architecture and Technology	102
10. Serbia Case Study	105
Background	105
Organizational Approach	107
Legal and Administrative Impacts	108
Implementation Approach	108
Challenges Encountered	110
Benefits Realized	111
Summary	112
Annex 10A Registered Entities	113
Annex 10B Doing Business Distance to Frontier	114
Annex 10C Architecture and Technology	115
References	117
Boxes	
1.1 What Is a Unique Business Identifier?	2
1.2 Global Legal Entity Identifier	6
1.3 Common UBI Data Elements	7
1.4 Norway's Innovative Approaches	10
2.1 Planned Outcomes	28
3.1 Government Entity Definition	40
5.1 Goals of Introducing the National Business ID in Jordan	60
7.1 Entities Included in CCRLE	78
8.1 Business Entity Registration Authorities	88
10.1 Business Registration Reform in Serbia	106
10.2 UBI Outcomes in Serbia	109

Figures

1.1 UBI Maturity Model	17
1B.1 Canada Revenue Agency Business Number	20
1C.1 Starting a Business DTFs and UPI Implementation Milestones	23
1C.2 Getting Credit DTFs and UPI Implementation Milestones	23
1C.3 Paying Taxes DTFs and UBI Implementation Milestones	24
2.1 The UBI Structure in Albania	26
2.2 The Dynamics of Business Registration in Albania	27
2.3 Registration Process Guide, September 2008, Albania	29
2B.1 Distance to Frontier—Albania	33
2C.1 Integration of Public Administration, Albania, September 2008	34
3.1 Canada Revenue Agency Business Number	38
3B.1 Distance to Frontier—Canada	44
3C.1 Conceptual Representation of the CRA BN Hub-and-Spoke Architecture	45
4.1 The Dynamics of Business Registration at NAPR	50
4.2 e-Government Management Model in Georgia	51
4.3 G2B Systems Implemented in Georgia That Use the UBI	54
4B.1 Distances to Frontier—Georgia	56
4C.1 G3—Georgian Government Gateway	57
5B.1 Distance to Frontier—Jordan	65
5C.1 SOA Implementation Using ESB in Jordan	66
6.1 NZBN Program Timeline	71
6B.1 Distance to Frontier—New Zealand	74
6C.1 Future State of the NZBN Ecosystem	75
7.1 Brønnøysund Register Centre Structure	78
7.2 Norway’s UBI Implementation Timeline	79
7B.1 Distance to Frontier—Norway	83
7C.1 Conceptual Architecture for Altinn and Brønnøysund Register Centre	84
8B.1 Distance to Frontier—Philippines	92
9B.1 Distance to Frontier—Rwanda	101
9C.1 Technical Architecture	103
10.1 Conceptual Representation of UBI Issuance in Serbia	106
10.2 The Dynamics of Business Registration at SBRA	107
10B.1 Distance to Frontier—Serbia	114
10C.1 SBRA Software Architecture	115

Tables

1.1 Number of Procedures and Days to Start a Business	4
1A.1 UBI-Related Statistics	19
1B.1 Jordan’s National Business ID Number	21
2.1 Indicators, Baseline, Target, and Reported Results of Business Entry and Registration	31
2A.1 Registered Entities, 2014	32
2A.2 Information Maintained by the National Registration Center	32

3.1	Program Adoption as of 2014	41
3A.1	Registered Entities	43
4A.1	Registered Entities	55
4A.2	Information Maintained by the National Agency of Public Registry	55
5A.1	Registered Entities	64
5A.2	Information Maintained by CCD and MIT	64
6A.1	Registered Entities	73
7A.1	Registered Entities	82
B8.1.1	Registration of Legal Entities	88
8A.1	Registered Entities	91
9A.1	Registered Entities	100
10A.1	Registered Entities	113
10A.2	Information Maintained by the Serbian Business Registers Agency	113

Acknowledgments

The research effort around this guidance note and the accompanying case studies was led by John R. Wille and Cem Dener. The research and preparation of the guidance note and case studies was conducted by Mike Davis and James Brown from the consulting firm Davis Pier, and Goran Vranic. We thank the following World Bank Group staff and consultants for supporting the research effort and/or peer-reviewing the note and case studies: Shireen Alshakaa, Ekaterine Avaliani, Numa de Magalhaes, Lars Grava, Markus Kimani, Victoria Lemieux, Andreja Marusic, Samia Melhem, Sagita Muco, Harish Natarajan, Kaori Niina, and Abeer Kamal Shalan. We also thank the government representatives from the nine countries profiled in the case studies for their generous contribution of time and relevant data to the research effort.

The findings, interpretations, and conclusions expressed in the guidance note and case studies are entirely those of the authors. They do not necessarily represent the views of the International Bank for Reconstruction and Development/World Bank and its affiliated organizations or those of the Executive Directors of the World Bank or the governments they represent.

Abbreviations

API	application program interface
B2B	business-to-business
BIR	Bureau of Internal Revenue (Philippines)
BN	Business Number (Canada)
BRC	Brønnøysund Register Centre (Norway)
BRIS	Business Registers Interconnection System
CBSA	Canada Borders Services Agency
CCD	Companies Control Department (Jordan)
CCRLE	Central Coordinating Register for Legal Entities (Norway)
CDA	Cooperative Development Authority (Philippines)
COTS	commercial off-the-shelf
CR	Central Registry (Serbia)
CRA	Canada Revenue Agency
CROSO	Central Registry of Compulsory Social Insurance (Serbia)
CSF	critical success factors
DEA	Data Exchange Agency (Georgia)
DOS	Department of Statistics (Jordan)
DTF	distance to frontier
DTI	Department of Trade and Industry (Philippines)
EBR	European Business Register
EIF	European Interoperability Framework
ESB	enterprise service bus
ETPM	Enterprise Taxation and Policy Management
EU	European Union
FZC	Free Zones Corporation (Jordan)
G2B	government to business
G2C	government to citizen
G2G	government to government
G3	Georgian Government Gateway
GAM	Greater Amman Municipality (Jordan)
GDP	gross domestic product
GDT	General Directorate of Taxation (Albania)
GLN	Global Location Number
GNI	gross national income
GST	Goods and Services Tax (Canada)
HST	Harmonized Sales Tax (Canada)
IBIG	Home Development Mutual Fund (Philippines)
IC	Industry Canada
ICT	information and communication technology
IMF	International Monetary Fund
INSTAT	Institute of Statistics of Albania
ISO	International Organization for Standardization
IT	information technology

ITA	Income Tax Act (Canada)
JOCC	Jordan Chamber of Commerce
KPI	key performance indicators
LAN	local area network
LEI	Legal Entity Identifier
LGU	local government unit
MBIE	Ministry of Business, Innovation and Employment (New Zealand)
MCATA	Millennium Challenge Account Threshold Agreement
MIT	Ministry of Industry, Trade and Supply (Jordan)
MITHI	Medium-Term Information and Communication Technology Harmonization Initiative (Philippines)
MOICT	Ministry of Information and Communication Technology (Jordan)
MOU	memorandum of understanding
NAIS	National Agency on Information Society (Albania)
NAPR	National Agency of Public Registry (Georgia)
NBI	National Business ID (Jordan)
NIPT	Tax Number (Albania)
NLC	National Licensing Center (Albania)
NRC	National Registration Center (Albania)
NZBN	New Zealand Business Number
ON	organization number (Norway)
ORG	Office of the Registrar General (Rwanda)
PBN	Philippines Business Number
PBR	Philippines Business Registry
PHIC	PhilHealth (Philippines)
PKI	public key infrastructure
PPA	Public Procurement Agency (Albania)
PWGSC	Public Works and Government Services Canada
ROI	return on investment
RRA	Rwanda Revenue Authority
RSSB	Rwanda Social Security Board
SBRA	Serbian Business Registers Agency
SEC	Securities and Exchange Commission (Philippines)
SERES	Norwegian Semantic Register for Electronic Collaboration
SRS	State Revenue Service (Georgia)
SSC	Social Security Corporation (Jordan)
SSS	Social Security System (Philippines)
TIN	tax identification number
UBI	unique business identifier
UI	user interface
VAT	value-added tax
VPN	virtual private network
WAN	wide area network
WEF	World Economic Forum

1. Implementing a Unique Business Identifier in Government: Guidance Note for Practitioners

Executive Summary

In an increasingly online world, governments are realizing that previous silo approaches to implementing information technology (IT) systems have created barriers to the sharing of information among business regulators. As they undertake efforts to increase tax compliance, streamline business start-up, enhance data sharing, improve public service delivery, reduce administrative burdens, and monitor the health of financial systems, governments are implementing unique business identifiers (UBIs) as part of their larger approach to achieving these goals and realizing the related benefits. A UBI provides the foundational information related to legal entities, enabling government and business to uniquely identify legal entities in various transactions and regulatory interactions (see box 1.1).

This guidance note draws on a set of nine case studies looking at individual country efforts to implement a UBI. Based on the country cases examined in this assessment, two general approaches for the implementation of the UBI have emerged:

- In some cases, the implementation of the UBI is part of a **large-scale administrative reform**, which may include streamlining business start-up procedures, integrating government-to-business (G2B) service delivery as well as establishing a technical infrastructure to support interagency communications and data sharing. These cases involve leadership from the executive branch of government and will typically start with a core group of agencies (for example, tax and company registry). However, most have a clearly defined implementation plan to include all other business-related agencies and processes. Examples include Albania and New Zealand.
- In other cases, the approach can best be described as **evolutionary**—starting with a similar core group of agencies but without a clearly defined (or mandated) strategy for extending the use of the UBI to other agencies (that is, those involved with licensing, permitting, and inspections). Here, expansion occurs organically over a longer period as the agencies realize the benefits of the UBI, undergo their own process optimization or technology upgrade, or implement an e-service that requires a unique identifier. This evolutionary approach, in some cases, follows the progression of the “once-only, simplification, and personalization” and “digital by default” strategies as outlined in the European Union’s (EU’s) *Study on eGovernment and the Reduction of*

BOX 1.1 What Is a Unique Business Identifier?

A Unique Business Identifier (UBI) is typically an alphanumeric code (potentially with hyphens or periods as separators) that can be used to distinctly identify a legal entity (for example, company or sole proprietorship). UBIs provide benefits across both the public and private sectors. For businesses, the UBI can be used in legal and financial documents and contracts to uniquely identify the entities involved. In the public sector, these unique identifiers allow governments to more readily share entity information, which then enables them to more effectively regulate the activities of businesses within their jurisdiction. At the same time, UBIs can help minimize the compliance burden caused by redundant requests for similar information from multiple agencies.

UBIs are intended to replace all other identifiers within a jurisdiction that government, the private sector, and the public use to reference a legal entity. While replacing all other identifiers may be achievable in greenfield or large-scale reforms, there is typically a need to maintain previous identifiers in legacy back office systems and internal processes. However, it is the UBI that should be promoted for use outside of the organization.

Unique business identifiers may also be known as unique business numbers, common business identifiers, or common business numbers. The basis of a UBI might be the tax authority's identification number (TIN), business registration number, or another existing identifier.

Administrative Burden (EU 2014). This evolutionary approach has occurred in Canada, Georgia, Jordan, Norway, the Philippines, Rwanda, and Serbia.

Analysis of the country cases revealed a number of common issues encountered during implementation and operation of the UBI solutions. These include a general resistance to change, external stakeholder criticism, lack of trust, inadequate institutional capacity, unclear or ill-communicated vision and goals, legislative challenges, and privacy concerns. In addition, at the technical level, challenges also arise when trying to resolve data conflicts from multiple information sources that may be considered authoritative (for example, tax and business registries).

This note explores the emerging good practices that these countries have employed in addressing these challenges. Effective implementations begin with creating a clear vision as well as strong governance and leadership structures for both the implementation effort and the longer term operation of the solution. In addition, it is recommended that a legal review occur in the project's early stages because existing laws and regulations often need to be updated to permit full use of the UBI. As the case studies for Norway and New Zealand highlight, effective data governance¹ and public access to UBI-related information is critical to adoption of the UBI by government agencies and within the private sector. Also, it is important to understand that adopting agencies will require assistance during implementation to understand potential legal and process changes that they may need to enact, as well as support, in mapping their information on businesses to the UBI solution. Finally, good practice for the technical solution to support interoperability,

data sharing, and unfettered access to the UBI information includes implementing a high-availability, standards-based architecture. This reflects an understanding that the technology landscape is typically not homogenous; therefore, UBI-related information must be available in a way that corresponds with the needs and capabilities of the participating organizations.

Introduction

This note summarizes the findings from a study of nine countries that have implemented, or are in the midst of implementing, a UBI. It outlines emerging good practices in the development of a reliable and efficient identification mechanism for businesses.

While much focus has been given to establishing universal digital legal identities for individuals, the establishment of authentic unique legal identities for businesses and corporations is equally important. The existence of UBIs is critical because governments are increasingly partnering with businesses to deliver services such as health and education, to build roads and digital infrastructure, and to implement innovations designed to bring greater prosperity. UBIs are also important in enabling businesses in the developing world to compete effectively in global markets, where such identifiers are increasingly used in managing counterparty risk and obtaining services in highly interconnected financial and trading systems. The issue is often that a business is not clearly identified in contracts—be they financial market transactions, government procurement contracts, or licenses. For example, the name of a business can be represented in multiple ways, can change, and can be reused by different legal entities, leading to a proliferation of “ghost companies” that siphon off scarce resources or avoid taxes and duties. In an open data world, this also means that government data sets cannot be easily combined or matched with the corresponding company, leading to data silos, regulatory failures, corruption, and criminal activity—as shown in the World Bank’s Puppet Masters report (de Willebois 2011). In the financial sector, regulators believe that the inability to uniquely identify a firm was a significant contributory factor to the 2008 financial crisis.

This paper explores the adoption of UBIs in nine countries and outlines the impacts and benefits of their introduction, including:

- Improved regulatory governance by enabling data exchange among the business registry, tax and customs authority, business regulators, and other relevant government agencies;
- Greater transparency of business structure and links among business entities;
- Reduced need to provide the same company information multiple times to different parts of government;
- Improved public health and safety as well as consumer protection through better information sharing among business regulators;
- Ability to share company data across borders through the use of international business identifier formats (where applicable);

- Enhanced safety and efficiency of the financial system by enabling robust credit reporting systems that can leverage reliable identification of businesses, their promoters, and their key executives; and
- Reduced counterparty risk in commercial transactions and government procurement through easy and transparent identification of the business entities involved.

In addition, this note outlines the key institutional, legal, and technology issues and challenges involved in implementing a UBI, and explores approaches that governments have taken to address them. Finally, the paper provides a high-level roadmap that identifies the common activities to support the delivery of a UBI implementation—including governance structures (both implementation and operational); legal, capacity, privacy, and organizational assessments; monitoring and evaluation approaches; and technical architecture and solution design.

The Case for Change

The motivating factors for governments to implement a UBI vary from country to country; however, several common themes emerge across the nine studied in this note:

- Canada implemented its UBI to **improve tax compliance**. The Canada Revenue Agency (CRA) introduced the UBI to identify businesses in its core business programs, including Corporation Tax, Goods and Services Tax (GST), Harmonized Sales Tax (HST), and payroll levies.
- Initiatives in Georgia, the Philippines, Rwanda, and Serbia targeted **streamlining business start-up** by reducing the number of processes (see table 1.1) that a business must complete. Through **integrated registration**

TABLE 1.1 Number of Procedures and Days to Start a Business

Country	Procedures (number)		Time (days)	
	Pre-UBI	Now	Pre-UBI	Now
Albania	11	5	40	4.5
Canada	2 ^a	1	3 ^a	5
Georgia	9	2	25	2
Jordan	10	7	13	12
New Zealand	1	1	0.5	0.5
Norway	5 ^a	4	18 ^a	5
Philippines	17	13	41	34
Rwanda	9	8	16	6.5
Serbia	12	6	56	12

Source: Doing Business dataset 2004–15.

a. Implementations in Canada and Norway predate the Doing Business surveys. Pre-UBI information reflects the first available year (2004). World Bank (2011) states, “Before centralization, registration of a new business could take up to 1 year.”

with the company registry, tax, and pension authorities, these countries seek to **improve their business environment** and become more competitive destinations for investment. In Georgia, **improved data sharing and exchange** within government was also identified as an objective early in the project.

- In Albania, Jordan, New Zealand, Norway, and the Philippines, the main objectives have been to **improve government services** and **reduce the administrative burden** on businesses. The UBI in these countries is an enabler and a foundational aspect of larger initiatives such as regulatory reform, online transactional portals, and service integration—enabling **data sharing and links across multiple agencies** within government. In New Zealand, the objective also includes enabling timesaving administrative solutions for trade and procurement across government, businesses, and their respective suppliers.

Some other motivating factors that appear unique within the countries studied include the following:

- Albania noted that the UBI was part of a larger effort to **reduce the informal economy** and therefore increase compliance.
- The location of the UBI register in Norway (the Central Coordination Register for Legal Entities) was selected as part of **economic development strategy to improve infrastructure** within the country. The Brønnøysund Register Centre is located in Brønnøysund, which is roughly 850 kilometers from Oslo, with a population of 4,924.²
- **Regional and international initiatives** provided partial motivation for the introduction of UBIs in some countries. European Union members are required to disclose and report information about businesses per the EU Directive 2013/34/EU.³ In Norway and Serbia, the preexistence of a UBI made adhering to these directives and joining the European Business Register (EBR) easier. Although somewhat related, the Global Legal Entity Identifier (LEI) (see box 1.2 for more information) is primarily used for global financial transactions.

At the heart of all these initiatives, a common objective was to create an authoritative source of information on business entities using an immutable UBI. The UBI is a foundational building block for other initiatives because it supports the sharing and linking of data across agencies, integrated registration, and improved regulatory and tax compliance.

As with the motivating factors, the benefits realized, or expected to be realized, vary from country to country, but several common themes still emerge:

- Georgia, the Philippines,⁴ Rwanda, and Serbia stated that a key objective was to **streamline business start-up**. Based on Doing Business data and this study, these countries have had varying degrees of success in reducing the number of procedures involved; however, all have seen significant reductions in the time to start a business—ranging from 17 percent in the Philippines to 92 percent in Georgia. Table 1.1 provides details on the changes in procedures and time for each country, while

BOX 1.2 Global Legal Entity Identifier

According to the Legal Entity Identifier Regulatory Oversight Committee (<http://www.leiroc.org/>), “the **Legal Entity Identifier (LEI)** is a 20-digit, alphanumeric code, used to uniquely identify legally distinct entities that engage in financial transactions.” The LEI was created by the Committee, which is a group of over 60 public authorities from more than 40 countries that was established in January 2013 to coordinate and oversee a worldwide framework of legal entity identification, the **Global LEI System**.

The LEI is based on the “ISO 17442:2012, Financial Services—Legal Entity Identifier (LEI)” standard published by the International Organization for Standardization (ISO 2012).

The LEI is a more recent initiative than the UBI implementations in this study and is focused on regulatory oversight in the trading of stocks, bonds, securities, and other financial instruments. Although none of the participating countries addressed LEI in the context of their UBI implementations, there will likely be increased links between the LEI and the UBI in the future.

annex 1C highlights the changes in the Doing Business starting a business and distance to frontier (DTF) indicators during the periods the UBI was being implemented.

- Most countries noted an **increase in compliance** related to the implementation of a UBI. In particular, countries noted increases in tax compliance, adherence to government procurement practices, and the number of businesses registered.
 - All countries noted an **increase in tax compliance**, which is not unexpected because it is typically the business registry and tax agency that are key government sources of information on businesses. Increased data sharing has helped reveal many tax avoidance schemes.
 - Most countries reported an **increase in adherence to government procurement rules**.
 - Finally, Georgia and Norway reported an **increase in the number of businesses registered**. This increase typically occurs in countries where business registration is also simplified (including moving the process out of the court system) during UBI implementation. Norway indicated that the “number of registered businesses under the Register of Business Enterprises has more than doubled since 1998”: In 1998 there were less than 100,000 registered businesses, but as of 2010 that number had increased to over 400,000.
- **Reduced administrative burden** on businesses and **increased efficiency** for government were identified by all participants as important benefits. This is evidenced by reductions in the number of processes and amount of time to register a business as well as decreases in the number of times a business has to provide the same information to different government agencies.
- New Zealand, Norway, and Rwanda all referenced **use of the UBI** and its related information within the private sector for

business-to-business (B2B) transactions. This includes financial institutions, credit-reporting agencies, and companies using the UBI to obtain and catalogue information on potential borrowers and trading counterparties. New Zealand noted that its UBI is being used by businesses in areas such as exports and invoicing.

Emerging Good Practices

Analysis of the experiences of the nine jurisdictions in implementing a UBI has identified a number of emerging good practices. These can be organized in the following categories: (i) leadership and governance, (ii) legislation, (iii) project planning and management, (iv) data governance, (v) accessibility, (vi) implementation support resources within government, and (vii) technology.

1. **Ensure effective governance, leadership, and vision.** The implementation of a UBI can either be part of a large-scale reform project or be an evolutionary process carried out through successive discrete initiatives over a period of years. In either case, it is critical that a clearly articulated vision and governance structure be defined, and that a strong senior leader be identified to champion the project. It is also important that the vision outline the expected high-level phases of the implementation—this provides the ability to communicate relevant process or administrative changes to stakeholders in easily definable and actionable tasks. The governance structure must be adaptable to align with project phases and involved stakeholders because the latter will likely grow in number over time. Other reforms that can leverage a UBI initiative to maximize overall impact encompass areas such as business registration, licensing, income and value added taxes, customs, business inspections, and land and other asset registrations. Box 1.3 summarizes the common data elements in a UBI solution.
2. **Carry out a legislative review early in the project.** A majority of countries required legal reforms to implement the UBI. Examples of such reforms include legislation to support the creation of a dedicated UBI register; amendments to existing legislation to allow for the collection, use, and

BOX 1.3 Common UBI Data Elements

In addition to the unique business identifier itself, the following data is also commonly maintained in the UBI data set: business name, business entity type, business entity status, registration date, business addresses (civic and mailing), industry sector(s), officers, directors, and contact information.

Some jurisdictions also maintain the foreign business identifier(s), country of origin, beneficial owners, number of people employed, tax identification number, and financial information.

Finally, Norway provides the ability for agencies to add program-specific information.

sharing of information; creation of a new public entity; and legislation to mandate the use of the UBI. Based on the empirical evidence from this study, those countries that mandated the use of the UBI experienced a shorter implementation timeline—across all of government. In other countries, where UBI usage was not mandated, the adoption by government agencies continues—even years after the initial implementation. Each country situation will be unique given its current legislation and system of government.

3. **Plan for implementation as well as long-term management of the UBI solution.** UBI implementations can take years to complete and will be operational for an indefinite period of time. Over the lifespan of a UBI solution, in addition to changes in staff, skill requirements, and process changes, governments must also plan for a continuous evolution of the technology solution and associated infrastructure. This includes standard maintenance and updates of hardware and software, as well as major upgrades, and potential revisions based on partner system upgrades. It also includes provisioning for data migration to new platforms and secure data archiving and long-term preservation. It is critical to ensure that sufficient funding sources are identified for both the implementation of the UBI and its long-term operation.
4. **Implement effective data governance policies.** A number of respondents identified data governance as a critical success factor for the UBI. In a typical UBI architecture, the information related to a UBI does not come from a single, authoritative source (for example, business registry or tax authority); rather the information may come from multiple authoritative sources, or multiple nonauthoritative sources. Thus, the UBI solution owner is a custodian of information. For example, it is clear that the business registry is the authoritative source for a business's name; however, it is less clear who (other than the business itself) is the authoritative source for such data as addresses and key contacts. A well-defined data governance model must be developed, outlining rules for access to and modification of UBI-related information, in order to maintain data integrity.
5. **Information should be available and accessible to all.** With appropriate limitations, the UBI and its related information should be available for use by the public and private sectors as well as by the general public. Most of the jurisdictions studied have implemented, or are planning, multiple channels to the UBI data. To become a ubiquitous identifier, UBI usage should be common in government-to-government (G2G), G2B, and B2B interactions (for example, invoicing, payment, and export). In New Zealand, although still only in the early stages of UBI implementation and adoption, the fact that the UBI is publicly available (through APIs and websites) and uses a numbering system based on international standards has contributed greatly to early adoption within the private sector in B2B and G2B transactions.
6. **Ensure adequate implementation support resources within government.** A number of the respondents have created internal organizations that assist stakeholder agencies within government in adopting the UBI.

They help agencies by guiding them through a standardized process that includes identification of potential legal reforms, process changes, change management, and mapping of existing databases to the UBI.

Technology and Architecture Considerations

There is no standard UBI technical solution; in all nine jurisdictions these were custom-developed to fit the needs and circumstances of their own government technology environments. However, they all leveraged commonly available commercial or open source technologies to address their specific challenges. Following are some common elements of the technical approaches employed:

1. **Message broker model with a central UBI database.** The majority of governments studied implemented their UBI solution with a central database—which consolidates information provided by other systems—with any updates provided back through either a push or pull mechanism through a message brokering service (that is, enterprise service bus). The message broker provides services to allow the central database to receive updates from other source systems, as well as for source systems to send and receive updates from the central database. Two models for the location of the UBI central database were observed: (i) within one of the authoritative sources (for example, tax or business registry) with additional information from other (authoritative and non-authoritative) sources provided through update interfaces and (ii) a separate database/solution within one of the primary agencies that consolidates information (authoritative and non-authoritative) as provided through the update interfaces.
2. **UBI conversion and mapping.** In the jurisdictions covered in this study, five of the UBIs were based on the existing tax identifier, three countries implemented a new identifier, one was based on the business registration number, and one was based on a statistical identifier. Regardless of the approach selected, the implementation of a UBI requires other ministries, departments, and agencies to convert or map existing identifiers to the UBI. In an ideal situation, the stakeholder agencies are able to convert to the UBI and abolish the use of the previous identifiers. Typically, however, there is a need to maintain previous identifiers in legacy back office systems and internal processes. The approach to mapping or converting legacy identifiers to the UBI will differ in each jurisdiction on the basis of cost, timing, technology, or legislative constraints. For example, in Rwanda, the government was already requiring businesses to re-register with the company registry as part of the implementation of a new online system, so the new UBI (tax ID) was assigned as part of this updated registration. Regardless of the approach taken, the goal is to promote the UBI as “the identifier” within government and to the public.

3. **Standards-based approach to support interoperability.** As noted above, all UBI solutions studied were custom-built solutions based on either commercial or open-source platforms or products. However, the jurisdictions studied largely adopted standards-based tools and technologies to facilitate interoperability in their typically heterogeneous and complex application landscapes. For example, most respondents have developed a standard application program interface (API), or set of interfaces, or have implemented via service-oriented architectures using an enterprise service bus, web services, or message queues. Additionally, some respondents are using a public key infrastructure for encryption, authentication, and authorization. Box 1.4 illustrates key elements of Norway's approach.
4. **Key nonfunctional requirements.** As a critical cornerstone of the business regulatory environment, the UBI solution must be

BOX 1.4 Norway's Innovative Approaches

Of the jurisdictions studied, Norway's Central Coordinating Register for Legal Entities (CCRLE) is the most inclusive of different types of legal entities—including public institutions, companies, and sole proprietors. The UBI and related information is freely available through the Brønnøysund Register Centre's (BRC's) website at <http://www.brreg.no/>.

Introduced in 1995, the CCRLE coordinates information on business and industry that resides in various public registers, and ensures that all the information is collected in and provided from one place. The critical success factors for CCRLE were

- Unique identification of legal entities;
- Extensive and frequent use of the organization number;
- High data quality; and
- Easy access to registered information.

The Brønnøysund Register Centre has developed a number of innovative services, including ELMER (<https://altinnett.brreg.no/no/ELMER/>), which is a set of user interface guidelines for Internet forms, and Altinn (<https://www.altinn.no/>), which is the public web portal for government services providing interdepartmental cooperation and a toolbox for public authorities and agencies to produce and operate their forms and services. In addition, Norway developed the innovative SERES (**SEmantikk Register for Elektronisk Samhandling**), a metadata repository for modeling information within a domain in the context of a public operator, service provider, or subject. SERES was developed to meet the expectations from individuals, business, politicians, and media that information is easily exchanged with and between public institutions. For example, when an entity notifies a public institution of changes of address, all other public institutions must be notified of the change.

For technical information about SERES, please see <https://altinnett.brreg.no/no/SERES/SERES-Teknisk-innforing/>.

designed and developed to support the following key nonfunctional requirements:

- **High availability.** The solution will typically require 24 × 7 availability to support access by all participating government agencies and businesses.
- **Scalability.** The solution must be designed to support expected transaction volumes within stated maximum response times and provide the ability to scale (typically through cloud, virtualization, or load-balancing technologies) and to meet future needs as transaction volumes increase as a result of broader adoption.
- **Reliability.** To garner trust, the solution must be reliable and dependable, providing consistent results within an expected response time.
- **Recoverability.** Backup, disaster recovery, and business continuity should be key design and implementation considerations. Downtime due to system failure or natural disasters should be avoided.
- **Security.** The solution must include mechanisms to prevent unauthorized or unintended access to systems, as well as to UBI data while in transit or at rest.
- **Long-term availability and integrity (aka digital preservation).** The solution must include mechanisms to ensure that the data remain available and trustworthy over time (see ISO 16363 and ISO 14721 [ISO 2012]).

Challenges Encountered

The governments involved in this study encountered a number of challenges during or after the implementation of the UBI. The following provides an overview of those that were most common or potentially posed the greatest impact:

1. **Resistance to change.** Government organizations and agencies may be resistant to implementing the necessary changes to leverage the UBI for a number of reasons: inability to see the benefit for their organization, impacts to business processes, general opposition to the project, differing political agendas, and lack of funding or resources. These challenges can be overcome through strong governance, strong senior leadership, and change management supported by a clearly articulated and communicated vision. Depending on the impacts to the organization's processes and technologies, the UBI project may need to make funds and resources available to the organizations to facilitate change to adopt the UBI.
2. **Capacity constraints.** In consolidating business registration into a one-stop shop, some jurisdictions noted a lack of capacity to deliver the service because of unqualified or untrained staff. Again, the project plan and budget should explicitly address the need for capacity building to support both the UBI solution as well as G2B services being enhanced through the larger reform initiative. Some countries, such as Canada, created specialized support units to assist stakeholder agencies in capacity building and change management.

3. **Lack of stakeholder engagement.** Normally, the key stakeholder agencies involved in the project will understand the long-term vision and benefits as well as the objectives and phasing of the project plan. However, other agencies and regulators may not share this understanding—leading to confusion or resistance. Continuous stakeholder engagement, education, and awareness building throughout the project will aid in reducing this confusion by enabling participants to understand the larger benefits to their agency and to government as a whole.
4. **Legal roadblocks.** Where the UBI is based on an existing identifier (for example, tax ID), existing legislation may limit the access to the UBI and related information to government organizations—thus precluding access to the information by the private sector. Further, the enabling legislation for the existing identifier may be limited in scope, requiring other agencies adopting the UBI to make further changes in their own governing legislation. Although not insurmountable, the need to make legislative changes must be factored into the overall project schedule. Also, adequate staff and financial resources need to be made available to accommodate the required legal reviews and enactment of amended legislation or regulations.
5. **Source data conflicts and lack of trust among stakeholders providing business information.** Source data for a UBI solution may be based on multiple existing systems—primarily tax and business registration authorities—that will need to be reconciled, de-duplicated, and cleansed. Aside from manual and automated matching routines, one option for resolving data conflicts may include the re-registration of all businesses during a transition period. In addition, resistance may be encountered in some organizations in trusting data updated by other organizations. During the establishment of the data governance model, the business processes of the various organizations will need to be assessed and data updating protocols developed based on the maturity of these processes. Tracking of data provenance is essential to ensure trustworthiness of data.
6. **External stakeholder criticism.** This was sometimes observed in countries where larger scale reforms were taking place (that is, licensing and permitting streamlining in addition to UBI deployment). External stakeholders—especially those from professional associations affected by the changes (for example, lawyers and notaries)—can be highly critical and may be able to sway their professional communities against the initiative. It is important to engage all stakeholders earlier in the development of the vision to ensure their buy-in to the project. If warranted, a more proactive education and awareness campaign as part of a change management strategy should be implemented.
7. **Privacy concerns.** Providing access to officer and director information—particularly when it is personally identifiable information (for example, national ID, name, address, phone numbers)—may pose privacy concerns. This is especially true for sole proprietors/traders because the information about their business is directly linked to their personal information. Privacy impact assessments should be conducted on the

UBI-related information to confirm that appropriate compensating controls are in place to reduce or prevent the exposure of personally identifiable information.

8. **Sole proprietors/traders.** In some countries, the tax agency may treat a sole proprietor/trader with many operating names as a single entity with a unique tax identification number (TIN), which may conflict with the assignment of UBI when other registries and agencies recognize the component businesses as separate enterprises. Care should be taken during the design of the UBI solution to account for potential conflicts such as this, adjusting the design to fit the situation.
9. **Requests for customization of data and business rules.** Organizations adopting the UBI may insist that they have a unique situation or need for additional data, or further customization of data elements or business rules. While change is inevitable, it is important to limit customizations for multiple organizations as it may lead to data maintenance issues in the long term. Clearly defined data and IT governance structures and decision-making processes will assist in resolving such customization requests.

Implementation Roadmap and Maturity Model for UBI Deployments

A UBI implementation is normally undertaken in the context of a larger reform or government simplification initiative, so a standard approach is difficult to define. However, a set of key activities and issues to be considered in developing and implementing a UBI have been identified below, organized in accordance with standard ICT project phases.

1. Project Initiation, Organization, and Governance

- Ensure the business case for the overarching project includes the objectives of introducing a UBI along with critical success factors (CSF) and key performance indicators (KPI). For example, one objective could be to improve interoperability between government organizations. The related CSFs could be the adoption of an interoperability framework and interoperability implementation, positioning the UBI as one of the core enablers. The KPI could be the number of government organizations that are exchanging data in providing G2G and G2B services.
- Analyze whether an existing identifier can be leveraged as the UBI or a new business identifier should be introduced. Approaches that promote an existing identifier to a UBI (for example, TIN, business registration number, or statistical number) require analysis on what steps should be taken ensure the uniqueness of this existing number. Also, alternative approaches to mapping existing numbers at the agency level to the UBI should be evaluated, as well as the required changes or upgrades to legacy information systems in these organizations.
- Analyze regulatory processes, particularly within the business registration ecosystem, including those that are being changed as a result

of the larger reform program. The introduction of the UBI typically supports the integration of these processes, for example, allowing business, tax, and social security registrations to be consolidated into one online application and back office workflow.

- Identify regulations related to existing identifiers, and assess the need for legislative changes to introduce a UBI, including possible alignment with regional or global initiatives (for example, European Union Identifier, GS1 Global Location Numbers [GLN], Legal Entity Identifier Regulatory Oversight Committee). An introduction of a UBI usually has an impact on identifiers for natural persons (for example, sole proprietors); therefore, legislation related to protection of personal information and information security also has to be taken into account.
- Obtain support for UBI development and deployment at the highest levels of government and establish the necessary stakeholder support and governance structure to ensure its successful implementation. The steering group should contain a cross-section of legal and technical knowledge and adequate organizational representation to address the initial UBI deployment; plus, it should be flexible to accommodate future expansion of UBI usage. Private sector representation in project governance is also beneficial because the UBI should also be an enabler for improvements in B2B and B2G transactions in trading and procurement.

2. Project Scoping and Requirements Definition

- Define the scope of UBI deployment, UBI service delivery model, and digital preservation requirements, including the UBI issuer, service providers, interoperability requirements, and organizations that will ultimately exchange data and deliver services leveraging the UBI. The model selected should specifically address issues around the application of UBI to sole proprietorships and mapping with existing identifiers (for example, TIN). Another important scope consideration is whether a UBI should be assigned to public institutions and nongovernmental organizations.
- Develop use case requirements for the UBI that cover the end-to-end process of assigning and canceling a UBI to the differing types of business organizations, including interoperability between the involved government agencies. In many countries, there are still multiple registries across governments registering limited liability companies, sole proprietorships, and other forms of business and nonprofit organizations.
- Ensure nonfunctional requirements for a UBI technical solution particularly address availability, reliability, and information security requirements. By nature, a UBI service has to have high availability and provide maximum protection of business-sensitive and personal information.
- Develop and communicate the overall implementation approach and plan. This might be presented in two general phases: implementation and deployment. The first phase should cover implementation of a UBI issuer service in parallel with the necessary legislative changes

and assignments of UBIs to all organizations according to the project scope. The second phase should include mapping of existing numbers to the UBI in parallel with the implementation of interoperability across the relevant government databases to achieve higher level of data and services quality. This second phase should be planned with multiple subphases or iterations to address in a tailored fashion the transition of each agency to the UBI.

3. Solution Design, Selection, and Acquisition

- Design the UBI number according to the business requirements identified, considering alignment with regional and global business identifier initiatives. To align with global initiatives, a UBI should be designed to have a country code as a prefix, followed by a business ID and possibly a code for the specific registry, and a check digit as a suffix.
- Establish or select an agency that will act as the UBI issuer, and design an interoperability solution that will act as a hub in assigning UBIs through service providers and in enabling updates of key business information as well as notification of UBI cancelations.
- Design a technology infrastructure that meets the nonfunctional requirements for a UBI implementation identified earlier in this note.
- Draft legislative amendments needed to introduce the UBI, to address interoperability requirements and privacy protection.

4. Solution Development, Configuration, and Testing

- Develop, configure, and test the UBI issuer solution and an interoperability hub according to the agreed design.
- Adopt the legislative amendments needed to implement a UBI.
- Make adjustments within existing information systems to be able to accept a UBI and map it to existing numbers according to the agreed deployment approach.
- Develop procedures to enable data conversion from existing systems to the UBI.

5. Solution Implementation and Rollout

- Implement the UBI issuer solution and an interoperability hub enabling data exchange with the business registry(ies) and service providers.
- Perform data conversions and data cleanup to introduce the UBI across participating agencies; assign UBIs to existing organizations according to the agreed deployment approach.
- Assign UBIs to newly registered organizations according to the agreed protocols.
- Implement communications and promotional activities regarding the UBI and any new integrated services (for example, streamlined business registration) introduced along with the UBI solution.

6. Post-implementation and Operations

- Perform a post-implementation review, and analyze the adequacy, benefits, return on investment, and follow-up activities related to the UBI implementation.

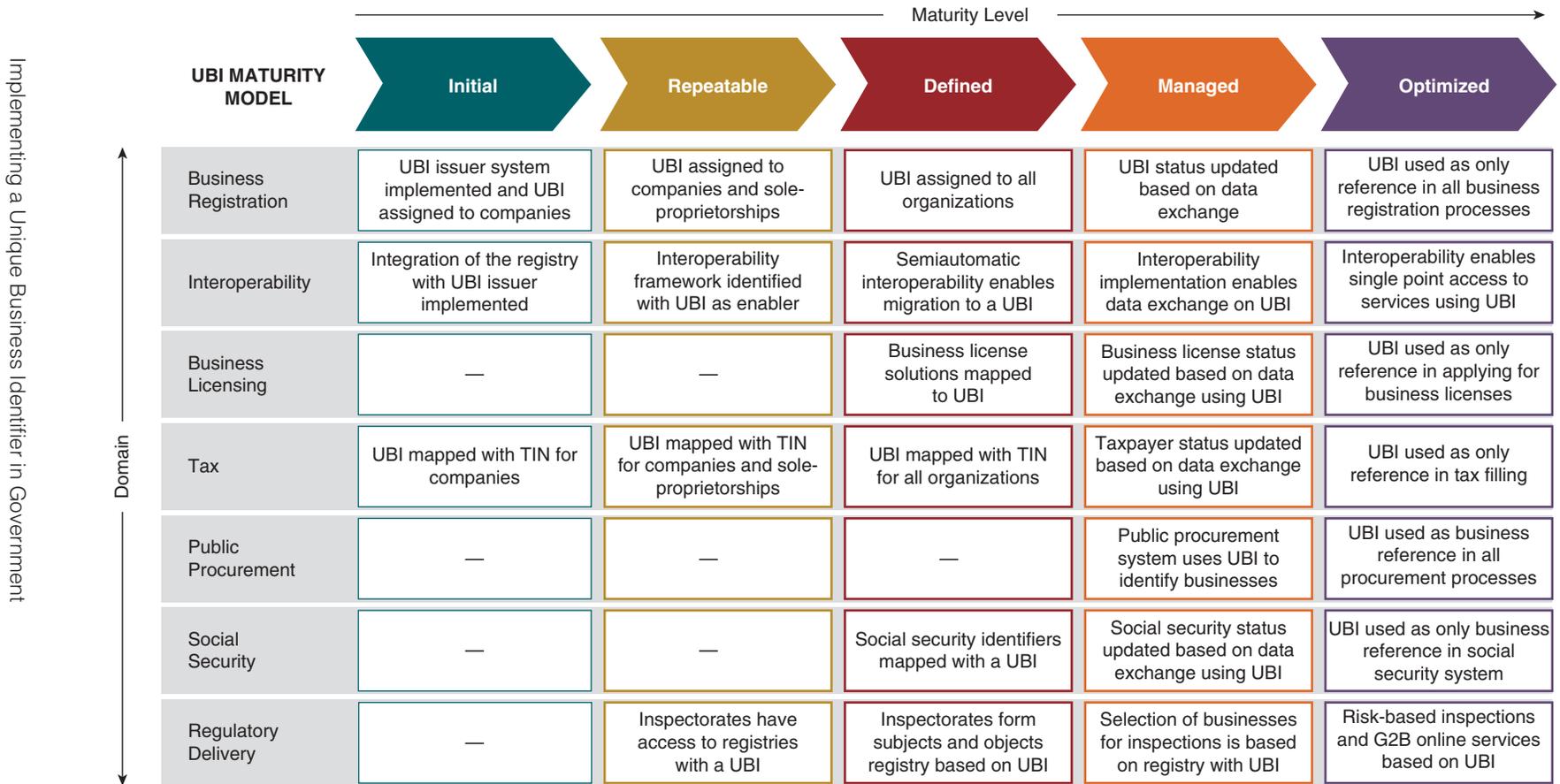
- Ensure the sustainability of the UBI solution by ensuring that the necessary resources for operations, digital preservation, technology improvements, and future enhancements are provided.

Figure 1.1 below presents a maturity model for UBI implementations based on the experiences of the countries analyzed for this note.

Conclusions

This note highlights the important legal, operational, and technical considerations for implementing a UBI across government and the approaches taken by different countries to ensure that their technology solutions met stakeholders' requirements and were technically and financially sustainable. The country experiences also provide valuable insight into the non-technological factors that must be addressed, including the importance of stakeholder engagement, capacity building, change management, and public communications to the success of these initiatives. The evidence collected in this analysis indicates that the successful implementation of the UBI is a significant contributor to larger efforts at streamlining and integrating G2B service delivery and reducing compliance costs for the private sector.

FIGURE 1.1 UBI Maturity Model



Source: Author.

Note: — = not applicable; TIN = tax identification number; UBI = unique business identifier.

Annex 1A UBI-Related Statistics

Table 1A.1 provides background context for each of the participating countries. The information includes the following:

- **2015 Doing Business Ranking.** The 2015 Doing Business ranking with the change from 2014 ranking within parentheses.
- **UBI Basis.** Indicates if another identifier was used as the basis for the unique business identifier (UBI).
- **Primary Organization.** The primary organization responsible for the implementation or management of the UBI.
- **Income level.** Based on 2011 gross national income per capita (GNIPC) and the following range definitions:
 - Low: \$1,025 or less
 - Lower middle: \$1,026 to \$4,035
 - Upper middle: \$4,036 to \$12,475
 - High: \$12,476 or more
- **Pop. (M).** Population in millions.
- **Impl. Year.** The year of initial implementation.
- **Number of UBIs Issued by Entity.** As reported by the countries, the number of UBIs issued and maintained by type of entity. In some instances, these numbers are estimated, while in others these are actuals as of a specific date and time.
- **Private Sector.** Indicates whether the private sector has access to the UBI-related information (N = no; Y = yes).

TABLE 1A.1 UBI-Related Statistics

Country	2015 DB ranking	UBI Basis	Primary organization(s)	Income level	Pop. (M)	Impl. year	Number of UBIs issued by entity					Private sector
							Companies	Trade names	Sole proprietors	Nonprofit	Other	
Albania	68 (+40)	TIN	National Registration Centre	Lower Middle	3.2	2008	22,968	n.a.	85,654	2,378	1,537	Y
Canada	16 (-1)	TIN	Canada Revenue Agency	High	35.6	1994	3,151,334	337,980	2,890,097	n.a.	199,281	N ^a
Georgia	15 (-1)	TIN	National Agency of Public Registry	Lower Middle	4.5	2006 ^b	155,065	2,670	388,804	20,007	5,775	Y
Jordan	117 (-1)	Multiple	Ministry of Industry and Trade; Companies Control Department; Free Zones Corporation	Upper Middle	7.0	2008	57,400	n.a.	100,000 ^c	720	480	Y
New Zealand	2 (0)	New	Ministry of Business, Innovation and Employment	High	4.5	2013	600,000	n.a.	400,000	21,035	171,157	Y
Norway	6 (0)	New	Brønnøysund Register Centre	High	5.1	1996	330,000	n.a.	130,000	n.a.	—	Y
Philippines	95 (-9)	Business Registration ID	Philippines Business Registry	Lower Middle	100.6	2010	n.a.	n.a.	944,897	n.a.	24,652	N
Rwanda	46 (+2)	TIN	Rwanda Revenue Authority	Low	12.0	2010	48,371	n.a.	16,716	n.a.	—	Y
Serbia	91 (-14)	Statistical ID	Serbian Business Registers Agency	Upper Middle	9.6	2005 2009	116,500	n.a.	215,000	n.a.	37,000	Y

Source: *Doing Business* dataset 2004–15, case study interviews.

Note: — = not available; n.a. = not applicable; DB = Doing Business; TIN = tax identification number; UBI = unique business identifier.

a. The Canadian Income Tax (ITA) limits the use of the Business Number (BN) and associated business information to government entities. Thus, the private sector has no legislative authority to require the disclosure of the BN; however, this does not prevent the private sector from requesting this information. The value of obtaining this information is unknown because the CRA does not permit the private sector to validate or query the CRA on the accuracy of the information disclosed by the business.

b. The implementation started in 2005, after the State Revenue Service took over the registration procedure from courts. The digitization of existing business registry was done between 2006 and 2007.

c. The total number of sole-proprietorships was estimated at 100,000 according to the last census done by the Department of Statistics and other information available on the Internet.

Annex 1B UBI Numbering Schemes

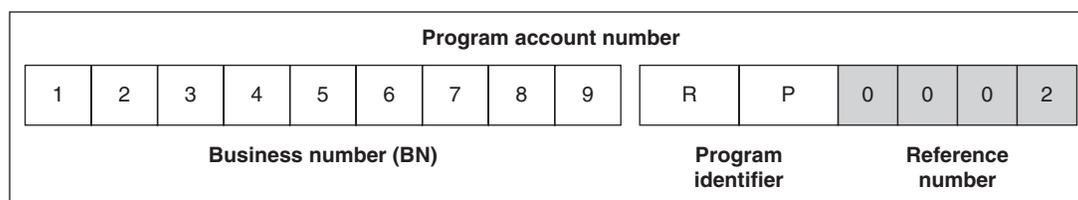
The following provides a sampling of the unique business identifier (UBI) numbering schemes used in some of the countries included in this study.

Canada

The Canada Revenue Agency Business Number (BN) (figure 1B.1) is made up of three parts:⁵

- A nine-digit BN (BN9) to identify the business at the national level;
- A two-letter “program identifier,” used to identify the program type, which includes information about the specific province and regulatory authority using this extended 15-digit identifier; and
- A four-digit reference number to identify each account a business may have within a program type, allowing for subsidiaries of businesses to be uniquely identified but still associated with parent companies.

FIGURE 1B.1 Canada Revenue Agency Business Number



Source: Canadian Revenue Agency, n.d.

Georgia

In Georgia, the UBI for companies is a nine-digit number. Sole traders are also assigned an ID, but their ID is the same as their personal identification number—an 11-digit number.

Jordan

The National Business ID (NBI) in Jordan is a nine-digit number that is provided by three main directorates based on the type of business (table 1B.1). The starting digit indicates which directorate assigned the number as well as the type of business.

TABLE 1B.1 Jordan’s National Business ID Number

Type of business	Directorate	Starting digit
Companies	Companies Control Department (CCD)	2
Sole proprietorships	Ministry of Industry and Trade (MIT)	1
Businesses under the jurisdiction of the Free Zones Corporation	Free Zones Corporation (FZC)	3

Source: Case study interviews.

New Zealand

The New Zealand Business Number (NZBN) is a new number using the Global Location Number (GLN) numbering system, which provides businesses with a number that is globally recognized on the basis of international standards. The use of the GLN standard has the additional benefit of enabling international supply network operations—as evidenced by the early adoption of the NZBN in the private sector to enable B2B transactions. The NZBN is a 13-digit number⁶ consisting of a New Zealand ID (always 94 to represent New Zealand), the 10-digit Business Entity ID, and a single check digit.

Annex 1C Doing Business Impacts

The following sections are supplied to indicate the potential impact that a unique business identifier (UBI) implementation has in relation to the Doing Business distance to frontier (DTF) indicator for each country. The starting a business, getting credit, and paying taxes DTFs were selected given typical alignment with a government's motivating factors for implementing a UBI.

Starting a Business DTFs and UBI Implementation Milestones

The implementation of a UBI in some of the participating countries appears to have a corollary impact on the country's starting a business DTF (figure 1C.1). Given the link between motivating factors (that is, streamlining business start-up and improving the business environment) and DTF, the benefits appear to have been realized.

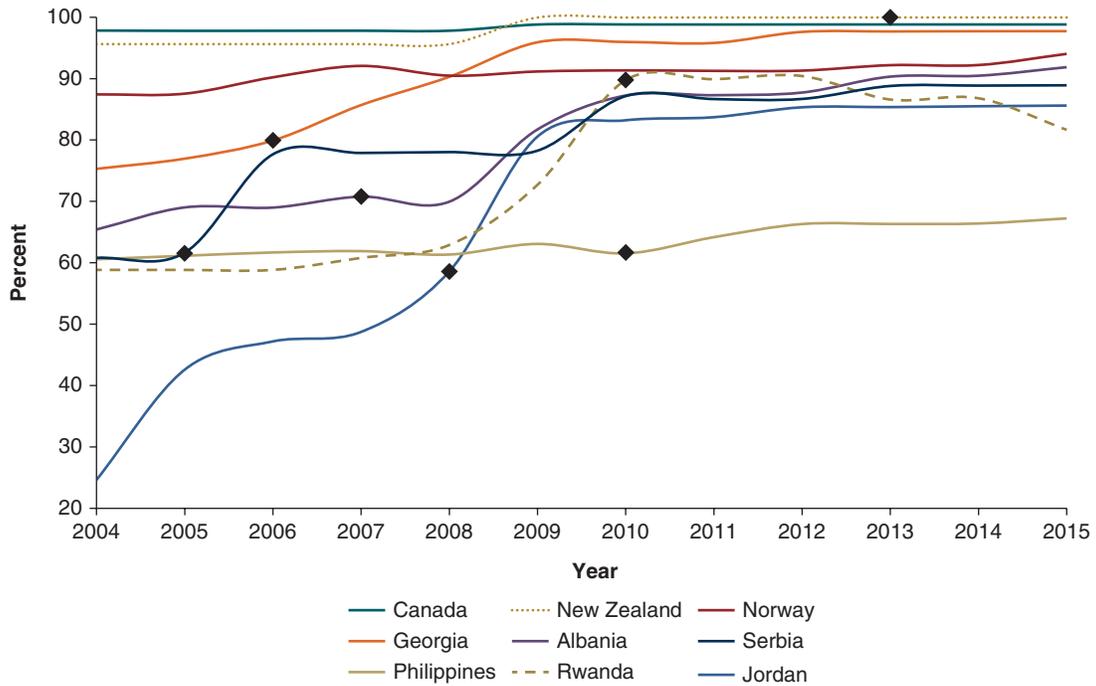
Getting Credit DTFs and UBI Implementation Milestones

Looking at the getting credit DTF indicator, there does not appear to be a corollary impact related to a country's UBI implementation (figure 1C.2). In fact, in some instances (for example, Albania and Serbia), there is a decrease in the country's "Getting Credit" DTF in the year following a UBI implementation. On the basis of the information collected through this study, there is insufficient evidence to identify the potential cause for these decreases.

Paying Taxes DTFs and UBI Implementation Milestones

Looking at the paying taxes DTF indicator, there does not appear to be a corollary impact in most countries related to their UBI implementation (figure 1C.3). The exception is Georgia, which implemented e-filing capabilities for all taxes in 2009, leveraging its UBI.

FIGURE 1C.1 Starting a Business DTFs and UPI Implementation Milestones

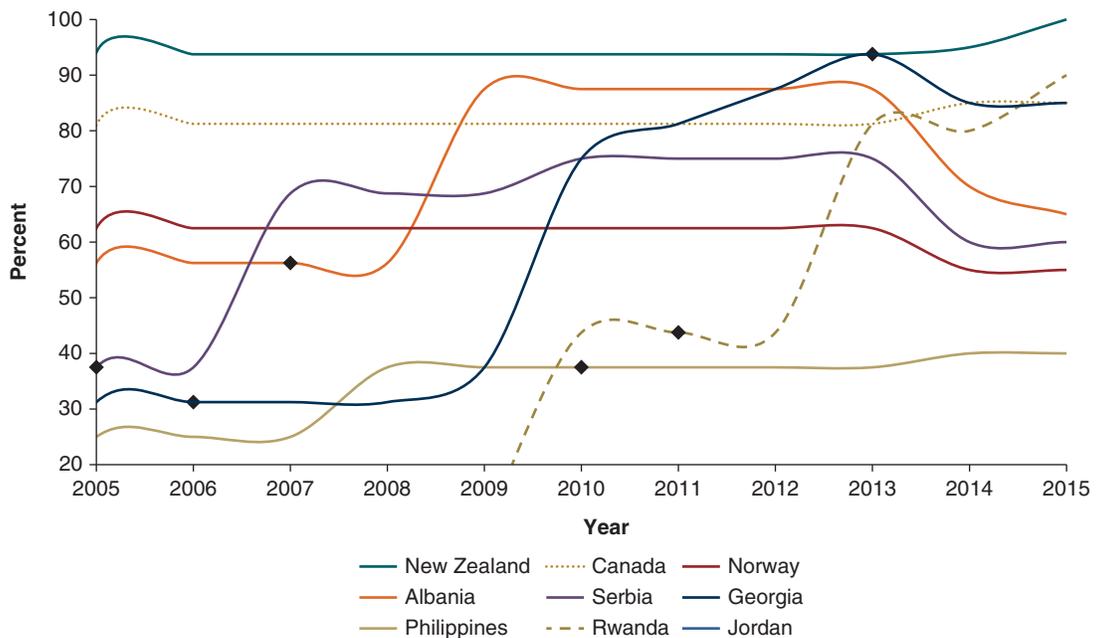


Source: Doing Business dataset 2004–15.

Note: DTF = distance to frontier; UBI = unique business identifier.

◆ Milestone markers are used to denote when the UBI was implemented for each of the countries. Please note that implementations in Canada and Norway predate the Doing Business surveys; thus, there are no milestone markers.

FIGURE 1C.2 Getting Credit DTFs and UPI Implementation Milestones

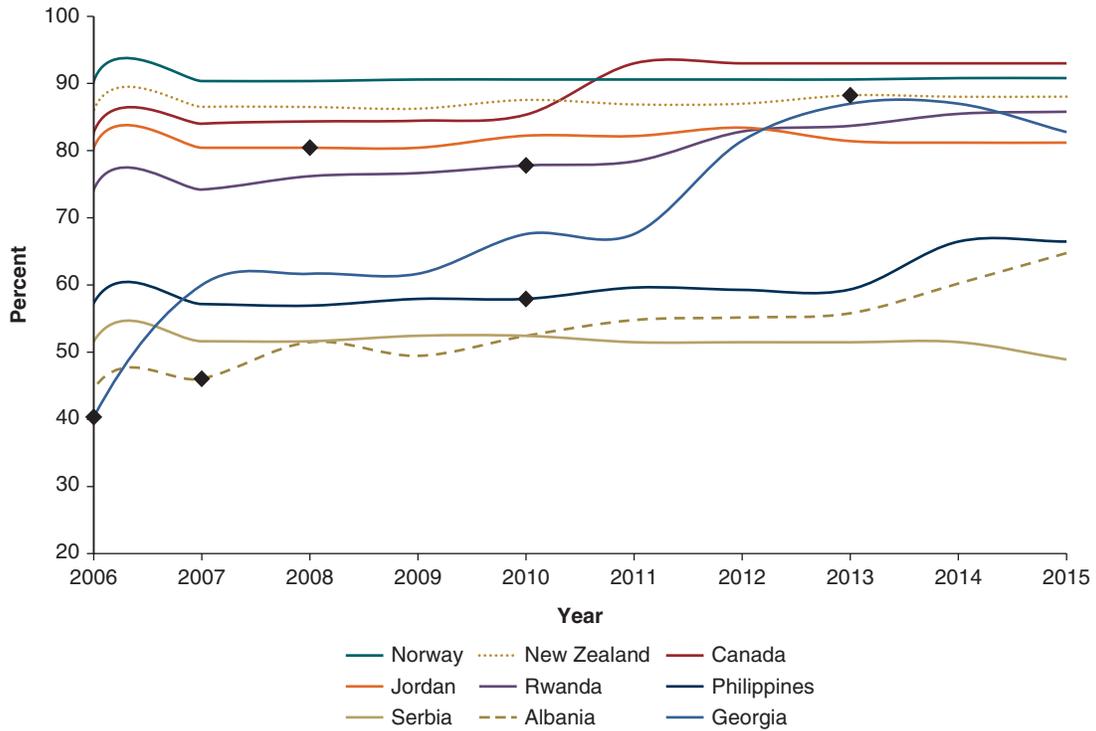


Source: Doing Business dataset 2004–15.

Note: DTF = Distance to Frontier; UBI = unique business identifier.

◆ Milestone markers are used to denote when the UBI was implemented for each of the countries. Please note that implementations in Canada and Norway predate the Doing Business surveys; thus, there are no milestone markers.

FIGURE 1C.3 Paying Taxes DTFs and UBI Implementation Milestones



Source: Doing Business dataset 2004–15.

Note: DTF = Distance to Frontier; UBI = unique business identifier.

◆ Milestone markers are used to denote when the UBI was implemented for each of the countries. Please note that implementations in Canada and Norway predate the Doing Business surveys; thus, there are no milestone markers.

Notes

1. “Data governance (DG) refers to the overall management of the availability, usability, integrity, and security of the data employed in an enterprise. A sound data governance program includes a governing body or council, a defined set of procedures, and a plan to execute those procedures.” <http://searchdatamanagement.techtarget.com/definition/data-governance>
2. <https://www.ssb.no/186162/urban-settlements.population-and-area-by-municipality.1-january-2013>
3. <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32013L0034>
4. In the Philippines, the efforts have been focused on sole proprietors, which are not reflected in the Doing Business Survey results.
5. <http://www.cra-arc.gc.ca/E/pub/tg/rc2/rc2-14e.pdf>
6. <https://www.nzbn.govt.nz/about-nzbn/what-are-nzbns>

2. Albania Case Study

Background

Albania is a parliamentary republic in southeastern Europe in the west of the Balkan Peninsula with a population of 3.162 million.¹ The gross national income (GNI) per capita is US\$ 4,700, and the income category is upper middle income.

Albania is ranked 68th out of 189 economies in the 2015 Doing Business report. Its ranking in the starting a business indicator is 41st, requiring 5 procedures and 4.5 days.² Albania is ranked 97th out of 144 economies in the World Economic Forum (WEF) Global Competitiveness Index 2014.³

According to the information from the Institute of Statistics of Albania (INSTAT 2015) at the end of 2015, Albania had 112,537 active business entities, of which 21,153 are limited liability companies and 85,654 sole proprietorships.

The unique business identifier (UBI) in Albania was introduced between 2005 and 2007 as part of a wider government program (under the Millennium Challenge Account Threshold Agreement, or MCATA), with goals to improve Albania's performance in the control of corruption, fiscal policy and business start-up indicators (see Chemonics International Inc. 2008). By establishing the National Registration Center (NRC) in 2007 as one-stop shop for business registration, the government is able to assign a UBI to any type of entity being registered at the NRC.⁴ The UBI is based on the former Tax Number (NIPT) and is still being issued by the General Directorate of Taxation (GDT); however, that is now done through the integrated business registration process at the NRC, allowing for simultaneous tax, social insurance, health insurance, and employment registration.

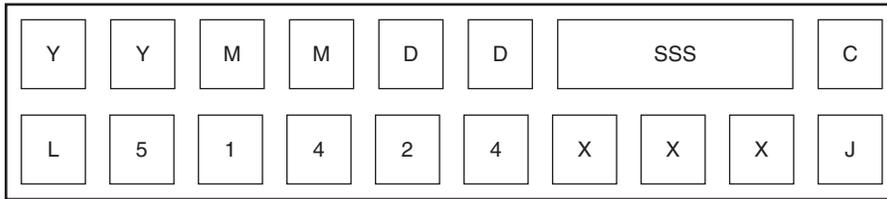
The UBI in Albania has 10 characters and is made up of three parts, as illustrated in figure 2.1:

- The first six characters represent a registration date, of which the first two represent a year (for example, L0–L9 is 2010–19, L5 is 2015, and L19 is 2019), the second two the region and month of registration (for example, for Tirana the range is between 13–24, 13 is Tirana in January and 24 is Tirana in December), and the last two a registration day.
- The next three digits represent a sequence number assigned according to an algorithm defined by the GDT.
- The last character is a checksum letter.

Organizational Approach

To manage the MCATA program implementation, a task force was established by the government, to be led by the prime minister. The agencies most involved in the Business Registration Project implemented within the MCATA

FIGURE 2.1 The UBI Structure in Albania



program were the Ministry of Economy, Ministry of Finance, and Ministry of Justice. At an operational level, during project implementation, the NRC worked extensively with the GDT, commercial courts and municipalities.

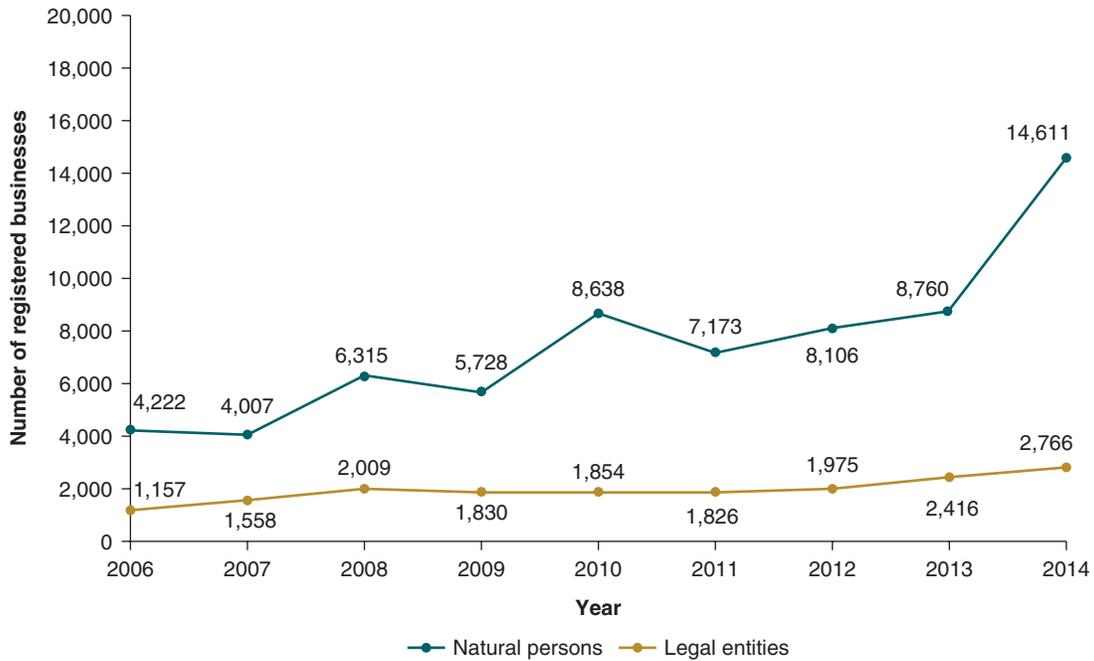
By establishing the NRC, the business registration in Albania has been transferred from the courts to an administrative procedure, contributing to Albania's 49-place improvement in the 2009 Doing Business rankings.⁵ The NRC began operations in September 2007 and, in addition to the headquarters in Tirana, operates 32 service windows across the country (in municipalities and regional Chambers of Commerce and Industry).⁶ The NRC service windows only serve to receive applications and dispense final papers, while the actual decision to approve or reject applications is performed centrally at the NRC office in Tirana. The NRC registration system allows businesses to be registered within 24 hours. According to the NRC Annual Report for 2014, 40 percent more businesses were registered in 2014 compared to 2013. As figure 2.2 shows, a similar increase in 2014 was recorded by INSTAT (2015), with exception that besides registrations done by the NRC the statistics also include a smaller number of entities that were registered only by the GDT.

The NRC information system enables online access to registry information (search and extract from the registry) as well as online application forms and status tracking. Following the implementation of electronic signatures, e-legislative changes passed in Parliament in February 2015, and implementation of the Government Interoperability Platform and e-Albania portal, the NRC now offers a range of e-services to businesses including the full online business registration and issuance of an electronic registration certificate.

Within the same government program (MCATA), the Business Licensing Project has been implemented that resulted in the formation of the National Licensing Center (NLC) in 2009. The NLC is a one-stop shop for licensing and administers applications for business licenses, permits, and authorizations.⁷ The NLC registry of licenses includes the UBI.

By establishing the National Agency on Information Society (NAIS) in 2007 (officially inaugurated in May 2008), the government of Albania provided a counterpart to the NRC and NLC, a national agency that became the e-government service center (Chemonics International Inc. 2008). The establishment of the NAIS enabled sustainability of the e-government

FIGURE 2.2 The Dynamics of Business Registration in Albania



Source: INSTAT 2015.

services implemented under the MCATA program and their further evolution that resulted with the e-Albania portal with a range of integrated e-services that use the UBI.

Legislative and Administrative Considerations

The NRC was established and functions based on Law no. 9723, dated May 3, 2007, “On the National Registration Center,” as a new Central Public Institution. According to Article 60 (“Unique Identification Number of the Entity”) in the Law, entities are given a unique identification number. The same article prescribes that the UBI is valid for the identification of the entity for the purpose of registration in the Register, as well as for the purpose of registration with the local and national tax authorities, the social security and healthcare schemes, and employment and for any other statistical or identification matter.⁸

The primary law governing the formation, operation, transformation, and termination of companies is Law no. 9901 “On Entrepreneurs and Commercial Companies,” effective as of May 21, 2008 (KPMG Albania Shpk 2014). This law regulates the status of entrepreneurs; the founding and managing of companies; the rights and obligations of founders, partners, members, and shareholders; and companies’ reorganization and liquidation.² According to the law on the National Registration Center,

all entrepreneurs and commercial companies that carry out business activity in Albania should register with the Commercial Register maintained by the NRC.

Implementation Approach

The establishment of the NRC included the following activities (see box 2.1 for an outline of the planned outcomes):

- Legislative changes (discussed within the previous section)
- Purchase of hardware for the main facility and the design of an integrated network system of regionally located service windows
- Preparation of standardized forms for business registration
- Implementation of the registry information technology (IT) platform
- Migration of existing registration records from commercial courts
- Development of service level agreements with municipalities and chambers

The IT platform at the NRC that includes the e-Register system and web portal was implemented using the commercial off-the-shelf (COTS) software product¹⁰ (discussed in annex 2C). The data exchange interfaces were established between the GDT and the NRC to enable issuance of the UBI and exchange of the registration records. For the registration of a new business entity, the UBI is delivered automatically from the GDT to the NRC using web services. The registration of a business with the NRC also includes integrated registration with the social and health insurance authorities and the labor inspectorate. The UBI is used for all these registrations. Figure 2.3 provides an overview of the revised process.

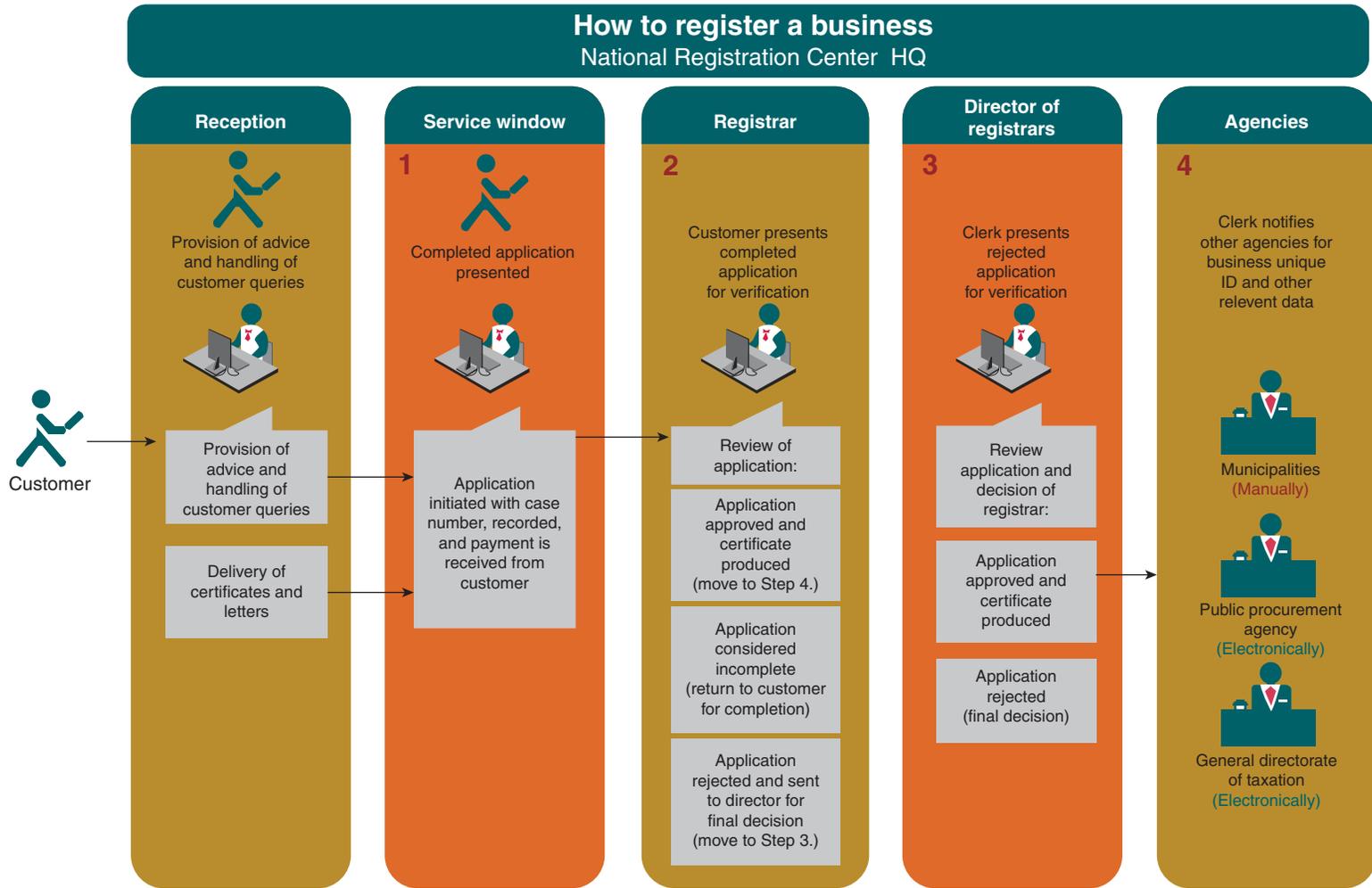
Implementation of a new business registration system required migration and digitization of existing registration records from commercial courts, which dated from 1991 and included over 1 million pages.

BOX 2.1 Planned Outcomes

The planned outcomes of the Business Registration Project include

- Streamlined business registration processes;
- Reduced cost and time required for business registration and related matters;
- Decreased administrative discretion in business registration;
- Decreased size of the informal economy;
- Improved fiscal posture through increased collection of taxes and social security contributions; and
- Reduced corruption in business registration and the judicial system.

FIGURE 2.3 Registration Process Guide, September 2008, Albania



The Business Registration Project was aligned with the national information and communication technology (ICT) strategy and framework for 2008–13. The Strategy on the Information Society was approved by the Council of Ministers by Decision No. 59 dated January 1, 2009. The Cross-Cutting Strategy, among other initiatives, has followed the eSEE Agenda Plus (Regional Cooperation Council, Electronic South Eastern Initiative 2007) that puts emphasis on the development of the national interoperability frameworks in the context of the European Interoperability Framework (EIF).

Challenges Encountered

The following challenges were encountered within the Business Registration Project that implemented the UBI in Albania:

- Resistance to transforming registration into a purely administrative process, mostly by lawyers and the courts. Also, certain institutions were reluctant to forgo their powers. For example, support of the GDT for the reform was secured partly because the tax ID was selected as the UBI and continues to be issued by the GDT, although now as a part of the one-stop registration procedure provided by the NRC.
- Linking the new NRC registration system with the legacy systems of the GDT and other registration agencies, so that information in these agencies could be updated daily.
- Transfer, automation, and integration of existing registration records, which dated from 1991.
- Lack of internal capacity within the NRC, which required intensive capacity building.

Three critical success factors were identified:

- Government showed great persistence and commitment to achieving project goals.
- Government put in place new policies, created new institutions, and reoriented other institutions toward the efficient delivery of public services.
- Government emphasized the use of IT to improve the transparency and efficiency of public services.

Benefits Realized

The following benefits have been realized as a result of the integrated registration and implementation of the UBI:

- Reduced time to register a business from 25 days to 1 day.
- Increased efficiency and customer service through the integrated registration procedure, including tax registration, registration for social insurance and health insurance, and registration with the labor inspectorate.

- Increased transparency in government and the private sector, including publicly available company information and financial statements.
- Increased data sharing across government agencies and implementation of a range of government e-services over the e-Albania portal that use the UBI (application for a business license, company information and financial statements, and online business registration).

Summary

Reform of the business registration process in Albania was a significant step toward achieving the overall goal of improving the business environment. The introduction of the NRC and implementation of the UBI produced a streamlined, less expensive, and faster process for business registration, allowing for simultaneous tax, social insurance, health insurance, and labor directorate registration, using a single, standardized application procedure and a UBI issued to all business entities.

The success of the introduction of the NRC is reflected in significant improvements on a series of indicators, including the World Bank's Doing Business Indicators. As a result of the reform, Albania was named as "Top Reformer of the Year" for 2009 by Doing Business. The improved environment for business registration led to a surge in new business registrations after the NRC was implemented in 2007, posting an initial annual growth rate of close to 20 percent (Melikyan 2012). Table 2.1 shows the indicators, baseline, target, and reported results by the Albania Threshold Programs.

The Business Registration project and the UBI implementation provided the ability for the implementation of the e-Albania portal and the Government Interoperability Platform, which enabled the integrated e-government services in Albania.

TABLE 2.1 Indicators, Baseline, Target, and Reported Results of Business Entry and Registration

Indicators	Baseline	Target	Reported result
Number of laws reviewed, drafted, revised, or amended	0	29	29
Level of NRC staff knowledge as reported by NRC customers	0	90%	89%
Total volume of services rendered through NRC	0	32,000	42,015
Number of change applications processed by NRC	0	5,000	11,685
Number of days required to register a business	47	1	1
Percentage of business registrations completed within one day	0	86	85
Total registration cost as percentage of income from capita	31	13	6
Number of NRC website visitors	0	2,000	9,052
Percentage of businesses aware of new laws, procedures	0	75	96
Percentage of businesses that paid a bribe to register	19	5	0

Source: Melikyan 2012.

Note: NRC = National Registration Center.

Annex 2A Registered Entities

The data presented in table 2A.1 are as of the end of 2014 according to the Institute of Statistics of Albania (INSTAT 2015).

The Commercial Registry at the National Registration Center (NRC) collects the following information (NRC 2014)

- Entity identification (unique business identifier [UBI], name)
- Information on establishment (registration date)
- Value of the capital subscribed and the number and value of shares
- Business type
- Any change in business status
- Business activity
- Location
- Authorized representatives
- Other information according to the law

Table 2A.2 shows information maintained centrally at the NRC in relation to the UBI.

TABLE 2A.1 Registered Entities, 2014

Business entity type	Number of entities
Natural persons exercising a commercial economic activity	85,654
Legal entities	26,883
Limited liability company	21,153
Joint stock company	874
Public enterprise (no JSC)	941
Public administration	768
NGO, international organization	2,378
Other companies	769

Source: INSTAT 2015.

Note: JSC = joint stock companies; NGO = nongovernmental organization.

TABLE 2A.2 Information Maintained by the National Registration Center

Information	Contained in the UBI solution
Business name	Yes
Business addresses	Yes
Industry sector(s)	Yes
Officers	Yes
Directors	Yes
Beneficial owners	Yes
Country of origin	Yes
Foreign business identifier(s)	Yes

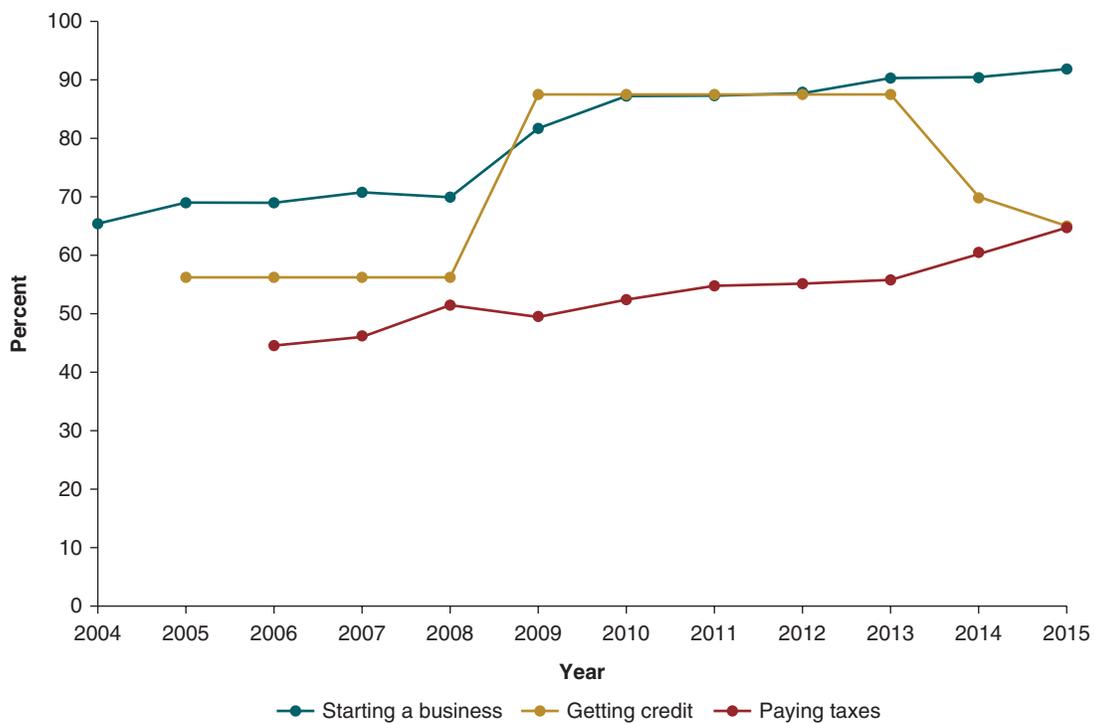
Source: Case study interviews.

Note: UBI = unique business identifier.

Annex 2B Doing Business Distance to Frontier

Figure 2B.1 provides an overview of Albania’s distance to frontier (DTF) measurement. The DTF shows the distance of each economy to the “frontier,” which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005 (please see <http://www.doingbusiness.org/data/distance-to-frontier> for further details).

FIGURE 2B.1 Distance to Frontier—Albania



Source: Doing Business dataset 2004–15.

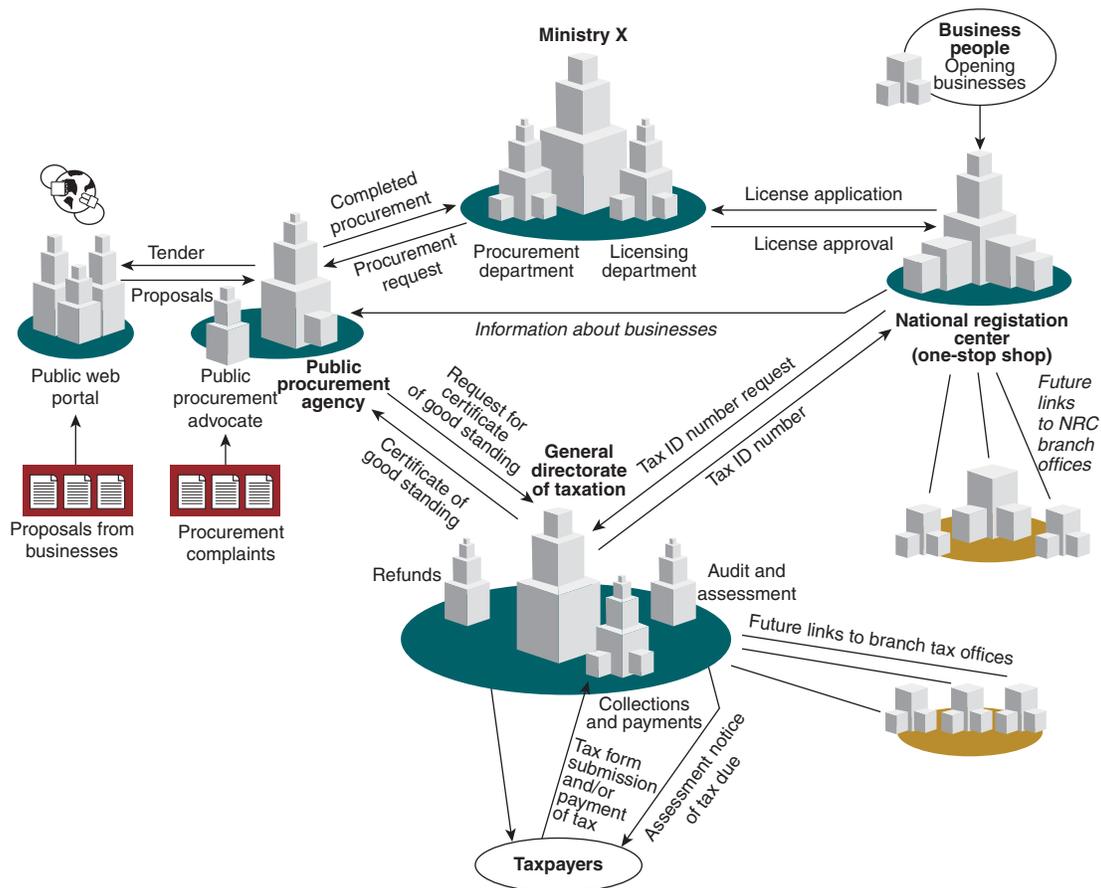
Note: Unique business identifier introduced between 2007 and 2008.

Annex 2C Architecture and Technology

At the National Registration Center (NRC), the e-Register software application supports the back office registration process. It resides on the NRC local area network (LAN) and the service windows in municipalities are connected via wide area network (WAN). The system also includes a public portal (www.qkr.gov.al) as well as a series of web services that facilitate data transmission between the NRC and the Public Procurement Agency (PPA), the General Directorate of Taxation (GDT), and the National Licensing Center (NLC).¹¹ The technology used consists of Web Assembler.NET® Application Server from the DotGov Solutions (formerly Alfa XP Web Software Alpha XP BPMS COTS platform), Microsoft Windows 2003 Server (Standard Edition), and Microsoft SQL Server 2008 (Standard Edition).

The National Agency on Information Society (NAIS), supported by the European Union (EU), has implemented the Government Gateway project

FIGURE 2C.1 Integration of Public Administration, Albania, September 2008



Source: Chemonics International Inc. 2008.

that coordinates, stores, and monitors the states of different kinds of electronic messages that are exchanged between information technology (IT) systems and between the main portal and IT systems.¹² This architecture is based on a messaging mechanism that can integrate systems capable of exposing services to citizens and businesses through a main government portal called e-Albania. This government portal (at e-Albania.al) is a single access point for all the information on services for citizens, businesses, and government employees. The technology used consists of MS BizTalk Server 2010, ESB Toolkit 2.1, SharePoint Server 2010, Windows Server 2008, MS SQL Server 2008, Visual Studio 2010, and SOAP v1.2WCF. See figure 2C.1 for a graphic overview of the overall service integration architecture.

Notes

1. <https://data.un.org/CountryProfile.aspx?crName=ALBANIA>.
2. <http://www.doingbusiness.org/data/exploreeconomies/albania>.
3. <http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/>
4. There are also other entities that are registered at the GDT such as: nonprofit organizations, representatives of foreign embassies, national public entities or local enforcement units, representatives of nonresident taxpayers, persons self-employed in trade or ambulance service, entities that employ individuals such as housekeepers and tutors, as well as farmers.
5. Doing Business 2009, available at <http://www.doingbusiness.org/reports/global-reports/doing-business-2009>.
6. A list of the NRC service windows is available at <http://www.qkr.gov.al/nrc/DegetQKR.aspx>.
7. Licenses and permits have been issued through the NLC from the establishment (2009), while the inclusion of authorizations to the NLC system is planned by end of September 2015.
8. The complete list of legislation regarding business registration can be found at <http://www.qkr.gov.al/nrc/LigjeQeAplikohen.aspx> and on licenses, permits and authorizations issuing at http://www.qkl.gov.al/Nlc_Legislation.aspx.
9. http://aida.gov.al/?page_id=1420.
10. From DotGov Solutions (formerly Alfa XP Web Software, <http://www.dotgovsolutions.net/solutions/>).
11. <http://www.ikubinfo.al/completed-projects/national-registration-center.aspx>.
12. <http://www.ikubinfo.al/completed-projects/interoperability-for-albanian-governement.aspx>.

3. Canada Case Study

Background

Canada is a high-income nation, with a federal parliamentary government comprising 10 provinces and three territories and a population of 35 million people. Although Canada has not implemented a unique business identifier (UBI), the use of the Canada Revenue Agency's (CRA's) Business Number (BN) across business programs, at all levels of government, has given the BN the look and feel of being the UBI for Canada. There are currently 6.5 million businesses (sole proprietorships, partnerships, corporations, trusts, associations, societies, religious bodies, unions, universities/schools, hospitals, financial institutions, and municipal governments) in Canada.

Canada ranks 16th out of 189 economies in the 2015 Doing Business report¹ and second in the starting a business indicator, requiring only one procedure to register a business. In the World Economic Forum (WEF) Global Competitiveness Index 2014,² Canada ranks 14th out of 144 economies.

The BN was first introduced in 1994 by the CRA to identify its core business programs, including Corporation Tax, Goods and Services Tax (GST), Harmonized Sales Tax (HST), and Payroll Tax. Since its initial implementation as a tax program identifier, the service has evolved to include three federal programs, six provinces, and one municipality, which have adopted the BN to provide integrated registration, reduce the administrative burden on businesses, and uniquely identify businesses within their regulatory jurisdictions.

The BN is made up of three parts, as shown in figure 3.1. (CRA, n.d.):

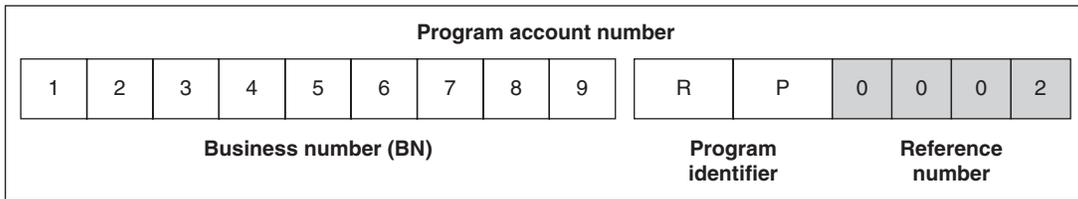
- A nine-digit BN (BN9) to identify the business at the national level
- A two letter “program identifier,” used to identify the program type, which includes information about the specific province and regulatory authority, using this extended 15-digit identifier
- A four-digit reference number to identify each account a business may have within a program type, allowing for subsidiaries of businesses to be uniquely identified but still associated with parent companies

Currently, there is an initiative underway to investigate the ability to fully leverage the BN as a UBI within Canada—a testament to the evolutionary aspect of the UBI journey in Canada.

Organizational Approach

The CRA was the sole government entity involved in the implementation of the BN in the early 1990s. Within the CRA, the BN required the introduction of both headquarters and field office units to support the policy and operational administration of the BN within CRA; this function has subsequently evolved to support the BN partners as well.

FIGURE 3.1 Canada Revenue Agency Business Number



Source: CRA, n.d.

Today, the CRA leads the operational organization and has created two committees, comprising partner representatives, to govern strategic and operational aspects of the BN:

1. The **BN Partnership Committee** includes director-level participation across the jurisdictional members and meets twice per year to discuss strategic topics.
2. The **BN Operational Committee**, comprising partner/jurisdictional operational management, meets monthly to discuss day-to-day issues and topics as necessary.

Currently, the BN Partners include Industry Canada (IC); Public Works and Government Services Canada (PWGSC); the Canada Borders Services Agency (CBSA); the provinces of British Columbia, Saskatchewan, Manitoba, Ontario, New Brunswick, and Nova Scotia; and the municipality of Winnipeg in Manitoba.

Legislative and Administrative Considerations

As previously noted, the CRA required additional staff to manage policy and operational needs of the BN. The federal Income Tax Act (ITA),³ Excise Tax Act,⁴ and Excise Act 2001⁵ did require amendments to allow the BN and associated information, which is defined as taxpayer information, to be provided to other government entities.

In addition to federal legislative changes, each implementing partner/program must also assess its legislative instruments to determine what changes are required to allow it to receive the BN and associated business information from the CRA. For example, the Province of Nova Scotia originally enacted the Business Electronic Filing Act⁶ and the Business Registry Regulations⁷ to allow programs to adopt and use the BN and related information.

Implementation Approach

Essentially a tax identifier, the BN is commonplace within the programs (for example, corporation tax, GST, HST, and payroll) of the CRA; however, as time has passed, the BN has been adopted by other government entities at all levels of government. While the implementation and migration differs by

partner, guidelines and services have been developed to assist partners adopt the BN, including the following:

- Advice on the order of adopting programs (incorporating bodies, business/company registry, tax, workers' compensation)
- Estimated implementation timelines
- Data mapping and search services
- Architecture (application, communications, and information) requirements
- Operational responsibilities

Additionally, the CRA works with each new partner to guide it through the process and provides services to assist in data matching (automated or manual) and testing. Regarding data matching, CRA will work with partners to match existing business entities to records within CRA based on the partner's information. The partner itself may not have recorded (or been permitted to record) the BN. Therefore, matching may be based on business entity names, addresses, officers, and so on. Once a match has been identified, the BN partner sends an electronic message to the CRA to request that a 15-digit BN be created for each client record.

The CRA BN architecture is multilayered hub and spoke with the CRA acting as the hub and each province, territory, or federal partner as a spoke on the wheel. Provincial programs, including municipalities, within each province or territory must connect through the provincial or territorial hub. The CRA's recommendation is that the provincial or territorial incorporating authority—or the business or company registry—be one of the first programs to adopt the BN because they are a primary information source on business life events. However, partners have elected to begin with other programs because of their state of readiness or funding issues.

The CRA BN communications architecture allows for bidirectional communication (through web services and message queues) between the spokes and the hub to maintain information related to businesses, including business name, business trade name, business status, director information, and program status. Programs that have adopted the BN retain the ability to access and modify their program-specific data within their own systems, but updates to the BN are limited to authoritative sources and the CRA.

Currently, the BN information (in particular, owner information) is not linked to any national individual identifier, nor is it used in the private sector such as in credit registries or mortgage or moveable collateral registries. However, the BN is widely used by business for interacting with government counterparts such as company registries, workers compensation and safety agencies, and licensing, permitting, and inspection agencies.

Challenges Encountered

The CRA and its BN partners experience issues in being unable to share the BN and associated business information among all business programs that would like access to this information. The ITA limits the use of the BN and

associated business information, which is considered taxpayer information, to government entities (see box 3.1 for definition). This means that the private sector has no legislative authority to require the disclosure of the BN—neither the CRA nor any of the BN partners provide a means to search by or for the BN. However, this does not prevent the private sector from requesting this information. The value of obtaining this information is unknown because the CRA does not permit the private sector to validate or query the CRA on the accuracy of the information disclosed by the business.

Additionally, each new partner that wishes to use the BN as its identifier must make legislative changes to be able to receive this information from the CRA. For example, the Province of Nova Scotia originally enacted the Business Electronic Filing Act⁸ and the Business Registry Regulations² that limited, by act, the programs that could use the BN. Nova Scotia is currently reviewing this legislation to enable broader usage by government entities.

Finally, since its inception in 1994 and initial adoption by Nova Scotia in the late 1990s, other partners have adopted the BN. However, a clear set of partnership models that governed the relationship, services, data model, and business rules was not initially developed; as a result, there have been a number of custom integrations across all aspects of the technology solution to accommodate partner requirements. CRA is working toward creating standardized models to more effectively integrate new partners.

BOX 3.1 Government Entity Definition

According to the Income Tax Act, p 3021-2, *government entity* means

- (a) A department or agency of the government of Canada or of a province,
- (b) A municipality in Canada,
- (c) An aboriginal government,
- (d) A corporation all of the shares (except directors' qualifying shares) of the capital stock of which are owned by one or more persons each of which is
 - (i) Her Majesty in right of Canada,
 - (ii) Her Majesty in right of a province,
 - (iii) A municipality in Canada, or
 - (iv) A corporation described in this paragraph, or
- (e) A board or commission, established by Her Majesty in right of Canada or Her Majesty in right of a province, that performs an administrative or regulatory function of government, or by one or more municipalities in Canada, that performs an administrative or regulatory function of a municipality.

Benefits Realized

The success of the BN, even with challenges related to government entity usage and legislative change, has enabled the CRA and its partners to realize numerous benefits:

- Reduced time to register a business through integrated registrations with partners. Businesses can incorporate or register with a jurisdiction, and basic business information is transmitted to the CRA to complete program registration. Conversely, after registering with the CRA, businesses can also register or apply for Ontario, Nova Scotia, and British Columbia program accounts.
- Reduced administrative burden for entrepreneurs by allowing businesses to spend less time dealing with government and more time building their business and creating jobs. Over 100 program areas have adopted the BN across Canada. The number of programs that have adopted the BN varies across the provinces, as highlighted in table 3.1.
- Increased government efficiency—the business community is supportive of initiatives that result in a leveling of the playing field and better service.
- Increased data sharing among participating programs within the legislative framework. In some provinces (for example, British Columbia, Manitoba, and Nova Scotia), the BN is used as the identifier across workers' compensation and safety agencies, and licensing, permitting, and inspection solutions to reduce duplicate data entry and identify potential compliance issues.

With a continued adoption of the BN by agencies, the benefits realized are expected to grow.

TABLE 3.1 Program Adoption as of 2014

Partner	Programs
CRA	12
PWGSC	1
Industry Canada	1
CBSA	1
British Columbia	26
Saskatchewan	8
Manitoba	7
Winnipeg, Manitoba	1
Ontario	17
New Brunswick	11
Nova Scotia	55

Source: Case study interviews.

Note: CBSA = Canada Borders Services Agency; CRA = Canada Revenue Agency; PWGSC = Public Works and Government Services Canada.

Summary

The BN was implemented to provide business entities with a simplified, accessible, and faster process to register with the CRA—to facilitate reduction of red tape for businesses. Although the use of the BN is not mandated, the CRA regularly receives inquiries from potential partners (typically the remaining provinces and territories, and larger municipalities) as they are embarking on other initiatives (for example, back office redesign or enhancements, online portals, and so on) where an existing UBI could be used or leveraged to meet their objectives.

Finally, the CRA is involved in a federal initiative related to increasing the adoption of the BN by federal government departments and programs that may see the realization of the BN as a truly common business identifier—the BN and its associated information being the foundation of a business entity’s identity.

Annex 3A Registered Entities

Table 3A.1 shows statistics as of the end of fiscal year 2013/2014 (that is, March 31, 2014).

TABLE 3A.1 Registered Entities

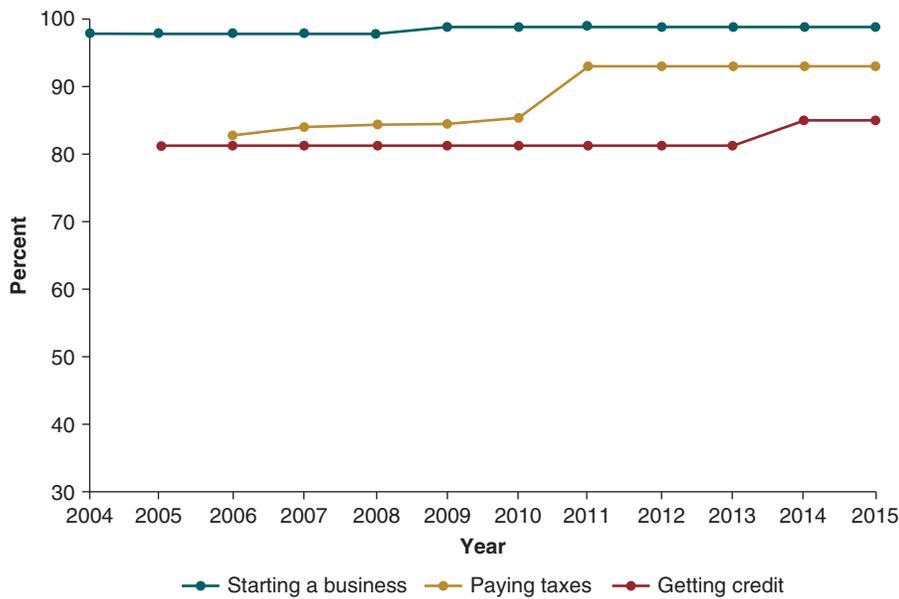
Business entity type	Number of entities managed
Corporations/companies	3,151,334
General partnership/trade name	337,980
Sole proprietor/trader	2,890,097
Association, society, religious body, union, university/school, hospital, financial institution, municipal government, and other	199,281

Source: Case study interviews.

Annex 3B Doing Business Distance to Frontier

Figure 3B.1 provides an overview of Canada’s distance to frontier (DTF) measurement. The DTF shows the distance of each economy to the “frontier,” which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005 (please see <http://www.doingbusiness.org/data/distance-to-frontier> for further details). As noted in the figure and throughout this case study, the CRA BN (Canada’s UBI) was introduced in 1994 – which predates the Doing Business indicators.

FIGURE 3B.1 Distance to Frontier—Canada



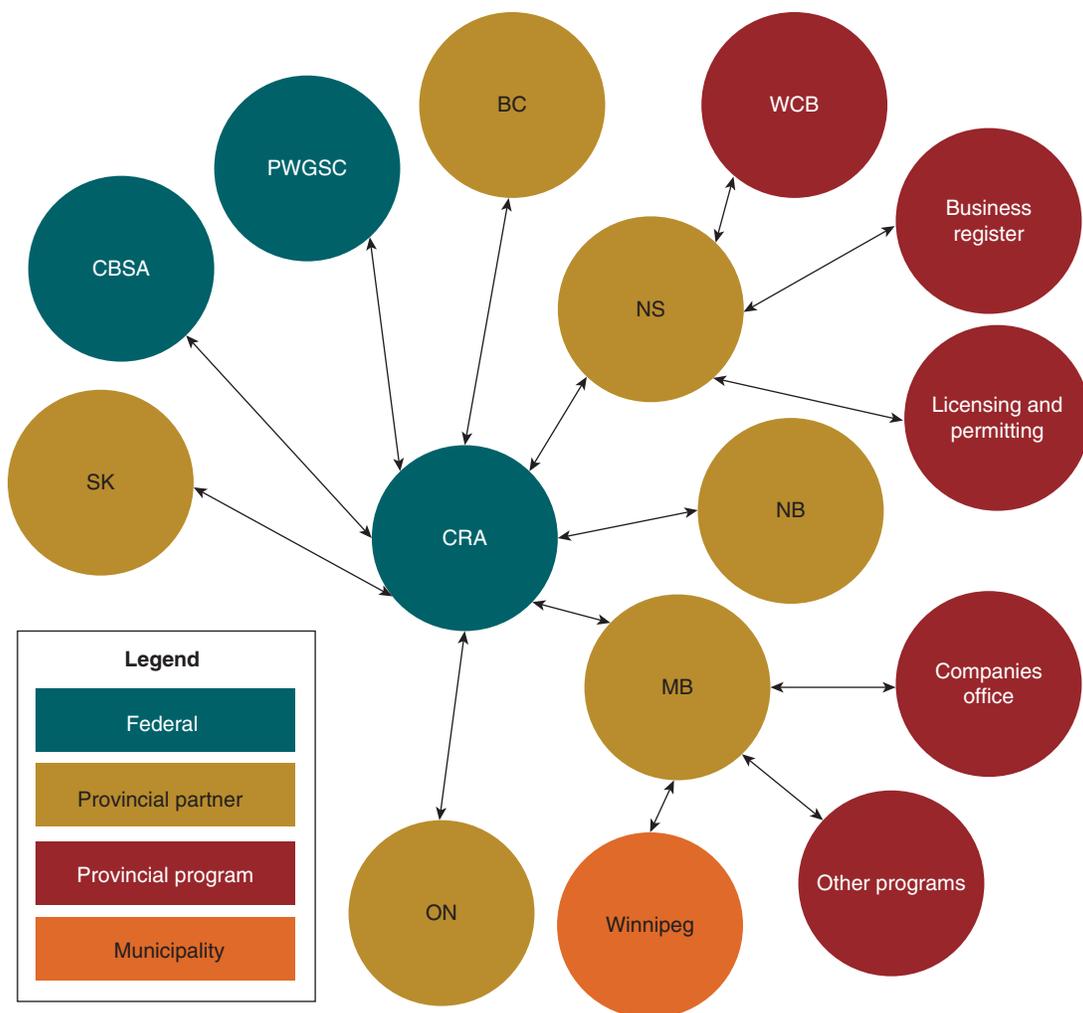
Source: Doing Business dataset 2004–15.

Note: UBI = unique business identifier. UBI introduced in 1994.

Annex 3C Architecture and Technology

Figure 3C.1 provides a high-level overview of the multilayered, hub-and-spoke architecture employed in Canada to provide the unique business identifier (UBI) (that is, the Canada Revenue Agency Business Number, or CRA BN). The technology landscape is diverse given that there are multiple levels of government and various organizations involved in the

FIGURE 3C.1 Conceptual Representation of the CRA BN Hub-and-Spoke Architecture



Source: Author.

Note: BC = British Columbia; BN = Business Number; CBSA = Canada Borders Services Agency; CRA = Canada Revenue Agency; MB = Manitoba; NB = New Brunswick; NS = Nova Scotia; PWGSC = Public Works and Government Services Canada; SK = Saskatchewan; WCB = Workers Compensation Board.

overall architecture; however, the technologies employed to facilitate maintenance of the BN between the CRA and the first layer of the architecture include:

- Web services for communications from data partners to the CRA
- Message queues to push updates from the CRA to data partners
- Public-key infrastructure for message-level encryption
- Secure Sockets Layer (SSL)/Transport Layer Security (TLS) for transport-level encryption
- Web application, called Automated Provision of Information, which provides data partners with the ability to search for the BN.

Annex 3D Business Number Implementation Timeline

The following timeline identifies the key dates in the continuing evolution of the Business Number (BN):

- 1994—BN was introduced by the Canada Revenue Agency (CRA) and included the following four program lines:
 - Goods and Services Tax (GST)
 - Payroll
 - Importer/Exporter (CRA no longer administers—now with Canada Borders Services Agency [CBSA])
 - Corporations
- 1998—Industry Canada began using the “RC” program identifier to register corporations (Corporations Canada).
- 1999—Public Works and Government Services Canada (PWGSC) began using the BN for contract procurement numbers (“PG”).
- 1999—Nova Scotia became the first province to onboard with the registration of corporations and two programs related to the Workers Compensation Board.
- 2002—New Brunswick adopted the BN for its corporate registry.
- 2003—Manitoba began using the BN as its common identifier for retail sales tax, corporations, and the Health and Post Secondary Education Tax Levy.
- 2003—British Columbia came on board with two programs related to Work Safe BC.
- 2008—Ontario began using the BN for the collection of the retail sales tax, followed by the employer health tax.
- 2012—Saskatchewan began using the BN as the identifier for its corporate registry.
- 2013—The City of Winnipeg, Manitoba, became the first Canadian municipality to use BN as a common identifier.

Notes

1. <http://www.doingbusiness.org/data/exploreeconomies/canada/>
2. <http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/>
3. <http://laws.justice.gc.ca/eng/acts/I-3.3/>
4. <http://laws-lois.justice.gc.ca/eng/acts/e-15/>
5. <http://laws-lois.justice.gc.ca/eng/acts/E-14/>
6. <http://nslegislature.ca/legc/statutes/buselect.htm>
7. <http://www.novascotia.ca/just/regulations/regs/befregis.htm>
8. <http://nslegislature.ca/legc/statutes/buselect.htm>
9. <http://www.novascotia.ca/just/regulations/regs/befregis.htm>

4. Georgia Case Study

Background

Georgia is a democratic republic situated at the crossroads of Western Asia and Eastern Europe. It is bounded to the west by the Black Sea, to the north by Russia, to the south by Turkey and Armenia, and to the southeast by Azerbaijan. The population of Georgia is 4.476 million,¹ the gross national income (GNI) per capita is US\$3,570, and the income category is lower middle income.

Georgia ranked 15th out of 189 economies in the 2015 Doing Business report.² The ranking in the starting a business indicator is fifth, requiring two procedures and two days to start a business. Georgia is ranked 69th out of 144 economies in the World Economic Forum (WEF) Global Competitiveness Index 2014.³

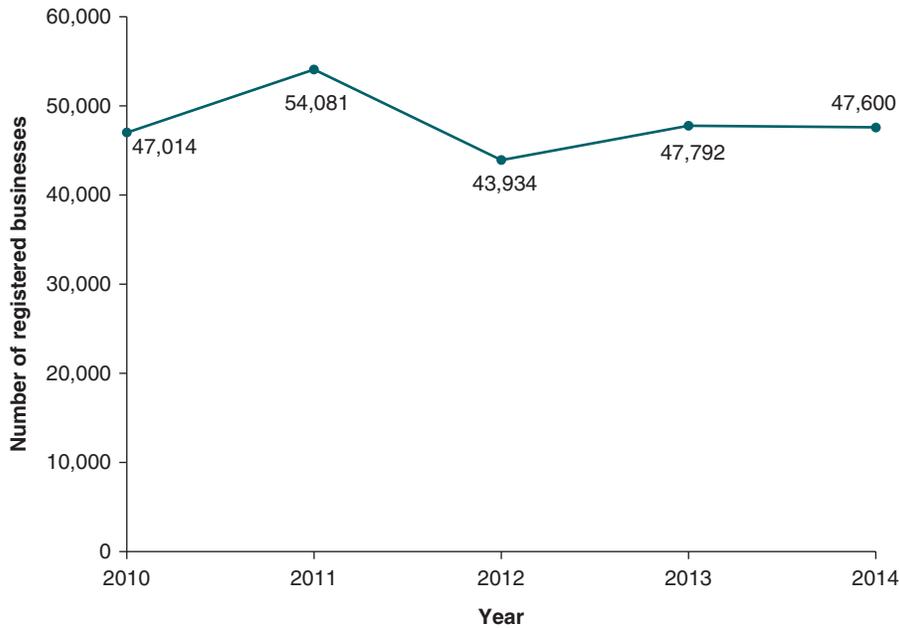
According to information received from the National Agency of Public Registry (NAPR), in the first quarter of 2015, Georgia had 155,065 companies, 388,804 sole proprietorships, 20,007 nonprofit companies, and 8,445 other entities.

The unique business identifier (UBI) in Georgia was introduced as part of a wider government program, which started with the Business Registration Reform Project in 2006. Besides the business registration reform, the program included the establishment of the centralized tax system in Georgia, digital civil registry, digital property registry, development of the Georgian Governmental Network and establishment of the Data Exchange Agency (DEA) (Gvenetadze 2011). One of the key issues tackled in the Business Registration Reform Project was the practice of issuing two unique identification numbers to every business at registration (Chemonics International Inc. 2009).

When the project started, the responsibility for business registration had just been transferred from the courts to the former Ministry of Finance Tax Department, transforming business registration from a judicial to an administrative procedure. However, starting a business in that time still required that both business and tax registration be done as two separate administrative procedures, resulting in the issuance of two business identifiers to every business. The registration required two (largely redundant) application procedures and involved a laborious process of 21 days, requiring eight documents, notarization, payment of minimum capital, and fabrication of an official company seal, resulting in the low rate of business registration in Georgia. As a result of the transfer of business registration to the State Revenue Service (SRS) as well as the unification and the streamlining of the business and tax registration processes, Georgia witnessed a significant increase in the number of businesses registered: from 222,421 on October 1, 2005 to 370,902 by May 31, 2009, for an increase of 67 percent. Figure 4.1 shows the annual growth since NAPR was established in 2010.

This was followed by establishment of the NAPR under the Ministry of Justice, which from 2010 took over the registration of sole proprietorships and

FIGURE 4.1 The Dynamics of Business Registration at NAPR



Source: napr.gov.ge.

Note: NAPR = National Agency of Public Registry.

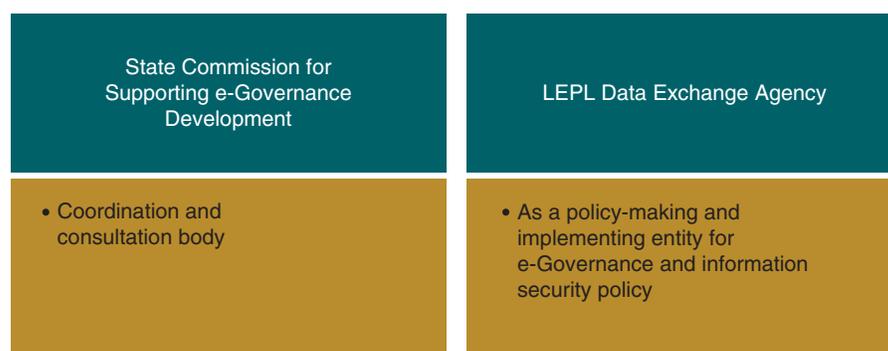
other legal entities (for example, limited liability companies, joint stock companies, partnerships, and cooperatives) through its one-stop shop. Sole proprietorships are provided with their UBI by the SRS; this is the same as the owner's personal identification number and contains 11 digits. The NAPR provides the UBI for other legal entities within a single registration for both registration and tax purposes. The UBI issued for legal entities contains nine digits and is issued electronically using the NAPR registration software. The UBI numbers provide a more transparent, flexible system and reduce the likelihood of inaccuracies. The UBI is unchangeable; it can only be canceled as the result of the termination of the entity (liquidation, reorganization, bankruptcy).

The NAPR registration service is available in the municipal community centers, the territorial registration offices, at the Public Service Hall, and online through the my.gov.ge portal. The Public Service Hall (<http://psh.gov.ge>) is a modern, electronic one-stop shop in Georgia for most public services (for example, passport, visa, birth registration, property registration, enforcement services, archive services).

Organizational Approach

In 2004 the Office of the State Minister on Reforms Coordination was established to serve as the central coordination point for all reforms instituted across the government. The decree signed by the prime minister at that time created the project steering committee of deputy minister-level officials from all government agencies concerned with the business environment.

FIGURE 4.2 e-Government Management Model in Georgia



Source: Gvenetadze 2013.

The legislative changes that streamlined business and tax registration allow for a single-window registration and one unified business and tax identification number. The Law on the SRS united the tax, customs, and financial police within one agency under the Ministry of Finance. The SRS took over the responsibility of business registration from the courts in 2005, and since 2010, the NAPR has become the single registration authority for all legal entities in Georgia.

System interoperability was initially implemented in 2009 between NAPR, SRS, and the civil registry; when an NAPR registrar enters a citizen or business identification number into a form, the other business information is automatically entered from the civil and business registry databases. Electronic data exchange, also introduced through legislation and improved information technology (IT) systems, enabled communication and information sharing between the tax administration and other government agencies, financial institutions and the public.

In parallel with other reform initiatives, between 2006 and 2009, the conceptual and legal basis of the DEA were established. The DEA was established in 2010 and implemented the government data exchange hub (G3, or Georgian Government Gateway), which integrated and unified all government services and enabled implementation of the citizen-centric approach to the delivery of public services. The following government-to-business (G2B) systems were implemented in Georgia that use the UBI: e-Procurement, e-Auction, e-Filing, e-Invoice, e-Appeals, e-Stamp, e-Construction Permits, e-Notary, online business registration, business and property e-abstracts and other online registries. Figure 4.2 describes the e-Government management model in Georgia.

Legal and Administrative Considerations

The Law on the State Revenue Service established the SRS agency under the Ministry of Finance that took over the registration procedure from the courts in 2005 and streamlined the registration procedure by using a single

UBI number. The NAPR, a legal entity under the Ministry of Justice of Georgia, was established according to the Law of Georgia on State Registry of June 1, 2004, and took over the business registration from the Revenue Service in 2010.

The assignment of a unique business identification number is regulated under Article 12 of the Entrepreneur (legal) Persons Registration Regulations (December 31, 2009, Minister of Justice Instruction N241); amendments to the Law on Entrepreneurs have facilitated the process for starting a business.

Implementation Approach

The following activities are directly related to the reformed business and tax registration process that also introduced the single UBI (Chemonics International Inc. 2009):

- Expedited business start-up and exit procedures through the new legal framework for business start-up and closure provided by the Law on Entrepreneurs
- Implementation of unified, streamlined business and tax registration, which streamlined two registration processes (business and tax) into one process, one unique number, and one application form
- Implementation of an online business registry database, that included the digitization of paper-based information received from the courts
- Availability of electronic abstracts for business registration, allowing information exchange automation between the government and banks

The NAPR has an online business portal and provides online access to information about registered legal entities (such as initial registrations, changes in registration and in key officers and directors, reorganization of a business). Any person may inspect the information provided by the registry and obtain an extract from the Registry data.⁴ The NAPR is one of the first state bodies to introduce an ISO/IEC 27001 information security management system.

Any information about the UBI is available on the portal and is free of charge. A request to prepare an extract from the registry can be submitted online by an interested person, and this e-service is cheaper than the offline price.⁵

During the period 2005–09, there were many other related e-Government and interoperability initiatives, including the implementation of e-signatures, data exchange interfaces between government agencies and adoption of relevant e-legislation. The e-Document and e-Signature laws were adopted in 2007, and e-ID cards were introduced with digital identities and electronic signatures. Planning and establishment of the DEA was also undertaken.

The e-Georgia Strategy and Action Plan 2014–18 was developed with six mission statements derived from the vision, which led to eleven thematic priorities. Within the Enabling Frameworks & Governance thematic priority

is the establishment of a proper interoperability framework, which ensures smooth interaction among the actors in e-Government and exploitation of the full potential of government data.

The European Union (EU) twinning program “Promote the Strengthening of E-Governance in Georgia,” supported the implementation of the interoperability framework for Georgia⁶ and the introduction of the interoperability framework according to the European Interoperability Framework as part of the e-Georgia Strategy and Action Plan 2014–18 (Krabina et al. [2013]).

Challenges Encountered

The transfer of business registration to the SRS and unification with the tax administration gave rise to several problems because the SRS lacked the institutional capacity required to deliver streamlined business registration. Starting a business required both business and tax registration—two separate processes, in two different locations, requiring two (largely redundant) application procedures, resulting in the issuance of two unique identification numbers to every business. Line officers were unprofessional, unqualified, and inexperienced in registering businesses, resulting in guidance and implementation that were often arbitrary, burdensome, and unpleasant. The SRS relied upon an unstable and largely insecure IT system that used illegal software and was incapable of performing basic business processes effectively. The entire registration process was paper based. Archives from the courts, including more than 50,000 registrations, were received in boxes full of poorly organized documents. No electronic services were available, and no electronic registration data were kept internally, let alone available to other agencies or the public.

With legal and regulatory streamlining as well as improved technology, the SRS developed its institutional capacity to handle business registrations. Line officers were trained in customer service and improved business registration procedures. The SRS also implemented recommended initiatives on IT performance optimization and security measures, and procured hardware and licenses for software, which ultimately created a fully electronic business registry. The project digitized all prior paper-based registrations so that the e-registry was completely current, listing all registered businesses in Georgia. The online business registry allowed for the printing of electronic abstracts that have the same legal enforceability as paper documents.

The SRS has established mechanisms for engaging the public in dialogue on business registration procedures, including the following:

- A trained cadre of journalists are more capable of reporting accurately on starting a business in Georgia, both informing the public of reforms and informing the public and tax administration of challenges and reform needs.
- The SRS started communicating with businesses regarding new electronic services provided to taxpayers and received comments from the business

sector on how to improve those services. Several meetings and trainings have occurred with banks, private companies, and taxpayers to educate them on electronic services offered by SRS.

Benefits Realized

The following benefits have been realized:

- Reduced time to register a business (from 25 to 2 days) and reduced ongoing administrative burden for entrepreneurs
- Introduction of risk-based compliance monitoring, resulting in improved tax compliance
- Better adherence to public procurement rules by implementing an e-Procurement system that uses the data from the business registry to validate vendor information
- Increased efficiency for government by implementing a citizen-centric approach to the delivery of public services through my.gov.ge portal
- Increased data sharing by implementing the G3 government data exchange hub—leveraging improvements in the Georgian Governmental Network, business and property registration, and number of successful IT projects
- Improved data accuracy

Figure 4.3 summarizes the G2B services enabled with support of the UBI.

Summary

The introduction of the UBI contributed to the highly successful implementation of the interoperability platform (G3) and improved G2B service delivery. Today, Georgia has one of the most advanced, citizen-centric array of e-Government services in the world.

FIGURE 4.3 G2B Systems Implemented in Georgia That Use the UBI

G2B Systems	
e-Procurement	e-Notary
e-Auction	e-Official Gazette
e-Filing	Online car registration
e-Invoice	Online business registration
e-Appeals	Business and property e-abstracts
e-Stamp	Online business and property registers
e-Construction Permits	e-Archive

Source: Gvenetadze 2013.

Annex 4A Registered Entities

Table 4A.1 shows data from beginning of 2015 provided by the National Agency of Public Registry (NAPR) (for the entities registered at the NAPR). Table 4A.2 shows information maintained centrally at the NAPR in relation to the UBI.

TABLE 4A.1 Registered Entities

Business entity type	Number of entities managed
Limited liability company	155,065
Nonprofit company	20,007
General partnership/trade name	2,670
Sole proprietor/trader	388,804
Limited partnership	158
Cooperative	3,462
Other(s)	2,155

Source: NAPR.

TABLE 4A.2 Information Maintained by the National Agency of Public Registry

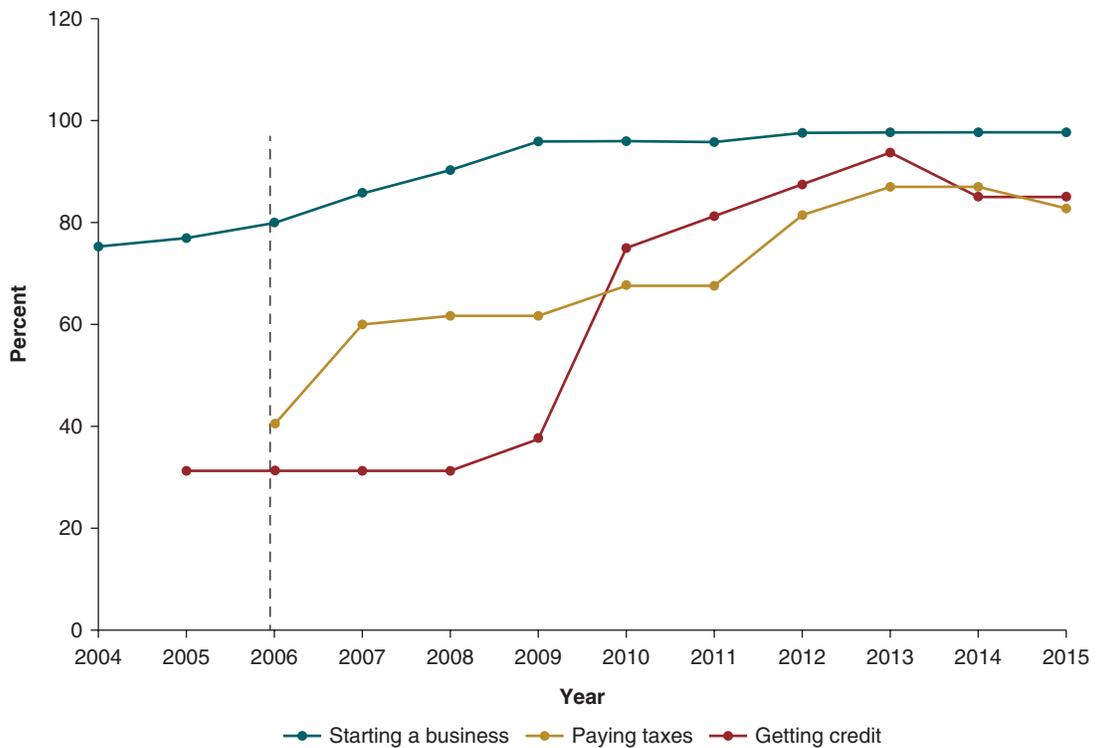
Information	Contained in the UBI solution
Business name	Yes
Business addresses	Yes
Industry sector(s)	No
Officers	No
Directors	Yes
Beneficial owners	No
Country of origin	No
Foreign business identifier(s)	No
Other(s)	Legal form, registration date

Source: Case study interviews.

Annex 4B Doing Business Distance to Frontier

Figure 4B.1 provides an overview of Georgia’s distance to frontier (DTF) measurement. The DTF shows the distance of each economy to the “frontier,” which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005 (please see (<http://www.doingbusiness.org/data/distance-to-frontier> for further details).

FIGURE 4B.1 Distances to Frontier—Georgia



Source: Doing Business dataset 2004–15.

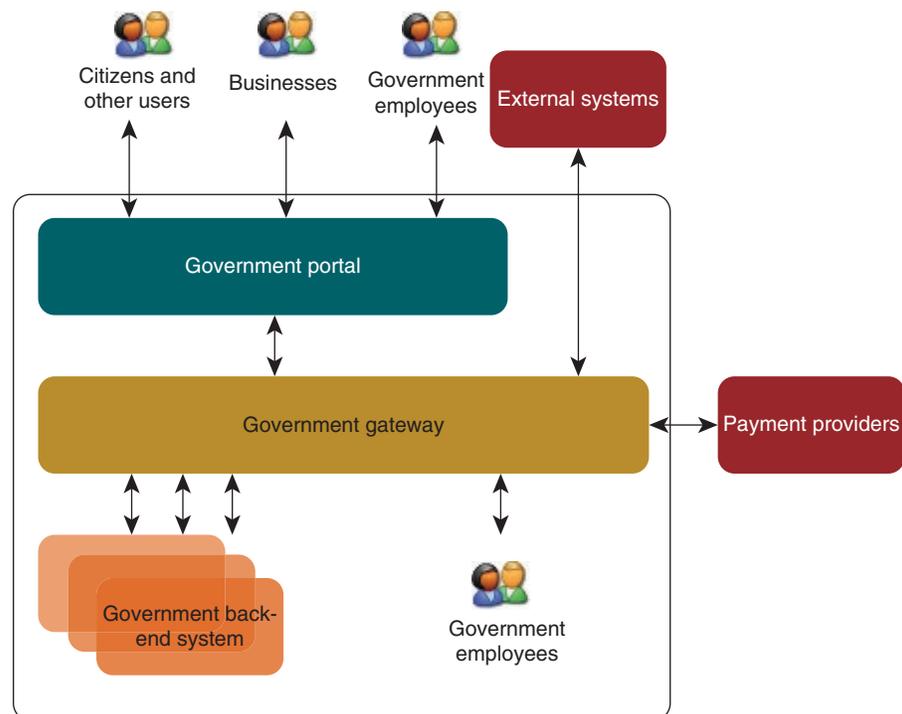
Note: UBI implemented in 2006.

Annex 4C Architecture and Technology

The technologies used include cloud, enterprise service bus, digital signature, master data management, mobile, notification support, and custom-developed and commercial off-the-shelf software. Since the beginning of the business registration reform and introducing of the unique business identifier (UBI), a number of technological improvements were made to enable government e-services, interoperability, and information security. The Data Exchange Agency (DEA) implemented an advanced interoperability platform—Georgia Government Gateway (G3) that represents a universal infrastructure connecting government agencies, businesses, and organizations into a single network (see figure 4C.1). Key technologies used are Microsoft Windows, BizTalk Server, and SQL Server. In 2012 all e-services available for citizens and business were united using the portal www.my.gov.ge.

The National Agency of Public Registry (NAPR) introduced a cloud infrastructure using Open Stack. In addition, the DEA created, in accordance with the Law on Unified State Registry of Information, the unified Registry of Registers that centralized information about databases, services, and information systems within the public sector. This supports streamlined and seamless data exchange among government agencies.

FIGURE 4C.1 G3—Georgian Government Gateway



Source: Gvenetadze 2013.

Notes

1. <https://data.un.org/CountryProfile.aspx?crName=Georgia>
2. <http://www.doingbusiness.org/data/exploreeconomies/georgia>
3. <http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/>
4. <http://napr.gov.ge/> <http://psh.gov.ge/>
5. Within one business day 15 GEL, on the same day 50 GEL.
6. Further information available at http://dea.gov.ge/?action=page&p_id=112&lang=geo

5. Jordan Case Study

Background

Jordan¹ has a parliamentary system of government with a hereditary monarchy² and is situated on the East Bank of the Jordan River. The population is 7.009 million,³ the gross national income (GNI) per capita is US\$4,950, and the income category is upper middle income.⁴

Jordan is ranked 117th out of 189 economies in the 2015 Doing Business report. Its ranking in the starting a business indicator is 86th, requiring 7 procedures and 12 days to start a business. Jordan is ranked 64th out of 144 economies in the World Economic Forum (WEF) Global Competitiveness Index 2014.⁵

According to the information received from the Companies Control Department⁶ (CCD), in the first quarter of 2015 Jordan had 57,400 companies and about 100,000 sole proprietorships.⁷

There are two registries managed by the Ministry of Industry and Trade (MIT): (i) the sole proprietor registry, which is managed within the Ministry, and (ii) the company registry managed by the CCD. In 2005 the government decided to introduce the National Business ID (NBI) to reduce duplication in business identifiers and better enable government partners to share data. This effort was mandated through a Prime Ministry⁸ circular and implemented in 2008.

The NBI in Jordan is a nine-digit number, and there are three main directorates in Jordan that provide the NBI based on the type of business. The CCD provides the NBI for companies that register (the NBI starts with “2”), the MIT provides it for sole proprietorships (the NBI starts with “1”), and the Free Zones Company (FZC)⁹ provides it for businesses under their jurisdiction (the NBI starts with “3”). The main goals of the NBI are summarized in box 5.1.

Organizational Approach

The mandate from the Prime Ministry authorized MIT, CCD, and FZC to issue the new NBI and also required its adoption across all government agencies. The MIT and CCD led this effort, in cooperation with related departments and partners. Chambers and associations were also part of the Steering Committee,¹⁰ which included the following:

- Ministry of Information and Communication Technology (MOICT)
- Free Zones Company (FZC)
- Income and Sales Tax Department (Tax Department)
- Jordan Customs (Customs Department)
- Social Security Corporation (SSC)
- Greater Amman Municipality (GAM)
- Jordan Chamber of Commerce (JOCC)
- Jordan Chamber of Industry
- Department of Statistics (DOS)
- Representatives of municipalities

BOX 5.1 Goals of Introducing the National Business ID in Jordan

The main goals of introducing the NBI in Jordan were to

- Remove duplications and data errors in existing registrations;
- Enable information sharing among government institutions;
- Reduce time and costs for new registrations; and
- Create more efficient and precise ways to search for information about business entities.

The NBI implementation did not result in organizational changes; the MIT assigned e-service officers to process online applications, and online access was made available for partners to provide their inputs.

Legal and Administrative Considerations

There have been no legislative changes required thus far; the initiative was implemented under a mandate from the Prime Ministry. However, many legal and regulatory changes to enable online interactions with government were separately implemented.

There may be a need for further legal changes as professional businesses (for example, doctors and lawyers) are currently required to register with the Chamber of Commerce, which uses the tax ID number as the business identifier.

Implementation Approach

MIT and CCD worked in cooperation with the MOICT (e-Government Program and the National Information Technology Center) to develop and deploy the technology architecture supporting the NBI. This was part of a larger project that established a new online platform for business registration, which was implemented in 2007; as of January 1, 2008, the NBI was assigned to all Jordanian businesses.

The MIT and CCD were the lead implementers, working with the Tax Department, GAM, Customs Department, and SSC. The project was divided into phases in order to cover all the types of businesses being registered. The first phase involved sole proprietors and companies, followed by the implementation of the FZC registrations. However, the next phase, which will introduce the NBI for other businesses (for example doctors, lawyers, and engineers), has not yet commenced.

In deploying the NBI, the MIT and CCD in 2007 started issuing it to any existing company requesting a service. As of January 1, 2008, the NBI was assigned to all registered businesses. The CCD automatically assigned the

NBI to all companies that they knew to be active. Using the *Jordan Business Newspaper*, local newspapers and other media channels, companies were requested to visit the CCD to update their registration and obtain the NBI. The CCD and its partner agencies also agreed that any services related to registering a new business would require the NBI.

As MIT and CCD connected their systems with those of their partners, mapping of the NBI to the citizen ID and other legacy identifiers was undertaken. For example, a search in the tax registry can now be done using a personal ID or a tax ID number, and the result will display the NBI and other related information. Likewise, searches using the NBI would reveal the tax ID and related information.

The government partners can directly access the MIT and CCD databases to obtain the information data they need, and some are able to change a business entity status flag in the system. Government partners use this to enforce compliance; for example, if a business entity is suspended by the Tax Department, the MIT and CCD systems can be updated to reflect this. The business owner then cannot obtain services at the MIT or CCD until the issue is resolved.

An additional initiative that supported the NBI implementation came from the MOICT e-Government Program, which introduced an interoperability scheme under which government entities that require information from the commercial registry must use the NBI. There are several government entities accessing data using a direct connection to the MIT and CCD IT systems, including the following:

- GAM through the e-License system using a web service
- Tax Department
- Amman Chamber of Commerce
- Royal Court
- Department of Statistics
- Jordan Customs

In addition, e-services of certain government agencies that are currently being developed are being designed in a way to use the NBI, including the following:

- Department of Land and Surveys
- Ministry of Labor
- Ministry of Health
- Ministry of Tourism and Antiquities
- Investment Portal

Also, the e-Government Program is currently working on integrating web services using the enterprise service bus (ESB) that provides a central middleware for data exchange; the Amman Chamber of Commerce is already benefiting from the MIT web service over the ESB.

For all users, the CCD has enabled online access to the registry through its Internet portal.¹¹ The various search options include company name,

partner name, NBI, registration date, personal ID, nationality, and so on. The MIT also implemented an online service to register sole proprietorships.¹² The national portal (Jordan.gov.jo) provides a gateway to all governmental services provided to citizens, businesses, visitors, and other users.

Challenges Encountered

The resistance to using the NBI as a main reference ID came mainly from government agencies that did not want to adapt their legacy systems. The Prime Ministry circular was enforced and helped to overcome this challenge; however, even today there is resistance to expanding the use of NBI.

One other challenge was classifying sole proprietors because MIT allowed one individual to register more than one business. The Tax Department sees the owner as one taxpayer regardless of the entities he has registered under his name. This required much effort from the Tax Department to map the identifiers. They internally introduced the concept of a “tax line” to distinguish from which source taxes are received from a given taxpayer.

Benefits Realized

The introduction of the NBI should be considered partly successful, especially in removing existing duplications within the CCD and MIT registries. In addition, the following benefits were identified:

- For the Tax Department, the NBI improved communications with stakeholders, reduced costs, and supported improved tax compliance.
- For financial institutions, the NBI is used in accessing required information about businesses.
- For businesses, the time and cost of registering a business have decreased.
- Other benefits include reduced corruption in public procurement, increased efficiency within government, increased data sharing, and increased data quality in many institutions.

Summary

Even though the introduction of the NBI brought certain benefits, the project is not yet finished; the business registration process requires more streamlining and improvements. Interoperability within government increased by introducing both the NBI and the ESB; however, it seems that the lack of the interoperable IT solutions in some government agencies has prevented the government from realizing the full potential of the platform.

The overall level of cooperation among stakeholders during the NBI rollout was not optimal because many had to change their existing systems and the way they worked.

Certain businesses are not assigned an NBI (for example, engineering offices, government entities, doctors, and lawyers); therefore, a complete migration and transition to the NBI as a single unique ID for all businesses is not yet completed.

Annex 5A Registered Entities

Table 5A.1 shows data as of the beginning of 2015 provided by the Companies Control Department (CCD) and the Ministry of Industry and Trade (MIT) (for the entities registered at these institutions). Table 5A.2 shows information maintained centrally at the CCD and MIT in relation to the unique business identifier (UBI).

TABLE 5A.1 Registered Entities

Business entity type	Number of entities managed
Corporations/companies	
Limited liability company	54,000
Private limited company	1,680
Public limited company	1,720
Nonprofit company	720
Sole proprietor/trader	100,000 ^a
Society/civil	480

Source: Companies Control Department and Ministry of Industry and Trade.

Note: CCD = Companies Control Department; MIT = Ministry of Industry and Trade.

a. Estimated value, because the exact information could not be provided by the Ministry of Industry and Trade and Supply because a number of inactive entities without updated status in the Registry.

TABLE 5A.2 Information Maintained by CCD and MIT

Information	Contained in the UBI solution
Business name	Yes
Business addresses	Yes
Industry sector(s)	No, mainly the system includes not industry but something called “type of the business,” which might refer to the industry.
Officers	Yes
Directors	Yes
Beneficial owners	Yes
Country of origin	Yes
Foreign business identifier(s)	No
Other(s)	Address, registration date, financial information, address, contact details.

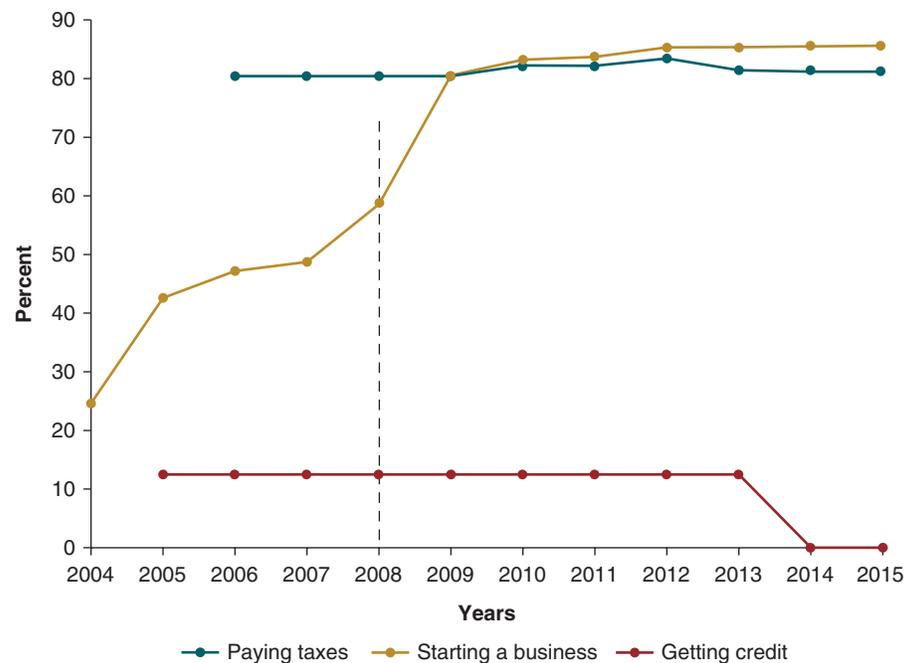
Source: Case study interviews.

Note: CCD = Companies Control Department; MIT = Ministry of Industry and Trade; UBI = unique business identifier.

Annex 5B Doing Business Distance to Frontier

Figure 5B.1 provides an overview of Jordan’s distance to frontier (DTF) measurement. The DTF shows the distance of each economy to the “frontier,” which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005 (please see <http://www.doingbusiness.org/data/distance-to-frontier> for further details).

FIGURE 5B.1 Distance to Frontier—Jordan



Source: Doing Business dataset 2004–15.

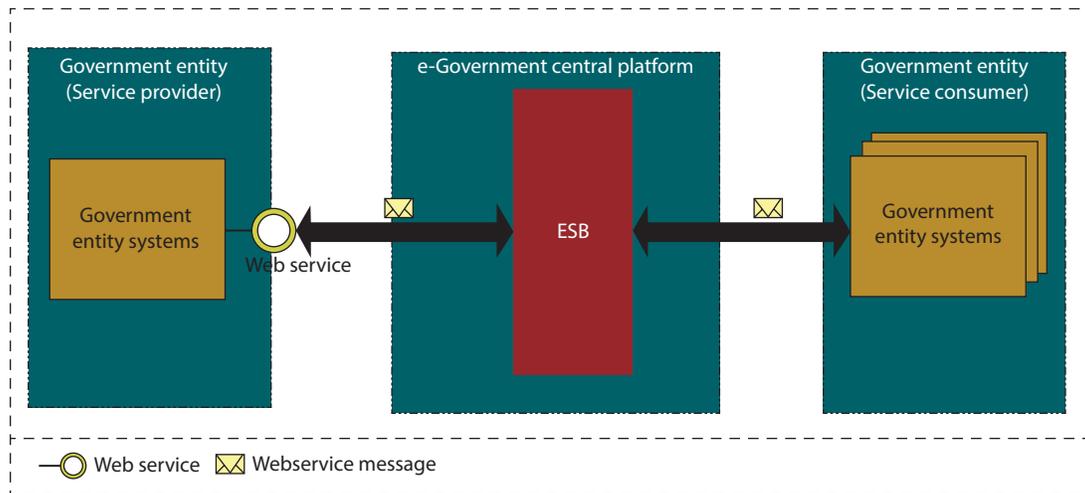
Note: UBI implemented in 2008.

Annex 5C Architecture and Technology

The technologies used include enterprise service bus (ESB), custom-developed, and commercial off-the-shelf software. The ESB is maintained at the national level by the Ministry of Information and Communication Technology (MOICT) e-Government Program. Currently, the ESB has 21 e-services implemented, including MIT and CCD services. The MOICT e-Government Program developed the ESB, which provides a service-oriented infrastructure that enables large-scale implementation of the SOA principles in a manageable, heterogeneous environment, as summarized in Figure 5C.1. The ESB implements other value added capabilities such as delivery assurance and security.

The e-Government Strategy for 2014–16 does not explicitly include the National Business ID (NBI) initiative. However, it is embedded in other high-level concepts and initiatives.

FIGURE 5C.1 SOA Implementation Using ESB in Jordan



Source: MOICT e-Government Program.

Note: ESB = enterprise service bus; MOICT = Ministry of Information and Communication Technology; SOA = service-oriented architecture.

Notes

1. <http://www.doingbusiness.org/data/exploreeconomies/jordan/>
2. http://www.kinghussein.gov.jo/constitution_jo.html
3. <https://data.un.org/CountryProfile.aspx?crName=JORDAN>
4. <http://www.doingbusiness.org/data/exploreeconomies/jordan/>
5. <http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/>
6. <http://ccd.gov.jo/en/home/about-ccd/introduction>
7. The exact number of the sole-proprietorships was not available from the Ministry of Industry and Trade.
8. www.pm.gov.jo/english/
9. <http://www.free-zones.gov.jo/english/aboutus.aspx>
10. Today certain business types could be registered at the Chambers only (for example, a doctor or lawyer can register his business activity at these organizations), without having the NBI assigned.
11. <http://ccd.gov.jo/ar/home/e-services/companies-query>
12. <http://mit.gov.jo/AR/الإلكترونية%20الخدمات/reg1/Pages/الفرديّة-المؤسّسات-التسجيل.aspx>

6. New Zealand Case Study

Background

New Zealand is a unitary parliamentary government with 67 territorial authorities and 11 regional councils, and a population of 4.6 million. New Zealand is ranked 1st out of 189 economies in the starting a business indicator in the 2015 Doing Business report.¹ Its overall ease of doing business ranking was second. In the World Economic Forum (WEF) Global Competitiveness Index 2014, New Zealand is ranked 17th out of 144 economies.²

New Zealand started the implementation of a unique business number (UBI) in 2013 in the form of the NZBN (New Zealand Business Number), as part of its Better Public Services³ program—a plan that outlines 10 priority results. In particular, the NZBN is a critical enabler for Result 9 (“Improving Interaction with Government”) by providing a secure and authoritative way for businesses and agencies to link information about an enterprise, enabling service integration and innovative time-saving administrative solutions between businesses, their suppliers, and government.

Implementation requires legislative changes, the implementation of government directives, and the consequent participation by the whole of government and the private sector.

At the heart of NZBN is an “ecosystem,” which electronically collates core information relating to businesses (known as primary business data) in one place. This ecosystem is part of New Zealand’s answer to a one-stop shop.

In an economy of New Zealand’s size, government has taken a pragmatic approach that aims to leverage investments made in both the public and private sectors for the implementation of the NZBN and the sharing of primary business data. The NZBN ecosystem will sit in the middle, allocating NZBNs to businesses and managing the creation, update, and dissemination of primary business data between government agencies, from within those agencies or from private sector intermediaries.

In addition, the NZBN ecosystem approach has the benefit of implementation speed; building services will happen concurrently across the public and private sector using current technologies or through existing technology transformation programs.

In terms of future proofing, the NZBN ecosystem approach avoids the need for large technological upgrade programs with associated time and cost burdens. Instead of relying on one single system providing the entire solution, the ecosystem is a collection of public and private sector offerings connected by web services (application program interfaces, or APIs) that will evolve independently over time.

In December 2013, 1.1 million companies received NZBNs. The program is a catalyst to change the way government works, breaking down administrative and technical barriers and allowing information to flow.

Legislation is going through the parliamentary process during 2015. It includes proposals to extend the NZBN to other entities such as sole traders, trusts, societies, and partnerships. Government directives are in the consultation phase and, if adopted, will require government agencies and other state sector agencies to recognize and integrate the NZBN within processes they undertake with businesses.

NZBN uses the Global Location Number (GLN) numbering system, globally recognized and based on international standards. The following agencies have started limited use of the NZBN: the Ministry of Business, Innovation and Employment (MBIE); the Ministry of Primary Industries; Statistics New Zealand; New Zealand Trade and Enterprise; and Callaghan Innovation.

Organizational Approach

MBIE is the lead agency and custodian of the NZBN. The general manager of MBIE's Business Integrity Services branch is the current chair of the NZBN Executive Steering Group. MBIE is responsible for managing the allocation of NZBNs and for hosting and disseminating primary business data. It coordinates cross-agency and private sector activities to assist or guide the adoption of the NZBN.

The NZBN Executive Steering Group's purpose is to ensure the successful mainstreaming of the NZBN. It comprises a mix of the key government agencies that interface with businesses and representation from the Result 9 team and the State Services Commission. Membership is reviewed every six months to align with current and near-term tasks and activities.

In addition, the NZBN External Reference Group, composed of businesses from a wide variety of private sector industry sectors, provides a forum for businesses to participate in the positioning, design, and development of the NZBN ecosystem and services.

Legislative and Administrative Considerations

The implementation of the NZBN is a key initiative of the Better for Business Program, which focuses on reducing the costs to businesses of dealing with the government. However, the NZBN Bill,⁴ introduced to Parliament in March 2015, will extend (if enacted) the NZBN across all business entities and create the NZBN register and NZBN registrar role.

Proposed government directives were issued to 186 agencies and other state sector entities in July 2015 for consultation. If implemented, these directives enable the public sector to use NZBN to deliver benefits to businesses. The directives will require departments and other Crown entities to initially recognize the NZBN in their systems and later integrate it into how they operate with businesses.

MBIE has created the NZBN custodianship team that, in addition to managing data accuracy of NZBN information, is responsible for onboarding partners—providing advice and guidance on the adoption of the NZBN.

Implementation Approach

Many agencies and private sector organizations—including software vendors of customer relationship management and accounting systems—see the potential of NZBN to increase data-sharing capabilities and reduce the administrative burden on businesses.

The uptake by each agency of the NZBN will vary depending on the nature of its relationships with business. For some organizations and agencies, adoption is expected to be quick and completed in a single stage, while others will gradually phase in the NZBN. Figure 6.1 outlines the program timeline.

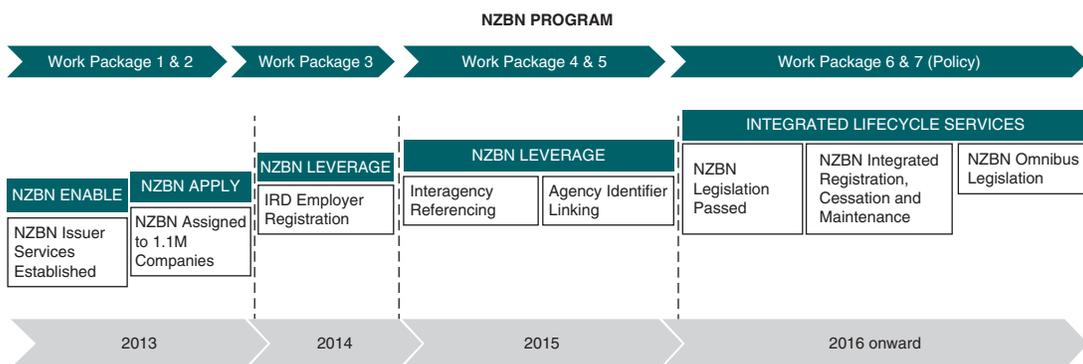
The architecture of the NZBN solution is based on open-source, standards-based technologies and products to provide access to the NZBN information through publicly available web services and a mobile responsive website. Access to NZBN information will be provided through an OAuth⁵-secured, service-oriented solution to search, view, and update information as well as to subscribe to receive updates and notifications when business entity information changes.

Challenges Encountered

The implementation of the NZBN is still in its infancy. In general, the NZBN implementation thus far has gone smoothly, though a few challenges have been encountered:

- The **long-term vision and benefits** and **phased approach**, while understood by those involved, are not always clear or understood to those *not* closely involved in the NZBN program. The NZBN program’s communications and change management plans aim to address some of these issues through online publications, and education and awareness components used to inform stakeholders.

FIGURE 6.1 NZBN Program Timeline



Source: Ministry of Business, Innovation and Employment.

Note: IRD = Inland Revenue Department; NZBN = New Zealand Business Number.

- To overcome expected issues with **onboarding agencies**, MBIE has created the NZBN custodianship team to assist and provide guidance to agencies as they progress through planning, transition, and operationalizing the NZBN. In addition, the NZBN Executive Steering Committee will also transition from a focus on implementation to more emphasis on continuing operations and future strategies.
- The **privacy of sole traders** is a concern to some given the direct association with an individual. The NZBN bill includes provisions to protect sole traders' data privacy.
- **Data management** will provide challenges given the ability to exchange information with any agency. Authority controls are being incorporated into the architecture and design of the NZBN solution and ecosystem to ensure the updates are managed effectively and data quality is maintained.

Benefits Realized

Even in these early stages of implementation, there are signs the NZBN will be a success as the following illustrates:

- Early adopters in the private sector are finding uses for the NZBN in areas such as export documentation and invoicing.
- Some public sector agencies are eager to use the NZBN, adopting it under their current regulatory frameworks.
- NZBN, through increased interoperability, will reduce the costs for business to interact with government by enabling businesses to “tell government once,” so their primary business data will then be shared. As the NZBN implementation continues and additional agencies adopt the NZBN, additional benefits are expected.

Summary

The NZBN is on its way to be a very successful UBI implementation—providing benefits to the public and private sectors. It is already beginning to be adopted for use in business-to-business (B2B) transactions. If legislation passes, the NZBN will include all business entities (for example, sole traders).

As the relevant ministers have said in media releases, “The NZBN will be a key building block for fundamentally changing the way businesses interact. It will give government agencies better data, which means that they can improve the quality of the services they provide.”

Annex 6A Registered Entities

Table 6A.1 shows statistics for registered entities as of March 2015.

TABLE 6A.1 Registered Entities

Business entity type	Number of entities managed	Notes
Corporations/companies	600,000	<ul style="list-style-type: none"> • 550,000 struck off companies were also allocated NZBNs • More than 50,000 in the latest year
Nonprofit company	21,035	<ul style="list-style-type: none"> • Approximately 820 new annually
General partnership/trade name	n.a.	
Sole proprietor/trader	400,000	<ul style="list-style-type: none"> • Estimated
Limited partnerships	1,344	<ul style="list-style-type: none"> • Approximately 820 new annually
Others (friendly societies, credit unions, societies, overseas companies, unlimited partnerships)	169,813	<ul style="list-style-type: none"> • Approximately 981 new annually

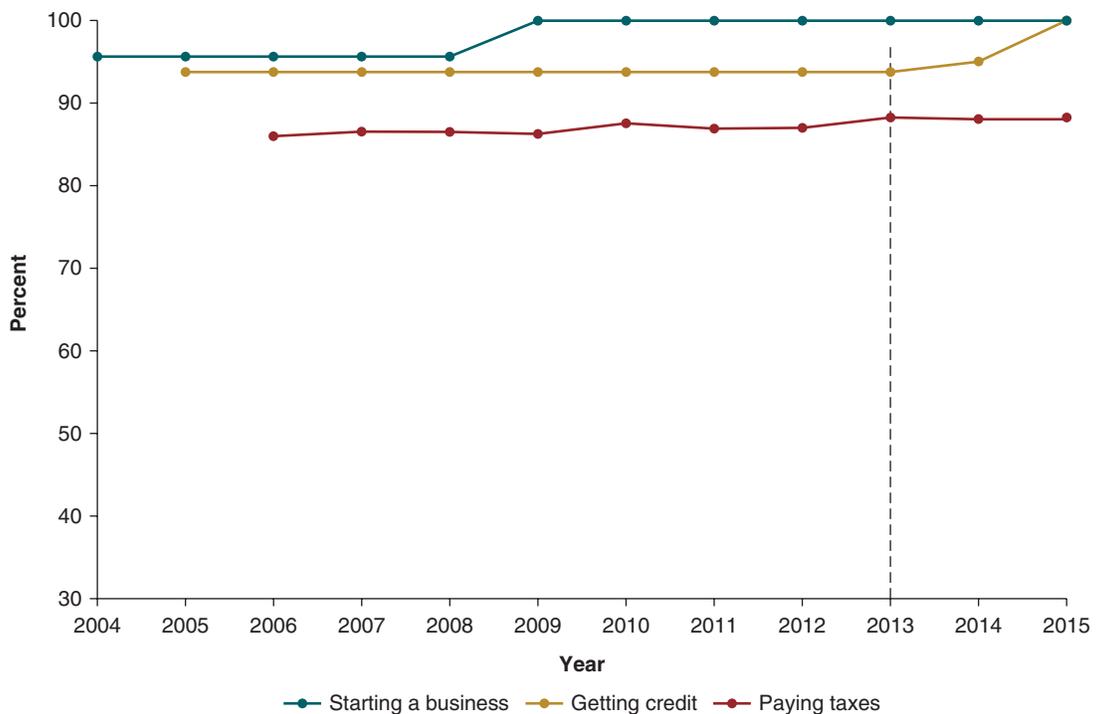
Source: Case study interviews.

Note: n.a. = not applicable; NZBN = New Zealand Business Number.

Annex 6B Doing Business Distance to Frontier

Figure 6B.1 provides an overview of New Zealand’s distance to frontier (DTF) measurement. The DTF shows the distance of each economy to the “frontier,” which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005 (please see <http://www.doingbusiness.org/data/distance-to-frontier> for further details). Already one of the frontier economies, the introduction of the NZBN (New Zealand Business Number) in 2013 has had only minor effects thus far.

FIGURE 6B.1 Distance to Frontier—New Zealand



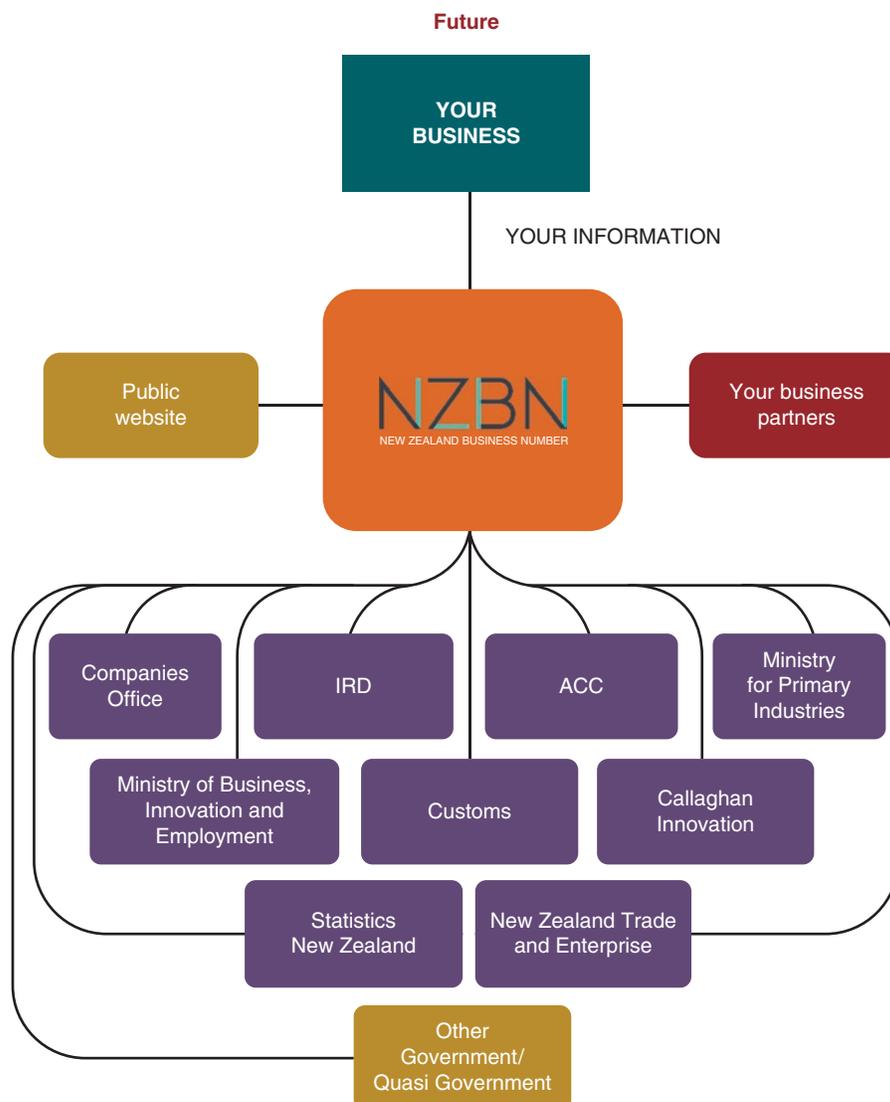
Source: Doing Business dataset 2004–15.

Note: UBI introduced in 2013.

Annex 6C Architecture and Technology

New Zealand has implemented the New Zealand Business Number (NZBN) solution, leveraging a hub-and-spoke architecture, where the NZBN registry is the hub providing access to information by government agencies, the public, and business partners. The future state of the NZBN ecosystem is depicted in figure 6C.1.

FIGURE 6C.1 Future State of the NZBN Ecosystem



Source: Ministry of Business, Innovation and Employment.

Note: ACC = Accident Compensation Corporation; IRD = Inland Revenue Department.

The NZBN solution uses the following technologies to provide the NZBN solution:

- Web services
- Enterprise service bus
- OAuth for authentication and authorization
- Web and mobile applications that provide the ability to search for and view the NZBN and related information
- CIQ (OASIS XML standard for Customer Information)

Notes

1. <http://www.doingbusiness.org/data/exploreeconomies/new-zealand>
2. <http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/>
3. <http://www.ssc.govt.nz/better-public-services>
4. <http://www.mbie.govt.nz/what-we-do/better-for-business/nzbn>
5. <http://oauth.net/>

7. Norway Case Study

Background

Norway is a unitary parliamentary government in the Scandinavian Peninsula that is divided into 19 counties and 430 municipalities and has a population of 5.1 million. Norway ranks 6th out of 189 economies in the 2015 Doing Business report¹ and 22nd in the starting a business indicator, with four procedures and five days to start operating a business. In the World Economic Forum (WEF) Global Competitiveness Index 2014,² Norway ranks 11th out of 144 economies.

Introduced in 1995 (as part of the Brønnøysund Register Centre [BRC]), the Central Coordinating Register for Legal Entities (CCRLE) coordinates information on business and industry that resides in various public registers and that is also frequently requested on questionnaires from the public authorities. The CCRLE ensures that all the information is collected in and provided from one place. The critical success factors for CCRLE were:

- Unique identification of legal entities;
- Extensive and frequent use of the organization number across government and the private sector;
- Management of data quality; and
- Easy access to registered information.

As described in box 7.1, the CCRLE includes a wide range of legal entities within Norway—including public institutions, companies, and sole proprietors. Currently there are 1.1 million legal entities registered.

Implementing the CCRLE began in 1995 and required the merging of different business registers into one, and the need for a new organization number (ON)—the Norwegian unique business identifier (UBI). The ON is a nine-digit number that is issued in sequence and does not differentiate between legal entity types.

Based on a legislative mandate, the CCRLE's ON is used across all levels of government in Norway. The ON is also used within the private sector as the CCRLE registry information is all publicly available.

Organizational Approach

Business registration reform and, to some extent, the implementation of the UBI began in 1988 with the creation of the Register of Business Enterprises and the establishment of the BRC under the Ministry of Justice. Through the years, the organizations involved have changed during the implementation of various registers, including the CCRLE; however, the BRC has remained as the organization that administers and operates the CCRLE.

The steering group for the initial CCRLE implementation included the Ministry of Trade and Industry, the Ministry of Finance, the Ministry of Government Management, the Ministry of Justice and the BRC. The reference

group advising the steering group had representatives from the Ministry of Finance, the Federation of Norwegian Commercial and Service Enterprises, the Postal Bank Check Agency, the National Insurance Administration, the Confederation of Norwegian Enterprise, the Modernization Agency, Norges Bank, the Norwegian Savings Banks Association, the Association of Norwegian Insurance Companies, the Directorate of Customs and Excise, Statistics Norway, and the Directorate of Labour. The project implementation team consisted of representatives from the BRC, the Ministry of Finance, and the Directorate of Taxes (World Bank 2011).

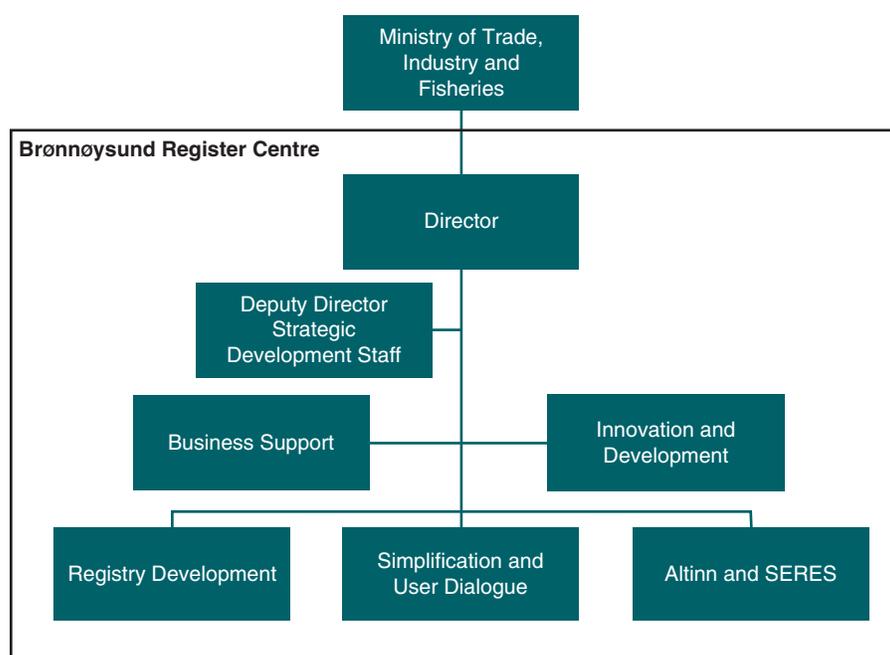
The current operational structure is as outlined in figure 7.1 wherein the BRC reports into the Ministry of Trade, Industry and Fisheries.

BOX 7.1 Entities Included in CCRLE

The CCRLE contains basic data about entities that are under reporting obligations to the Register of Employers, the Value Added Tax Register, the Register of Business Enterprises, the Business Register of Statistics Norway, the Corporate Taxation Data Register, or the County Governors' Register of Foundations. The Central Coordinating Register for Legal Entities and The Register of Bankruptcies are affiliated registers. All estates in bankruptcy are given an organization number. Others may register voluntarily with the Central Coordinating Register for Legal Entities.^a

a. <http://www.doingbusiness.org/data/exploreeconomies/norway>

FIGURE 7.1 Brønnøysund Register Centre Structure



Source: Brønnøysund Register Centre.

Note: SERES = Norwegian Semantic Register for Electronic Collaboration.

Legislative and Administrative Considerations

Norway’s legal reform related to business registration, and thus its UBI, dates back to 1985 with the review, reform, and centralization of business registration that arose from the Business Enterprise Registration Act³ and the Business Name Act.⁴ The establishment of the CCRLE required legal provisions (the CCRLE Act⁵) to introduce the general legal obligation for public authorities to use the ON and for associated registers to share key information. Since 1997, additional acts have been introduced that provide further authorities related to sharing and providing information:

- The Act Regarding the Register of Reporting Obligations⁶ (June 6, 1997)
- The Electronic Signatures Act⁷ (June 15, 2001)
- Act on Electronic Communication With and Within the Public Administration⁸ (June 25, 2004)

The primary administrative impact of implementing the CCRLE ON is the transition of business registration from the Brønnøysund District Court (Ministry of Justice) to the BRC.

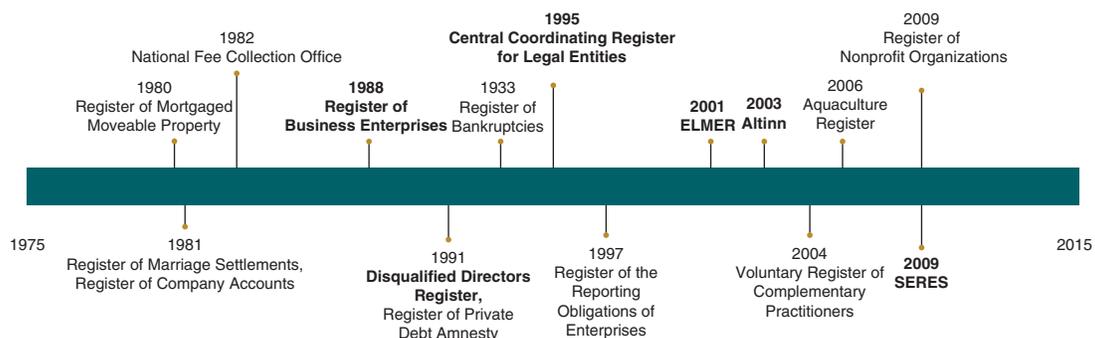
Implementation Approach

The implementation of the CCRLE in 1995 was the result of merging the various business entity registries into a single registry of legal entities. During the merger, the ON was assigned and verified by the following means:

- Statistics Norway allocated the nine-digit ON based on chronological order of registration of entities across all registries and linked the ON to that registry information.
- Businesses were not required to reregister but were asked to verify that the information related to their business was correct.

Figure 7.2 depicts the timeline and various registries and projects (for example, Altinn, ELMER [acronym, in Norwegian, for “Easier and more efficient

FIGURE 7.2 Norway’s UBI Implementation Timeline



Source: Author.

Note: ELMER = acronym, in Norwegian, for “Easier and more efficient reporting”; SERES = Norwegian Semantic Register for Electronic Collaboration.

reporting], the Norwegian Semantic Register for Electronic Collaboration [SERES]) for the implementation of the current UBI implementation in Norway.

The original registers within the BRC were custom-built solutions developed on minicomputers from a Norwegian vendor; however, by the time the CCRLE was developed, the BRC was shifting away from minicomputers to an architecture based on UNIX-Sybase-PowerBuilder. Since its initial development, the CCRLE has seen many upgrades and is now primarily a Java-based solution running on Linux, providing access to information through web applications and web services.

In Norway, data privacy is culturally less of concern than in other jurisdictions, thus the CCRLE ON and related information is openly accessible. There are access controls in place to control who can update the information.

Challenges Encountered

Norway, as one of the early adopters of the UBI, has encountered and overcome challenges in the past 20 years. These challenges include the following:

- The **long-term funding of operations, maintenance, and enhancement** of the CCRLE was not necessarily understood during the initial stages of the CCRLE's implementation and operation. The CCRLE contains business identity information and is considered one of the **central building blocks**² of government information, and needs to be appropriately maintained and enhanced to ensure access to this information. As government administration changes, it is important to inform and educate administrators to be able to maintain (that is, fund and operate) the UBI as a central building block.
- While establishing the CCRLE, Norway encountered **mistrust and resistance** from the registrars involved. The registrars expressed “a general skepticism whether information registered by other public authorities was relevant for their needs and whether the quality of this information would satisfy their demands. Mapping the information on the records and the information needs represented a first step to reduce this skepticism” (World Bank 2011). In addition, establishing and maintaining **cooperation and trust** with stakeholders is critical to long-term success.
- Maintaining data quality and currency of data is always a challenge. To address this challenge, Norway has adopted the principles of the “good circle of use of information” to increase the **quality, value, and currency** of the CCLRE ON and related information.

Benefits Realized

Norway has seen many benefits related to the implementation of the CCRLE, including the following:

- **Reduced time to register a business**—prior to the CCRLE and centralized registration, it could take up to one year to register a business. Now, electronic registrations are processed within one day.

- **Increased regulatory compliance**—for example, the CCRLE is linked to the Disqualified Directors Register, thus preventing these individuals from entering into another business. Also, filing compliance has increased from 56 percent in 1980 to 97.5 percent in 2009.
- **Reduced administrative burden on businesses**—Norwegian businesses need only remember their organization number to access government information and services. Through Altinn (<https://www.altinn.no/>), the Norwegian one-stop shop, businesses can access most common government services.
- Businesses refer to the BRC as *the Registry*, thus inferring that the BRC is one transparent entity.

Summary

When the Central Coordinating Register for Legal Entities was opened in 1995 it was applauded as one of the most important measures to improve efficiency in public administration in recent years.¹⁰

UBI implementations and operations are continuous. Norway started in the 1980s with business registration reforms, implemented a UBI in 1995, and is still involved in improving processes and access to UBI-related information. CCRLE's focus now is improving the information services themselves—through integration with the national ID gateway, improved messaging services, and increased use of data semantics.

Annex 7A Registered Entities

Table 7A.1 shows statistics on registered entities as of February 2015.

TABLE 7A.1 Registered Entities

Business entity type	Number of entities managed
Corporations/companies	330,000 (estimated)
General partnership/trade name	n.a.
Sole proprietor/trader	130,000 (estimated)
Other	n.a.

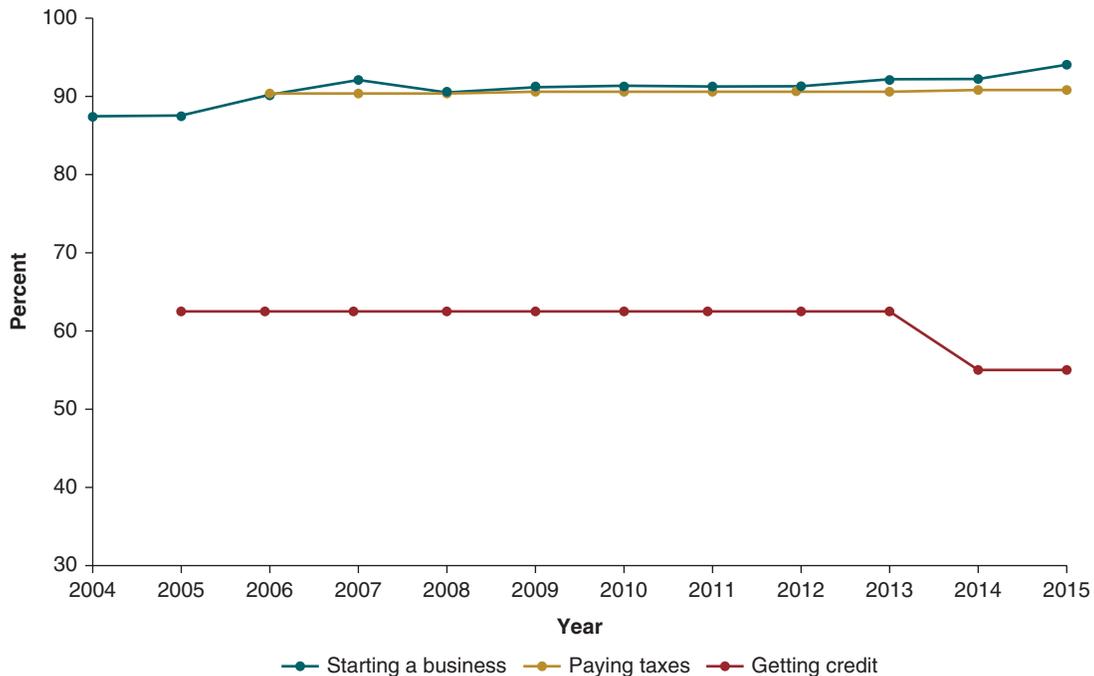
Source: Case study interviews.

Note: n.a. = not applicable.

Annex 7B Doing Business Distance to Frontier

Figure 7B.1 provides an overview of Norway’s distance to frontier (DTF) measurement. The DTF shows the distance of each economy to the “frontier,” which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005 (please see <http://www.doingbusiness.org/data/distance-to-frontier> for further details). Norway first introduced the Central Coordinating Register for Legal Entities (CCRLE, Norway’s version of the unique business identifier [UBI]) in 1995, which predates the Doing Business indicators.

FIGURE 7B.1 Distance to Frontier—Norway



Source: Doing Business dataset 2004–15.

Note: Unique business identifier introduced in 1995.

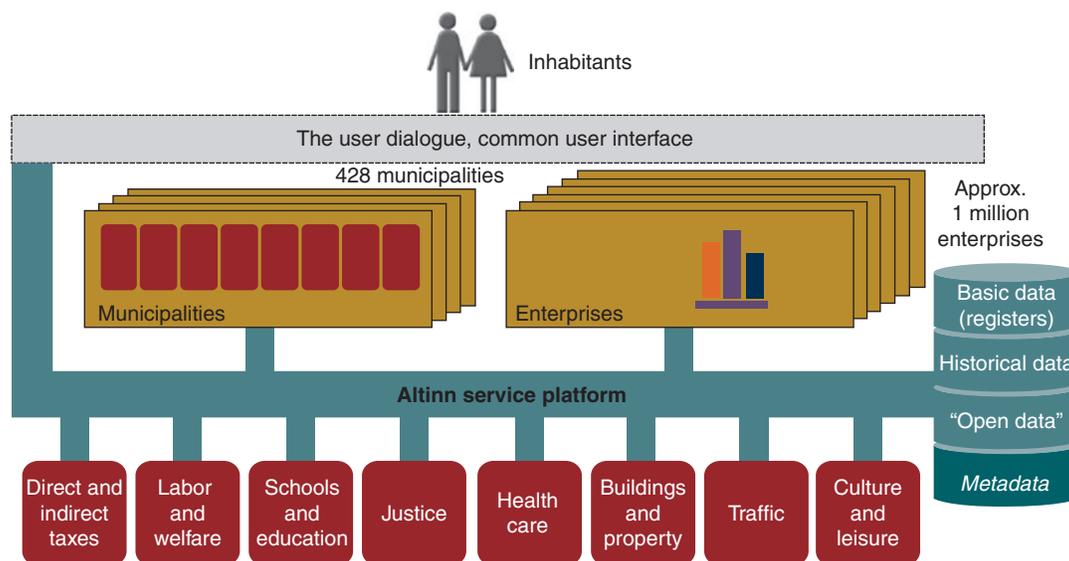
Annex 7C Architecture and Technology

Norway’s solution is a hub-and-spoke architecture that interacts and exchanges data with various other government registers (including the Register of Employers, the Register of Business Enterprises, the Register of Foundations, the VAT [Value Added Tax] Register, Statistics Norway’s Central Register of Establishments and Enterprises, the Corporate Taxation Data Register, and the Register of Bankruptcies). Norway’s Central Coordinating Register for Legal Entities (CCRLE) architecture leverages the following technologies and standards to implement the solutions:

- Enterprise service bus (BizTalk)
- One-stop portal (Altinn, <https://www.altinn.no/>), providing access to CCRLE information and online transactions
- ELMER, a framework for web-based forms (acronym, in Norwegian, for “easier and more efficient reporting”), <http://www.brreg.no/elmer/elmer2-english.pdf>
- SERES, the Norwegian Semantic Register for Electronic Collaboration (SERES) contains metadata that describe the semantics and information structure of data that are exchanged by and within the public sector, <http://www.brreg.no/english/registers/seres/index.html>

Figure 7C.1 depicts the digital infrastructure of Altinn that links public agencies and registers (for example, CCRLE) with 4 million inhabitants and 1 million enterprises. The biggest misunderstanding about Altinn is that it is

FIGURE 7C.1 Conceptual Architecture for Altinn and Brønnøysund Register Centre



Source: Brønnøysund Register Centre.

just an Internet portal. Altinn is an Internet portal, but Altinn's strength lies in the platform itself—a digital infrastructure that links registers, public agencies, municipalities, enterprises, and the country's inhabitants. Altinn is based on open standards and open interfaces and on a shared understanding of the data, what is known as *semantic interoperability*. This is why the Brønnøysund Register Centre (BRC) has also invested so much in SERES.

In the future, the BRC and Altinn can and should be a foundation on which to facilitate innovation and create value in the private sector and in the public sector.

Notes

1. <http://www.doingbusiness.org/data/exploreeconomies/norway>
2. <http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/>
3. June 21, 1985, No. 78, <http://www.brreg.no/english/acts/foretaksregisterlov.html>
4. June 21, 1985, No. 79, <http://www.brreg.no/english/acts/foretaksnaveloven.html>
5. June 3, 1994, No. 15, <http://www.brreg.no/english/acts/enhetsregisterlov.html>
6. June 6, 1997, No. 35, <http://www.brreg.no/english/acts/oppgavereglov.html>
7. June 15, 2001, No. 81, <http://www.lovdato.no/all/hl-20010615-081.html>
8. June 25, 2004, No. 988, <http://www.lovdato.no/for/sf/fa/fa-20040625-0988.html>
9. Others include land, personal property, and people.
10. <http://www.brreg.no/english/registers/entities/entities.html>

8. Philippines Case Study

Background

The Philippines is a presidential republic in Southeast Asia with a population of 100 million, an average age of 23, and roughly 1,600 local government units (LGUs). The Philippines is ranked 95th out of 189 economies in the 2015 Doing Business report.¹ Its ranking in the starting a business indicator is 161st, requiring 16 procedures and 34 days to start a business. The Philippines is ranked 52nd out of 144 economies in the World Economic Forum (WEF) Global Competitiveness Index 2014.²

Introduced in 2010, the Philippines Business Number (PBN) has been issued to roughly 1.5 million sole proprietors. The Philippines Business Registry (PBR) administers the PBN and—in partnership with the Bureau of Internal Revenue (BIR), Social Security System (SSS), PhilHealth (PHIC), and Home Development Mutual Fund (IBIG)—has introduced an integrated registration process for new businesses.

Intended to link data on enterprises across government agencies, the Philippines government has introduced the PBN to support and maintain a competitive business environment in the Philippines. The key objectives in implementing the PBN include

- Improving customer service and efficiency;
- Increasing transparency;
- Implementing interoperability; and,
- Improving international rankings³ for registering a business.

As described in box 8.1, there are multiple registries involved, based on the type of legal entity. At present, the PBN is used only for sole proprietors; it is not issued to companies, cooperatives, or other entities. However, a new government project, the Medium-Term Information and Communication Technology Harmonization Initiative (MITHI), is developing a UBI that will encompass all legal entities in the Philippines, which will also promote improved interoperability and interagency cooperation, while reducing redundant data submission requirements for businesses and increasing transparency.

Organizational Approach

For the current implementation of the PBN, a memorandum of agreement governed the activities of steering and technical committees that involved the following organizations: PBR, SSS, BIR, SSS, PHIC, and IBIG. These are also the organizations that are involved in the operational management of the integrated business registration process that was implemented in Phase 1.

BOX 8.1 Business Entity Registration Authorities

In the Philippines, the registration of legal entities falls under two different agencies: the Department of Trade and Industry (DTI) and the Department of Finance. The following table outlines the authorities, the type of entities registered, and to which department they report.

TABLE B8.1.1 Registration of Legal Entities

Authority	Entity type(s)	Department
Philippines Business Registry	Sole proprietors	DTI
Securities and Exchange Commission	Companies	DF
Cooperative Development Authority	Cooperatives	DF

Source: Case study interviews.

Note: DF = Department of Finance; DTI = Department of Trade and Industry.

The next phase of UBI development for the Philippines will be guided by the MITHI Business Cluster,⁴ which will involve the following organizations: DTI, Securities and Exchange Commission (SEC), Cooperative Development Authority (CDA), BIR, SSS, IBIG, PHIC, and LGUs and other permit- and license-issuing agencies.

MITHI's vision for the future UBI includes an integrated system for all entities that encompasses all aspects of the business lifecycle—from starting a business to operating it and winding it down.

Legislative and Administrative Considerations

The PBN was implemented by the partner organizations through a memorandum of agreement, and did not require legislative or administrative changes. The MITHI Business Cluster is in early stages of conducting its analysis, but initial indications are that major legislative reforms will not be necessary; however, existing acts or regulations may require amendment to enable electronic submissions and the use of revised or consolidated application forms.

Since MITHI is still in early stages, the administrative impact cannot be quantified and will depend on the approach adopted for the delivery of services (for example, online or in person). At this time, however, there are not expected to be any large-scale administrative or organizational changes to implement a full UBI solution that encompasses all legal entities in the Philippines.

Implementation Approach

To this point, PBR, SEC, and CDA have been working separately; but the introduction of the MITHI Business Cluster will bring these registration authorities together in a standard, focused approach to the implementation of a UBI for the Philippines.

Regarding standardization of the PBN across SSS, BIR, IBIG, and PHIC, a data-matching exercise was conducted with each organization to map existing entity IDs to the related PBN.

DTI's implementation of the PBR leverages an enterprise service bus and web portal to facilitate the integrated registration process across the partner organizations. DTI collects the registration requests and dispatches them to the partner organizations for processing. The result is a centralized registration solution, which reduces the amount of time it takes to register as a sole proprietor.

The target architecture for UBI will align with the national information and communication technology (ICT) strategy and framework, and will leverage public key infrastructure to ensure data security, as well as secure and reliable online transactions.

Challenges Encountered

There are a number of challenges that have been, or are expected to be, encountered:

- DTI, SEC, and CDA did not have a **shared mandate** (either through a cabinet directive or other official instruction) to implement a UBI, thus leading to the development of integrated registration through the PBR that did not include companies or cooperatives. As noted in box 8.1, these organizations report to different Departments and Secretaries. The creation of the MITHI Business Cluster is expected to move the UBI forward across all legal entities.
- The PBR contributes a government objective to move people to online channels to reduce administrative costs; however, there is currently **low uptake** of the online channel because 80 percent of transactions are completed in person. There is no quantitative evidence that provides a clear answer to why this is the case. Subjectively, it could be a lack of awareness of the online channel, culture cultural, level of ICT literacy, or access to computers—the initial indication is that the PBR site (<http://www.business.gov.ph/>) is not mobile friendly.
- Expanding the use of the UBI to LGUs for licensing, permitting, local taxes, and so on may prove to be a challenge because there are roughly **1,600 LGUs** in the Philippines. Careful planning will be required in all dimensions (legal, process, people, and technology) of the UBI to ensure accessibility and the necessary data governance.

Benefits Realized

As yet, the PBN is not used within the private sector; however, within the public sector it is used by the five organizations involved in integrated registration of sole proprietors. To measure success, a number of performance metrics are being tracked: registration time; transactions by channel (that is,

web vs. teller); and transactions by scope, gender, region, civil status, payment method, and transaction source.

For the five partners, and the private sector, the introduction of the PBN and integrated registration process has resulted in the following benefits:

- Reduction in the time to register a business
- Increased formalization and tax compliance
- Reduced administrative burden for entrepreneurs
- Increased efficiency for government
- Increased data sharing

Summary

The Philippines has implemented a common identifier for sole proprietors as well as an integrated registration process across five organizations. The next step in the process, under the mandate of the MITHI Business Cluster, is to extend the PBN across all legal entities and leverage it across other agencies and organizations (for example, licensing and permitting), and LGUs.

Additional Notes

The World Bank's starting a business indicator measures the time and costs for companies registering at the SEC; sole proprietors are excluded. The PBR in its current implementation includes only sole proprietors; therefore, any gains that have been made in registration time are not reflected in the Doing Business results.

Annex 8A Registered Entities

Table 8A.1 provides an overview of the number and types of entities managed through the Philippines Business Registry, Securities and Exchange Commission, and Cooperative Development Authority.

TABLE 8A.1 Registered Entities

Business entity type	Authority	No. of entities managed	As of
Corporations/companies	SEC	381,862	31 May 2015 ^a
Sole proprietor/trader	PBR	944,897	2012 ^b
Cooperatives	CDA	977	31 December 2014 ^c

Source: Case study interviews and agency websites.

Note: CDA = Cooperative Development Authority; PBR = Philippines Business Registry; SEC = Securities and Exchange Commission.

a. http://www.sec.gov.ph/map_stat.html

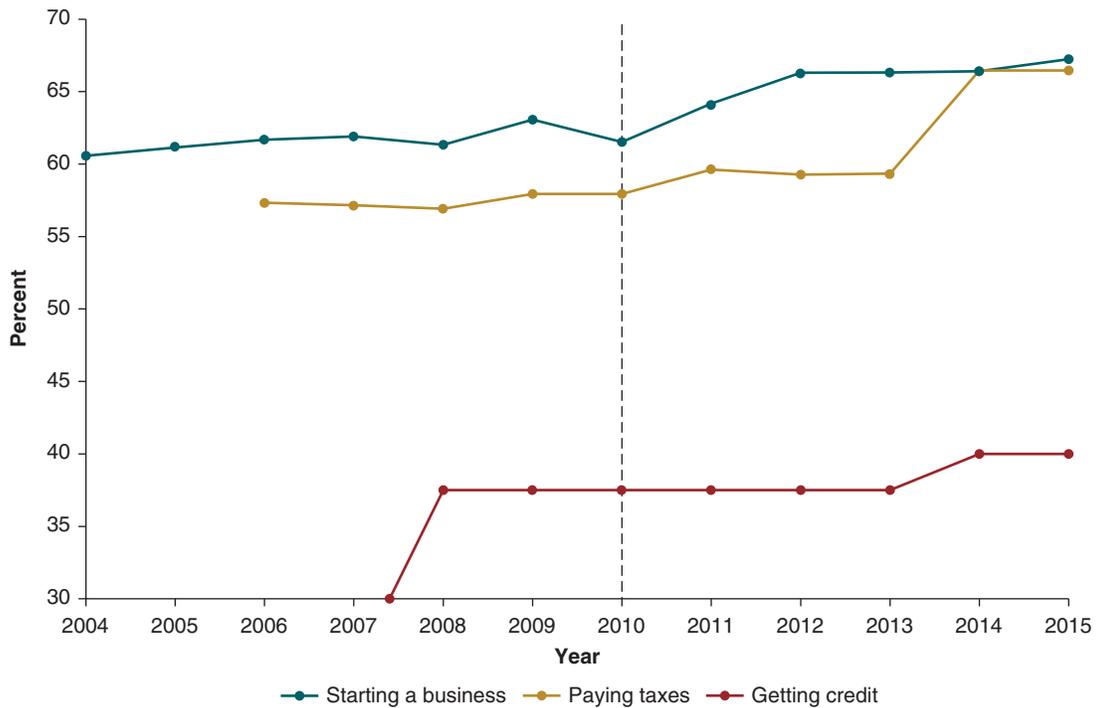
b. <http://www.dti.gov.ph/dti/index.php/msme/msme-statistics>

c. <http://www.cda.gov.ph/index.php/resources/updates/statistics/527-statistics-as-of-december-31-2014>

Annex 8B Doing Business Distance to Frontier

Figure 8B.1 provides an overview of Philippines distance to frontier (DTF) measurement. The DTF shows the distance of each economy to the “frontier,” which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005 (please see <http://www.doingbusiness.org/data/distance-to-frontier> for further details). The Philippines Business Registry (PBR) and the Philippines Business Number (PBN) were introduced in 2010 for sole proprietors; however, the Doing Business measurements in the Philippines apply to companies only. Thus, the DTFs are provided as reference only, but it is expected that the Medium-Term Information and Communication Technology Harmonization Initiative (MITHI) will expand the PBN across the remainder of the major types of legal entities.

FIGURE 8B.1 Distance to Frontier—Philippines



Source: Doing Business dataset 2004–15.

Note: Unique business identifier introduced in 2010.

Annex 8C Architecture and Technology

The integrated registration solution that the Philippines Business Registry (PBR) has implemented is based on a broker architectural pattern; as a broker, the PBR collects the registration requests and dispatches them to the relevant partner organizations for processing. To implement the solution, the PBR has leveraged the following technologies:

- Enterprise service bus
- Web services
- Public key infrastructure for message-level encryption
- Web portal for integrated registration

Notes

1. <http://www.doingbusiness.org/data/exploreeconomies/philippines>
2. <http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/>
3. The World Bank's Doing Business Indicators.
4. Other clusters include health and provisioning.

9. Rwanda Case Study

Background

Rwanda is a low-income nation, organized as a constitutional republic, whereby the president of Rwanda is both head of state and head of government within a multiparty system. Rwanda's parliament has two chambers, the Senate and the Chamber of Deputies. It has a population of 12 million and gross domestic product (GDP) in 2013 of \$16.368 billion. The country ranked 46th in the 2015 Doing Business report. As of the end of June 2014, there were 11,361 businesses (sole proprietorships and corporations) in Rwanda.

The unique business identifier (UBI) is based on the tax identification number (TIN), and was implemented as part of a major reform and automation of business registration procedures in 2010. The current TIN in Rwanda was established in 2005 and is a nine-digit number, consisting of an eight-digit sequential number + a one-digit check digit. The nine digits are made up of the following parts: (i) the first digit is 1; (ii) the next seven digits are sequential from one to 9999999; and (iii) the last digit is a checksum. No business type or regional identifier is included because previous experience showed that these characteristics can change during the life of the business. It was implemented based on International Monetary Fund (IMF) best practices for TIN implementation.

Rwanda has undertaken many far-reaching reforms to improve the quality of the business environment and to improve its standing in the Doing Business Rankings. The effort to unify business identification numbers began in 2009 through the Single Business Registration project, primarily to support more efficient registration and tracking of businesses. The use of the UBI has steadily expanded into other parts of government as well as being used by the private sector in obtaining information on potential borrowers and trading counterparties.

Organizational Approach

A government working group comprising five agencies (later expanded to seven) was established during the implementation of the automated company registry and integration of registration processes.

The initial five agencies included

- The Office of the Registrar General (ORG);¹
- The Rwanda Revenue Authority (RRA);²
- The Rwanda Social Security Board (RSSB);³
- The National Institute of Statistics;⁴ and
- The National ID Agency.⁵

The working group was then expanded to include

- The Central Bank of Rwanda and
- The Ministry of Finance

The basic approach as laid down by the memorandum of understanding (MOU) governing their cooperation is as follows:

- The TIN as generated and assigned by RRA will be used as the unique identifier of companies and enterprises.
- Applications for registration or amendments hereto will be based on the online submission of a consolidated registration form covering all information required for registration with the cooperating institutions.
- One single registration certificate will be issued, providing legal certification of the incorporation and registration with the other institutions.
- Value added tax (VAT) registration and certificates will not be covered by the integrated service (however, VAT registration was subsequently integrated in October 2015).
- The mandates of the respective institutions for the management and maintenance of their respective registers are not impacted under this agreement.
- Cross-checking of personal ID with the national ID register will be carried out to validate applicant identities, as well as those of other officers and directors, if applicable.

The ongoing governance is limited to quarterly meetings of the stakeholder agencies but will likely expand in the future as more agencies begin to adopt the UBI.

Legislative and Administrative Considerations

The integrated registration services and UBI were implemented under an MOU dated December 31, 2009, and signed by the cooperating institutions named in the previous section. Their senior executives agreed to elevate the TIN as the UBI following a technical recommendation from a working group representing the seven institutions. No changes in laws were necessary; the TIN was already established under the tax law.

Implementation Approach

As noted previously, the initial objective for developing a UBI was to streamline the process of registering businesses through a streamlined electronic procedure, which was being implemented in part through the automation of the company registry. This implementation has since given rise to a number of additional activities to leverage the UBI in other government databases to more efficiently map information against specific business entities; however, this has been largely an evolutionary effort.

The initial effort was conducted in 2009–10 in essentially one phase, during the implementation of the online company registry. Since then there has been a series of discrete projects to expand the use of the UBI in other government databases and services.

As part of the automation process, the Company Registry required all businesses in Rwanda to reregister, allowing them to then adopt their existing TIN number as the UBI. The RSSB still has its own business identifier, but the database of all entities registered with RSSB includes the TIN so the two numbers are mapped to each other.

Since the initial launch in 2010, there has been a continual evolution of other applications of the UBI to improve interoperability of government databases, including land and collateral registries, in addition to its use by the National Institute of Statistics for analysis of businesses. For example, the Rwanda Development Board uses UBI information to support registration of mortgages, and the land registry employs the UBI in registering transfers of land titles involving businesses.

The UBI is also required from government suppliers participating in tenders and claiming payment at the Treasury. Commercial banks, the moveable collateral registry, and the new credit bureau all use the UBI for company identification.

In addition, personal identification numbers have been integrated into the company registry, so owners, directors, and officers are validated against the national ID system during the registration and update process.

The use of the UBI will likely be expanded as a new initiative to move 100 services online through an e-Government public-private partnership, Rwanda Online, implemented with an initial launch in June 2015. The initiative will also include shared services such as single sign on and e-payment capabilities. In addition, use of UBI will likely be expanded to include local governments, as RRA has now been mandated to collect many local government taxes and fees, such as business operating licenses and property taxes.

Challenges Encountered

The initial UBI effort was driven by government efforts to improve the starting a business indicator through automation and integration of business registration processes.

One of the key challenges was to establish a clean registry of businesses, which was accomplished through requiring all businesses to reregister with the ORG. Previously, the paper records of company registrations were stored in courts across the country; the new company law established a central registry agency and stipulated that all businesses must reregister with this new entity.

There was also an initial reluctance for businesses to use the new online processes. In 2014 registration online was made mandatory but free, and promotional efforts were undertaken to encourage people to use Internet cafes and personal computers in district government offices to submit their registration. Interfaces are being developed in French and Kinyarwanda to accommodate all citizens because the initial interface was only in English.

Benefits Realized

For government, the following benefits have been realized:

- **Reform of business entry procedures**—this and other reforms have resulted in a reduction in the number of days required to start a business in Rwanda from 16 in 2008 to 6.5 in 2015 (Doing Business data; World Bank 2015); note the time to register the business with the ORG, RRA, and RSSB is less than one day.
- **Improved tax compliance**—combined with national ID, this has enabled regulators to identify beneficial owners of businesses where multiple TINs are employed to mask their taxable activities.
- **Reduction in government administration costs**—for example, annual account filing for the company registry has been combined with the business tax filing, which is all done through RRA's online filing capability.

The private sector has also realized a number of benefits, including the following:

- **Reduced compliance costs**—initially through the business start-up reforms noted above; however, these will increase as the UBI is employed to facilitate the delivery of other government-to-business (G2B) services through Rwanda Online.
- **Improved information on private sector counterparties**—this has been realized through the use of the UBI in the secured asset registry operated by ORG as well as information sharing with the new credit-reporting bureau being established in Rwanda. As noted in annex 9B below, this has contributed to a significant improvement on the getting credit indicator.

Summary

Although the initial objectives for implementing a shared business identifier were limited, the government has since identified many other ways to use the UBI to integrate government databases, improve regulatory oversight, and enhance public service delivery. These efforts have also laid the foundation for a much more ambitious effort under Rwanda Online to develop an integrated online service delivery platform for government, the benefits of which will be realized over the next several years.

Additional Notes

The Rwanda TIN number has been implemented on the basis of the following guidelines:

1. The length of a TIN should be as short as possible to make it user friendly to both the taxpayer and the tax administration. Statisticians have indicated that only 11 digits can be used to uniquely number the entire population of the world (Casanegra de Jantscher and Silvani 1991). The U.S. government uses a nine-digit number for social security numbering, which is

aimed at more than 350 million applicants. It is often recommended to use a nine-digit number together with a tenth computer-verifiable check character or check digit. For verification purposes, a check digit is commonly incorporated into the TIN. The use of a check digit permits the TIN to be self-checked through use of a mathematical formula with the TIN and the check digit for consistency. This protects against any attempt to fabricate a number based on knowing the TIN structure.

2. The TIN may be structured in such a way that some of the digits carry coded information that specifically identifies the TIN holder. This was the case for the TIN used in Rwanda before 2004. It is strongly recommended not to attempt to code the number in relation to any of the particulars like location or nature of business, as these are likely to change from time to time.

Annex 9A Registered Entities

Table 9A.1 shows statistics as of June 2014.

TABLE 9A.1 Registered Entities

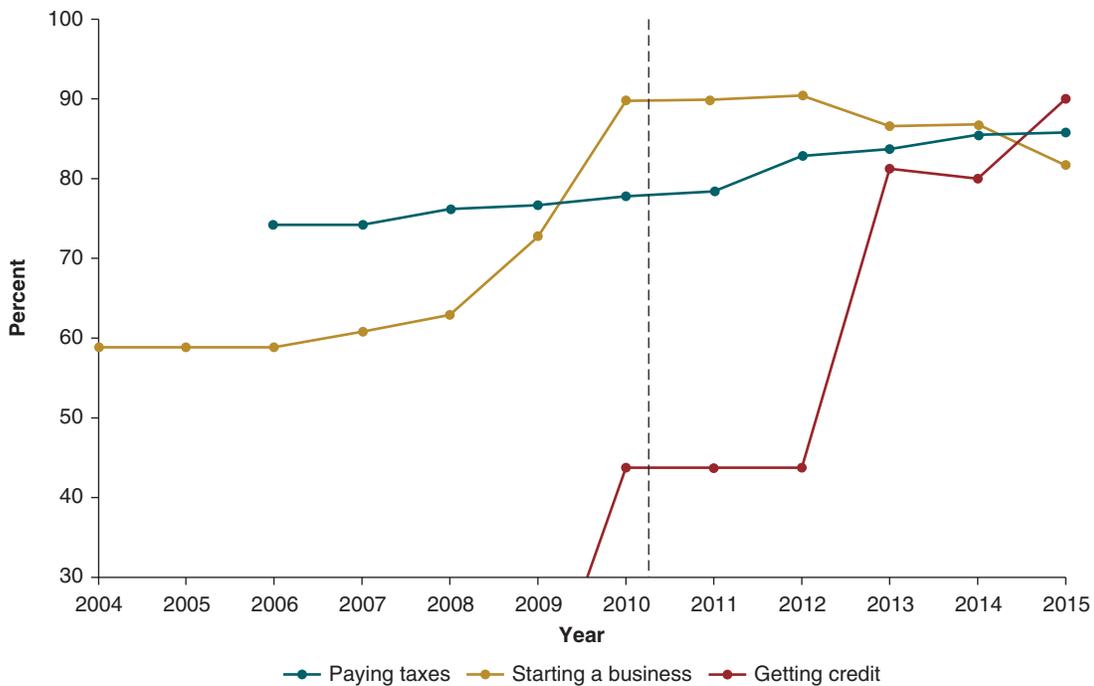
Business entity type	Number of entities managed
Corporations/companies	48,371
Sole proprietor/trader	16,716
Association, society, religious body, union, university/ school, hospital, financial institution, municipal government, and other	Not registered at Office of the Registrar General

Source: Office of the Registrar General.

Annex 9B Doing Business Distance to Frontier

Figure 9B.1 provides an overview of Rwanda’s distance to frontier (DTF) measurement. The DTF shows the distance of each economy to the “frontier,” which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005 (please see <http://www.doingbusiness.org/data/distance-to-frontier> for further details).

FIGURE 9B.1 Distance to Frontier—Rwanda



Source: Doing Business dataset 2004–15.

Note: Unique business identifier introduced in 2010.

Annex 9C Architecture and Technology

The Office of the Registrar General's (ORG's) Business Registration System located in the government data center connects to the Rwanda Revenue Authority (RRA) by using a private secure connection. A RRA server dedicated to receiving exchange messages is always available to the ORG's message-sending server. Virtual private network (VPN) services on the Internet between the Business Registration perimeter firewall and the RRA firewall and router equipment have also been established. Similar data exchange capabilities have been established with the other partners.

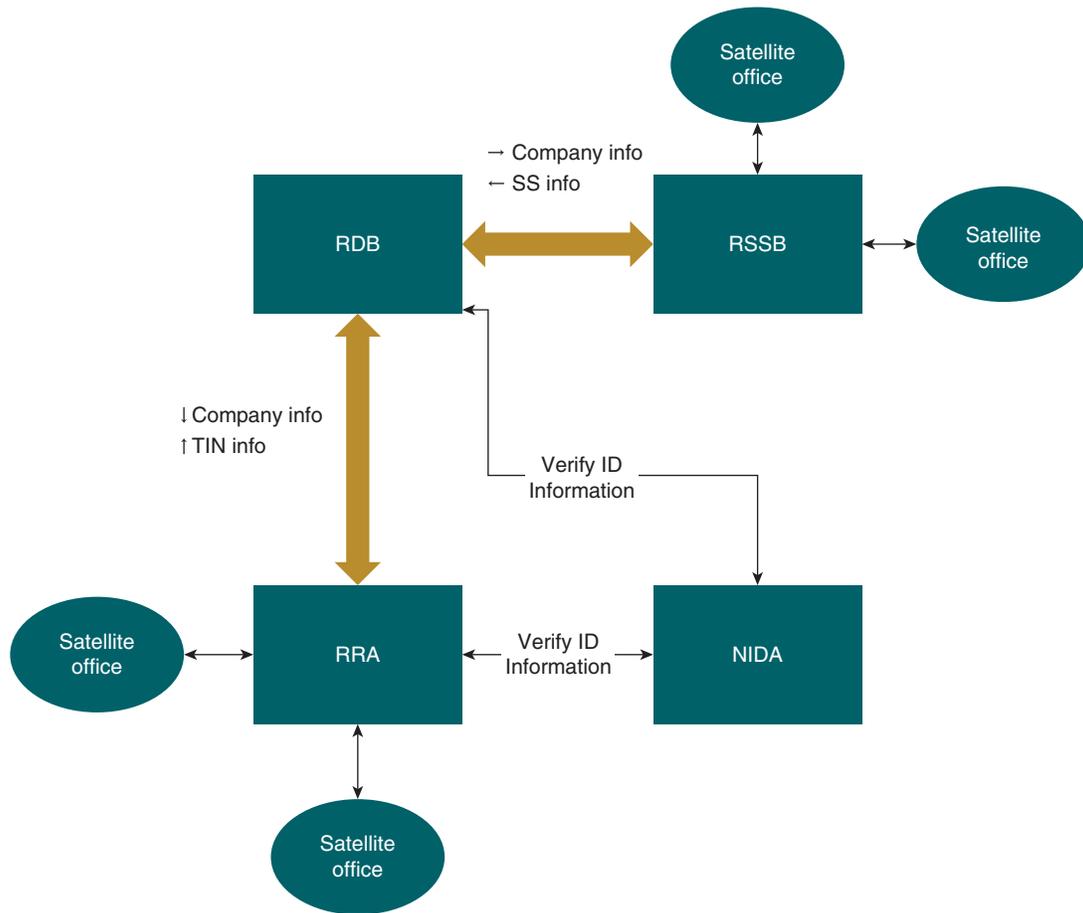
Information sharing between the stakeholder agencies takes place as follows:

1. A business is registered at ORG; ORG verifies national ID information using the National Identification Agency (NIDA) database through web service calls. ORG also sends the new business information to RRA and the Rwanda Social Security Board (RSSB) using web services.
2. RRA receives the business information and also verifies the national ID information using NIDA database through web service calls. Once this checks out RRA generates a tax identification number (TIN) for the new business and sends it back to ORG via web services.
3. RSSB receives the business information, generates the needed social security information, and sends it back to ORG via web services.
4. ORG stores TIN and social security information in its database.

The exchange of information is performed through the Message Queue application program interface (API), and the data format is XML format and UTF-8 encoding.

Figure 9C.1 illustrates the overall architecture.

FIGURE 9C.1 Technical Architecture



Source: Rwanda Revenue Agency.

Note: NIDA = National Identification Agency; RDB = Rwanda Development Board; RRA = Rwanda Revenue Authority; RSSB = Rwanda Social Security Board; SS = social security; TIN = tax identification number. RDB is parent organization of ORG.

Notes

1. <http://www.rdb.rw/departments/investment/business-registration.html>
2. <http://www.rra.gov.rw/>
3. <https://online.rssb.rw/index1152.php>
4. <http://www.statistics.gov.rw/>
5. <http://nid.gov.rw/>

10. Serbia Case Study

Background

Serbia is a parliamentary republic situated at the crossroads between Central and Southeast Europe covering the southern part of the Pannonian Plain and the central Balkans. The population of Serbia was estimated at 7.2 million in 2011,¹ the gross national income (GNI) per capita is US\$5,730, and the income category is upper middle income.

Serbia is ranked 91st out of 189 economies in the 2015 Doing Business report² and 94th out of 144 economies in the World Economic Forum (WEF) Global Competitiveness Index 2014.³

According to the information received from the Serbian Business Registers Agency (SBRA), in the first quarter of 2015, Serbia had 116,500 companies, 215,000 sole proprietorships, and 37,000 associations.

The main objective in introducing the unique business identifier (UBI) was the improvement of data quality in national databases, contributing to increased data and process transparency and improved interoperability in the public and private sectors. On the basis of an assessment conducted in 2001/2002, the government decided to focus initially on business registration reform, including the establishment of the SBRA. These reforms were implemented between 2002 and 2006 and were led by SBRA, sponsored by the Serbian government and supported by the Ministry of Economy, the Ministry of Finance, and the Ministry of Science—IT (Information Technology) Directorate. As a part of the reform (see box 10.1), it was decided to promote a statistical number already being issued by the Statistical Office (RSO hereinafter) to a UBI at the national level (eight-character number). Starting in 2005, this number has been assigned by SBRA to all newly registered business entities. According to the Business Registers Interconnection System (BRIS) directive initiative⁴ and European Business Registers (EBR) Registered Entity Identifier (REID), Serbia is one of the countries that have implemented the REID.⁵

As part of the reformed business registration process in Serbia, the SBRA is responsible for comprehensive and consistent mapping of the UBI and tax identification number (TIN). The SBRA acting as a hub assigns both the UBI and TIN to newly registered business entities. See figure 10.1 for a conceptual representation of UBI issuance in Serbia.

In 2009 the World Bank supported the establishment of the Central Registry of Compulsory Social Insurance (CROSO) with three objectives: (i) to establish unified CROSO registry and interoperability with other registries related to insurance payers and insured persons; (ii) to provide additional social insurance supervision; and (iii) to establish the reporting system in this area. The CROSO initiative introduced a unique Central Registry (CR) number (12 digits), prescribed by the Law on CROSO,⁶ which is assigned to each insurance payer (for example, company,

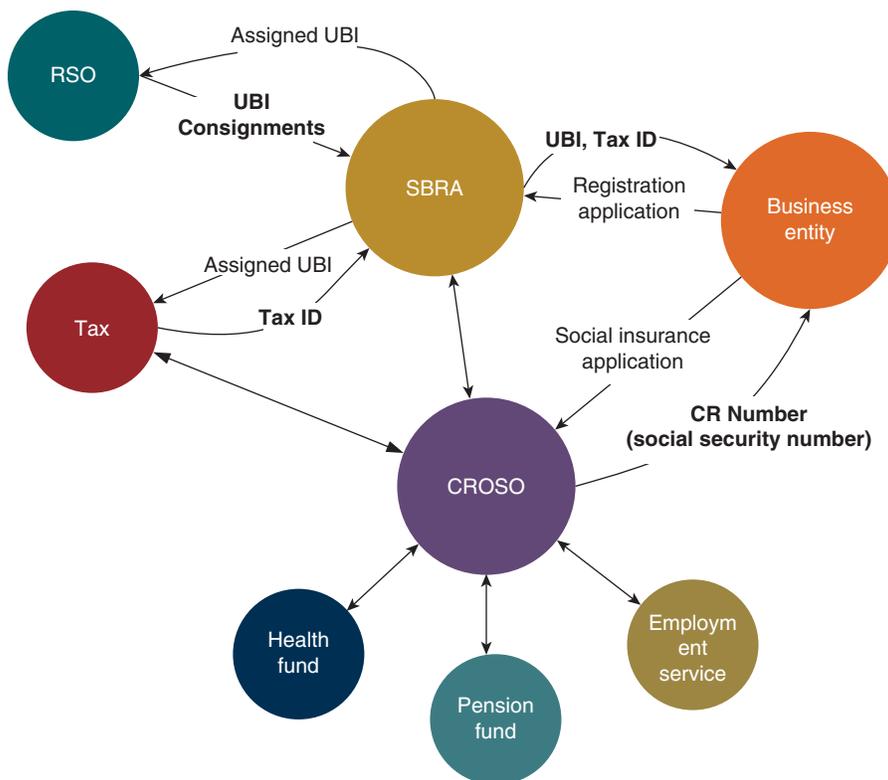
BOX 10.1 Business Registration Reform in Serbia

One of the main goals of the Business registration reform, initiated in 2002, was to promote a “real” UBI that will be

- A number issued in a way that will make it unique, with no exceptions;
- A mandatory element of identification for all legal persons and entrepreneurs in all public sector databases and strongly suggested to any other information system in Serbia; and
- A primary key for all databases in the registries maintained by SBRA which will make it reliable, secure, open and interoperable.

Source: Case study interviews.

FIGURE 10.1 Conceptual Representation of UBI Issuance in Serbia



Source: Author.

Note: CR = Central Registry; CROSO = Central Registry of Compulsory Social Insurance; RSO = Statistical Office; SBRA = Serbian Business Registers Agency; UBI = unique business identifier.

sole proprietorship) and insured person.² The SBRA, in cooperation with the CROSO, is fully responsible for mapping of the UBI and CR number.

So, while UBI is mapped to the TIN and CROSO numbers, these agencies still maintain their existing identifiers.

Organizational Approach

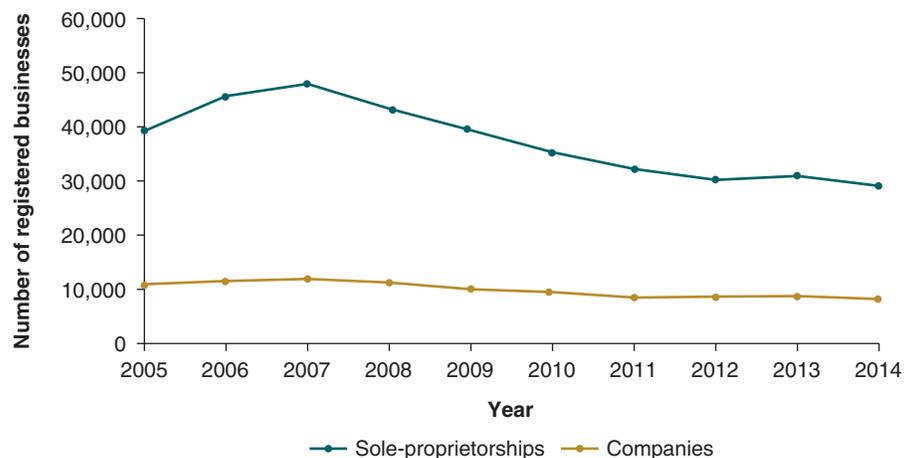
The business registration reform was initiated by the Serbian government as a part of a larger set of public administration reforms initiated after the political changes in Serbia in the year 2000. The management of the steering committee was delegated to the Ministry of Economy; and, for the information communication technology (ICT) aspects of the reform, the Ministry of Science—IT Directorate was involved. Other ministries involved in the reform included the Ministries of Finance, Labor, Health, and Internal Affairs; Public Funds (pension and health); the National Employment Service; and the National Bank of Serbia. The SBRA played a key role in the implementation of this reform.

The business registration reform required complete organizational change and establishment of one national registry institution (SBRA) with an integrated, centralized electronic platform for all registries. The reform also required transferring business registration from the courts to the SBRA and its conversion to an administrative procedure, along with consolidation of registration for all business entities. Figure 10.2 summarizes the resulting changes in registration volumes since 2005. In particular, these reforms involved:

- Transferring registration of companies from 18 commercial courts to the central SBRA Company Register and
- Transferring registration of entrepreneurs from 170+ municipalities to the central SBRA Entrepreneur Register.

The establishment of the CROSO and introduction of the CR number were coordinated by the Ministry of Labor in cooperation with the Ministry of Finance and Health and the Pension Fund. The Ministry of Labor initially supervised the work of the CROSO, but in 2014 the Ministry of Finance took

FIGURE 10.2 The Dynamics of Business Registration at SBRA



Source: apr.gov.rs.

Note: SBRA = Serbian Business Registers Agency.

over this role. CROSO was first organized as a government service and in 2010 became a public institution, fully responsible for the CR registry and related interoperability.

The steering committee for the implementation of the new e-Government Strategy (2015–18) is the Council for Public Administration Reform headed by the Prime Minister with the Deputy Prime Minister and the Minister of Public Administration and Local Self-Government as a vice president, while the members represent most of the ministries, the Government Secretary-General, and directors of the republic secretariats for legislation and public policy. The new e-Government Strategy focuses on enabling interoperability through the introduction of the government service bus.

Legal and Administrative Impacts

The UBI implementation in Serbia was part of the reform of business registration in Serbia and was based on the following key legal instruments:⁸

- New Company Law, Business Registration Law, and amended Law on Local Government (2003/2004)
- Government decision on “One-Stop Shop for Registration” (2008)
- Improved Company Law (2012)

There are also a number of government decrees and rulebooks related directly to the CROSO, adopted to define the application process for compulsory social insurances; the method to migrate and transfer data to form the CROSO registry; the way to assign user privileges; the methodology for recording, editing, and accessing data; and the structure of the CR number.

Implementation Approach

The UBI was initially implemented by the SBRA as a mandatory and unique attribute for all entities in the Register of Companies, operating since January 2005, and the Register of Entrepreneurs, which has been operating since January 2006. The UBI was applied to all businesses in a process of mandatory reregistration carried out at no cost to businesses. The business registration reform in Serbia had the following initial phases:

- Phase 1 (2004–05): Establishment of the SBRA and forming the company and entrepreneur registries
- Phase 2 (2005–06): Reregistration of all businesses in the “new” SBRA company registry
- Phase 3 (2007–09): Implementation of the “One-Stop Shop for Registration” (from May 2009)

In Phase 1, SBRA accepted the “Unique Legal Person/Entrepreneur ID” issued earlier by the Statistical Office as a UBI, which was also later extended by SBRA to other legal entities (associations, NGOs, and so on). Formally, the

number is still being issued by the Statistical Office; however, SBRA receives the unused numbers in blocks and assigns them to registered entities. Also, in Phase 1 the initial mapping of the statistical number to the TIN was carried out. In Phase 2 a massive reregistration process was implemented whereby approximately 70,000 business entities reregistered in the new SBRA company registry (the remaining 150,000 inactive business entities were struck off the register). The mapping of the statistical numbers continued in Phase 3 by mapping them to the Pension Fund, Health Insurance Fund, and National Employment Service numbers.

Further improvements of the SBRA have been realized in the following phases:

- Phase 4 (2010–12): Additional improvements in the SBRA information system and business processes were undertaken under the “KOICA project” (donation of the Republic of Korea). New partners were added, including the National Bank of Serbia, all commercial banks, and the Republic Geodetic Authority, all of which started using the UBI.
- Phase 5 (2012–13): The SBRA “universal web services” were developed providing data access and data search services to both the public and private sector.
- Phase 6 (2013–present): Implementation of the CROSO registry and mapping of the UBI with CR number.

The CROSO electronic registry of insurance payers and insured persons was established in August 2013 as a result of data migration from the source databases of the Health Insurance Fund, Pension Fund, National Employment Service, and Tax Administration. The registry of SBRA was used as a control mechanism. Also, as part of the data integration process, all source databases (Health Insurance and Pension Funds, Employment Service, and Tax Administration) received the newly generated CR numbers of businesses that were mapped to the existing internal ID numbers. The formation of the CROSO registry took two years. The CROSO is electronically linked to eight state bodies, including the Ministry of Interior, Tax Administration, Statistical Office, Health Insurance and Pension Funds, SBRA, and the Ministry of Public Administration.

As noted in Box 10.2, the SBRA online business portal⁹ is widely used for the public search of registered entities using the UBI or the entity name.

BOX 10.2 UBI Outcomes in Serbia

Starting in 2005 the SBRA gradually became the main source of business entity status information for the entire public sector in Serbia.

The SBRA UBI is used as a primary identifier of all companies and entrepreneurs in the majority of ministries, government agencies, and regulatory bodies. In addition, a growing number of partners from public and private sector use SBRA web services for UBI-based access to the data in the registries.

The CROSO Internet portal¹⁰ has online services that enable registration of social insurance payers and insured persons and submission of social insurance applications. This service requires using qualified electronic certificates, and currently most of the applications are submitted online through the portal.

The new Strategy on the Development of the e-Government in the Republic of Serbia for the period 2015–18 defines improved interoperability in the public sector (government to government [G2G] and government to business [G2B]) as one of the main objectives, with the full implementation of the UBI as one of the key preconditions. This strategy includes both the national level and local governments, and the linking of existing and planned national registries through the government service bus. Also, as a prerequisite for these further actions, the government of Serbia in early 2014 adopted the national interoperability framework based on the European Interoperability Framework.¹¹

Challenges Encountered

Historically, the eight-character business identifier formally issued by the RSO was used throughout the former Yugoslavia, including Serbia, but had the following major drawbacks as a UBI:

- It was issued in practice by many sources (ministries, local authorities, specialized institutions), so it was not reliable and consistent, or even not unique.
- It was not mandatory; therefore, it was not used for company or entrepreneur identification in many important information systems in the country. Instead of that number, many organizations used their own “internal entity ID” or “entity name,” which made any interoperability difficult.

The most important challenges within the business registration reform in Serbia were the following:

- Registration reform in the period between 2004 and 2006 was a completely new model of public administration reform in Serbia because it was service-focused, independent, and self-sustainable, and as such was to some extent isolated from other public services, making it difficult to implement certain reform activities (for example, interoperability with the Tax Administration).
- There was reluctance to reforms by certain project participants, in particular the Tax Administration in the implementation of the business registration one-stop shop in the SBRA.
- There was insufficient support from top levels of government to keep the SBRA as a self-sustaining agency within the government structure. The SBRA was established as a self-sustaining agency, and hence had no excess staff and a salary scale closer to private sector norms, unlike other public agencies. The government did not take this into consideration when implementing across-the-board austerity measures.

Measures taken to address these challenges included:

- Patiently securing support from senior management of the relevant agencies, based on clear laws, bylaws, or government decisions;
- Continuous encouragement of partners who were not active enough in the project;
- Engagement with local and foreign partners, consultants, ICT providers, and donors to provide necessary funding and expertise; and
- Close cooperation with the Chamber of Commerce of Serbia and Belgrade, key ICT companies in Serbia, and business associations (including the National Alliance for Local Economic Development, Foreign Investors Council, and the American Chamber of Commerce of Serbia)

Buy-in from the private sector has been achieved through

- Ever growing customer base for SBRA data services (on-demand and regular data delivery services for a fee) to the private sector;
- Expansion of the use of SBRA web services by the private sector, starting with the largest enterprises, leading to broad and comprehensive application of the UBI at the national level; and
- Continuous improvement of SBRA data delivery services, based on customer responses, complaints, and requirements.

Benefits Realized

As a result of the initial business registration reform, Serbia was named “Top Reformer of the Year” for 2005 by Doing Business; and, after implementation of the “one-stop shop” reforms, the Doing Business performance was further improved. The following benefits have been realized as result of the improved business registration processes and introduction of the UBI in Serbia:

- Reduced time to register a business (from 52 to 5, and then to 1–3 days)
- Improved risk-based tax compliance due to accurate and updated data about business entities
- Increased adherence to public procurement rules through better information on vendors
- Reduced administrative burden for entrepreneurs (same information is not requested by different institutions) and better efficiency of government as a result of increased interoperability
- Increased data quality in many institutions

A main benefit in the private sector is reduced administrative burden, especially for small businesses, and the opportunity to obtain information on potential partners and customers quickly, easily, and inexpensively. Also, the entire banking sector is using the UBI and company data from the SBRA registers according to the Law on Accounting from 2012. SBRA has experienced growing demand for its information from the private sector, including SBRA data services (fee-based, on-demand, and periodic data feeds) and web services, which are used by many large enterprises in their interactions

with vendors, leading to broad and comprehensive application of the UBI across the public and private sector.

Before establishment of the CROSO, business representatives had to go to several institutions to submit their social insurance applications; now this activity can be finished in one step online. The CROSO publishes online statistical information;¹² for example, these showed an increase from 46,582 online applications in January 2014 to 188,695 in December 2014.

Summary

Although implementation and achievement of desired objectives was a step-by-step process that occurred over a number of years, the UBI project in Serbia can be considered very successful. The main accomplishment is that the current level of UBI implementation will enable unimpeded development and implementation of services based on interoperability in the public and private sectors, in accordance with the new national interoperability framework and new Strategy on Development of e-Government in the Republic of Serbia 2015–18.

Additional Notes

Serbia, within the business registration reform, decided to promote a statistical number to a UBI at the national level. After the reform, from 2005, the number is being assigned by the SBRA to all newly registered business entities. The SBRA still receives from the Statistical Office the unused numbers in contingents, which could be understood taking into account the fact that certain organizations are not registered at the SBRA (for example, public institutions that also must obtain this number in the registration process). Regardless, this national business identifier ensures uniqueness in the identification of business entities even as many institutions kept their own numbers (for example, Tax ID, Pension Fund ID, Health Insurance Fund ID). However, by introducing the CROSO, the other numbers lost their importance (especially Health and Pension Fund IDs). The Tax ID is still in use as an external business identifier together with the UBI because the payments to the state made by business entities must make reference to the Tax ID.

Annex 10A Registered Entities

Table 10A.1 shows data as of the beginning of 2015 provided by the Serbian Business Registers Agency (SBRA) (for the entities registered at the SBRA). Table 10A.2 shows information maintained centrally at the SBRA in relation to the unique business identifier (UBI). The UBI is the “primary key” for all data in SBRA registries.

TABLE 10A.1 Registered Entities

Business entity type	Number of entities managed
Corporations/companies	116,500
Sole proprietor/trader	215,000
Associations	37,000

Source: SBRA.

TABLE 10A.2 Information Maintained by the Serbian Business Registers Agency

Information	Contained in the UBI solution
Business name	Yes
Business addresses	Yes
Industry sector(s)	Yes
Officers	Yes
Directors	Yes
Beneficial owners	Yes
Country of origin	Yes
Foreign business identifier(s)	Yes
Other(s)	Yes

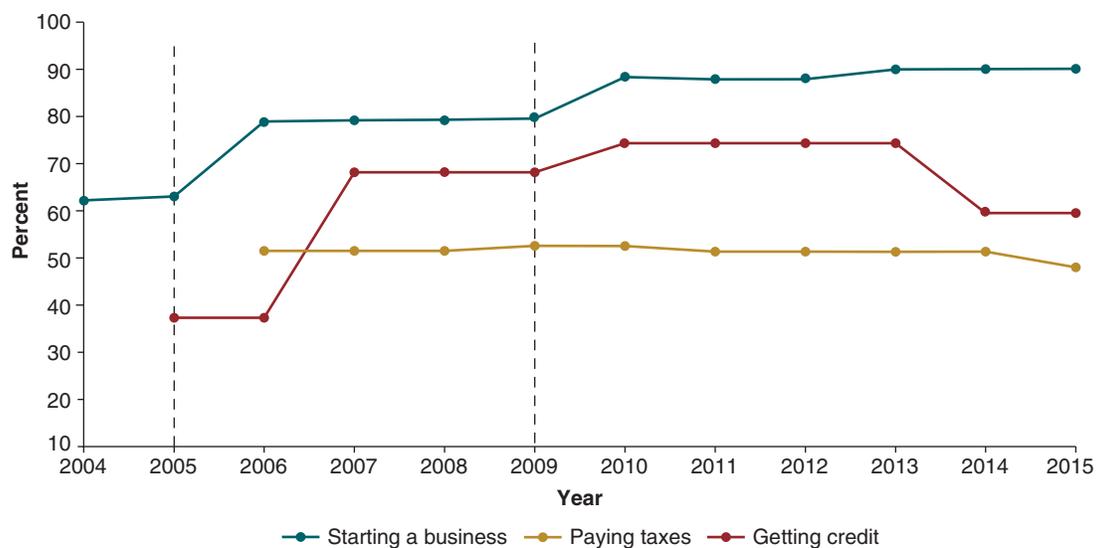
Source: Case study interviews.

Note: UBI = unique business identifier.

Annex 10B Doing Business Distance to Frontier

Figure 10B.1 provides an overview of Serbia's distance to frontier (DTF) measurement. The DTF shows the distance of each economy to the “frontier,” which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005 (please see <http://www.doingbusiness.org/data/distance-to-frontier> for further details).

FIGURE 10B.1 Distance to Frontier—Serbia



Source: Doing Business dataset 2004–15.

Note: Unique business identifier introduced in 2005; Central Registry social security number introduced in 2009.

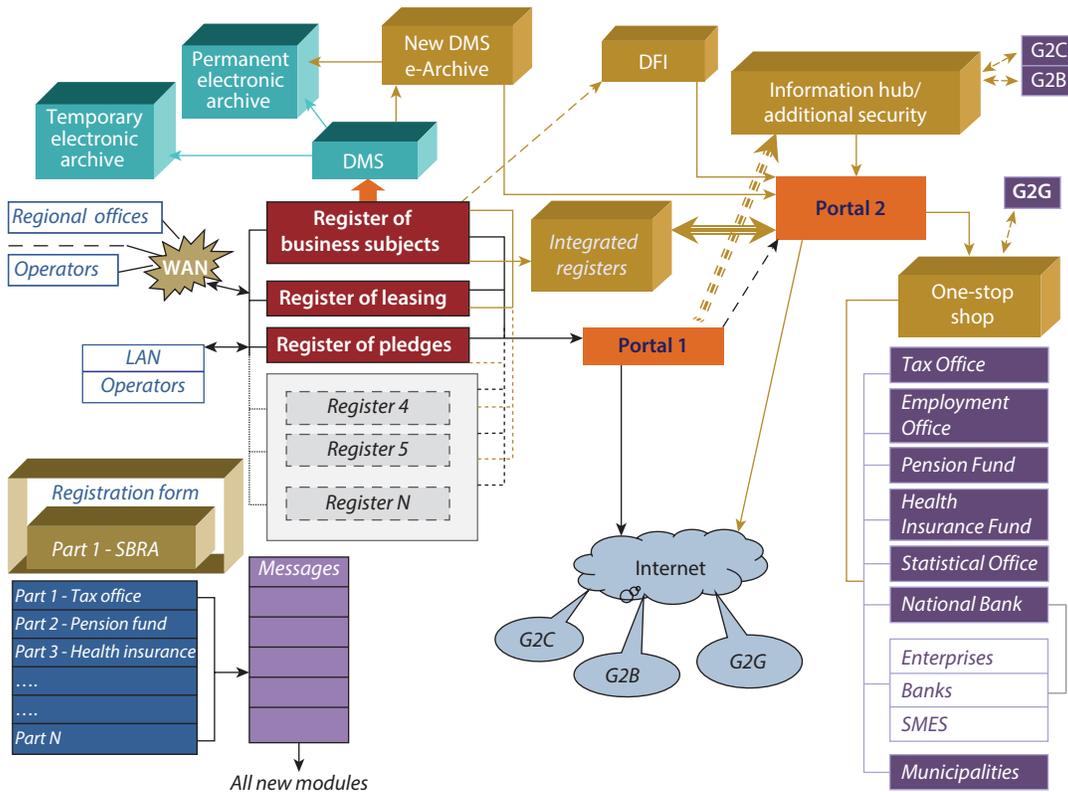
Annex 10C Architecture and Technology

The technologies used include enterprise service bus (ESB), digital signature, and custom-developed and commercial off-the-shelf software. The ESB is maintained at the national level by the Central Government Technical Office. Until now, it was used in an elementary way, partly by services on the e-Government portal, and partly on the basis of bilateral agreements between connected government entities.

Regarding the Central Registry of Compulsory Social Insurance (CROSO) registry and information system, the Oracle Enterprise Taxation and Policy Management (ETPM) standard solution was implemented at CROSO for unique registration and management of data on insurance payers (business entities), insured employees, and other insured persons as well as their obligations, individual monthly and yearly payments for invalidity pensions, and tracking of mandatory health insurance and unemployment insurance (Oracle 2012).¹³

Figure 10C.1 below illustrates the SBRA software architecture.

FIGURE 10C.1 SBRA Software Architecture



Source: Dobrosavljevic 2013.

Note: DFI = Direct Foreign Investment Portal/Register (postponed until the adoption of the new Law); DMS = Document Management System; G2B = government to business; G2C = government to citizen; G2G = government to government; LAN = local area network; SBRA = Serbian Business Registers Agency; SMES = Small and medium-sized enterprises; WAN = wide area network.

Notes

1. Census 2011, http://popis2011.stat.rs/?page_id=2134&lang=en.
2. <http://www.doingbusiness.org/data/exploreeconomies/serbia>.
3. <http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/>.
4. Directive 2012/17/EU of the European Parliament (BRIS). The Directive should be fully implemented by July of 2017. Since the technical specifications of the European Union Identifier are not in place yet, none of the member states has implemented it. By July of 2015, at the latest, the European Commission will have decided on a set of implementing acts.
5. The EU technical platform EBR (European Business Registers) is used by the member states to exchange information on business registration. The EBR is a voluntary cooperation between business registers in Europe and as of 2011 the EBR's members included 19 Member States and six other European jurisdictions including Serbia. The EBR uses an identifier called REID (Registered Entity Identifier). The EBR has served as a starting point of the Business Register Interoperability throughout Europe (BRITE) project that aims to develop an interoperability model for Business Registers to interact across the European Union.
6. Article 10 and 17 of the Law on CROSO. The CR number is generated following the Data Protection Directive 95/46/EC.
7. The structure of this number is 2+8+2, where first two signs represent entity type (for example, "RS" is for legal entities), the next eight are a sequence of decimal numbers, and the two last digits are control digits generated using modulo addition.
8. The complete legal basis for the work of the CROSO was listed on the Internet site <http://www.croso.gov.rs/cir/Propisi/index.php> and the complete list of legislation related to business registration is available at <http://www.apr.gov.rs/eng/LawsandByLaws.aspx>.
9. www.apr.gov.rs.
10. <http://www.croso.gov.rs>.
11. The national interoperability framework for Serbia could be downloaded using the following link http://deu.gov.rs/media/docs/INTEROPERABILITY_%20STANDARDS_%20LIST_%20v_1.0_EN.doc.
12. http://www.croso.gov.rs/cir/Statistika_CR/Poslodavci_statistika/index.php.
13. http://www.in2.hr/en/home/-/asset_publisher/8U2S4pGTGKRd/content/in2-saga-i-soneco-prezentirali-svoj-projekt-u-croso-srbije/maximized.

References

- Casanegra de Jantscher, Milka, and Carlos Silvani. 1991. "Guidelines for Administering a VAT." In *Value-Added Tax: Administrative and Policy Issues*, edited by Alan A. Tait. Washington, DC: International Monetary Fund.
- Chemonics International Inc. 2008. *Strengthening Governance in Albania: Support to Albania's Millennium Challenge Account Threshold Agreement Final Report*. Washington, DC: United States Agency for International Development.
- Chemonics International Inc. 2009. *Georgia: Opened for Business—Georgia Business Climate Reform Final Report*. Washington, DC: United States Agency for International Development.
- CRA (Canada Revenue Agency). n.d. *The Business Number and Your Canada Revenue Agency Program Accounts, Rev. 14*. Ottawa: CRA.
- de Willebois, Emile van der Does, Emily M. Halter, Robert A. Harrison, Ji Won Park, and J. C. Sharman. 2011. *The Puppet Masters: How the Corrupt Use Legal Structures to Hide Stolen Assets and What to Do About It*. Washington, DC: World Bank.
- Dobrosavljevic, Branislav. 2013. "Sustainable Development of the Registration System—Important Factor for Improving the Investment Climate: Case Study for Serbia." Powerpoint presentation from the Peer-to-Peer Workshop for Reform Practitioners, "ICT-Enabled Investment Climate Reform: Leveraging Technology to Improve Regulatory Governance in the ECA Region," Tbilisi, Georgia, June 4.
- EU (European Union). 2014. *Study on eGovernment and the Reduction of Administrative Burden*. Luxembourg: EU.
- Gvenetadze, Irakli. 2011. *ICT-Enabled Investment Climate Reform*. Powerpoint presentation at WBG event. Data Exchange Agency, Ministry of Justice of Georgia.
- Gvenetadze, Irakli. 2013. *Georgia's Successful Journey to e-Government*. Powerpoint presentation from the Peer-to-Peer Workshop for Reform Practitioners, "ICT-Enabled Investment Climate Reform: Leveraging Technology to Improve Regulatory Governance in the ECA Region," Tbilisi, Georgia, June 4, 2013. Data Exchange Agency, Ministry of Justice of Georgia.
- INSTAT (Institute of Statistics of Albania). 2015. *Business Register 2014*. Tirana, Albania: INSTAT.
- ISO (International Organization for Standardization). 2012. "ISO 17442: 2012. Financial Services—Legal Entity Identifier." Geneva: ISO.
- ISO (International Organization for Standardization). 2012. "ISO 16363: 2012. Space Data and Information Transfer Systems – Audit and Certification of Trustworthy Digital Repositories." Geneva: ISO.
- ISO (International Organization for Standardization). 2012. "ISO 14721: 2012 Space Data and Information Transfer Systems. – Open Archival Information System (OAIS) – Reference Model." Geneva: ISO.
- KPMG Albania Shpk. 2014. *Investment in Albania*. Tirana, Albania: KPMG Albania Shpk.

- Krabina, Bernhard, Po-Wen Liu, Morten Meyerhoff-Nielsen, Jeremy Millard, Peter Reichstädter, and Maria A. Wimmer. 2013. *A Digital Georgia: e-Georgia Strategy and Action Plan 2014–2018*. Data Exchange Agency, Ministry of Justice of Georgia.
- Melikyan, Lilit. 2012. *Millenium Challenge Corporation—Albania Threshold Programs: Final Evaluation Report*. Social Impact, Inc.
- NRC (National Registration Center) of Albania. 2014. “Annual Report for Commercial Registry.”
- Oracle. 2012. “Oracle Enterprise Taxation and Policy Management.” Data Sheet. Oracle.
- Regional Cooperation Council, Electronic South Eastern Europe Initiative. 2007. “eSEE Agenda Plus, for the Development of Information Society in SEE, 2007–2012.”
- World Bank. 2011. *Business Registration Reform Case Study: Norway*. Washington, DC: World Bank.
- World Bank. 2015. Doing Business [database]. Washington, DC: World Bank. <http://www.doingbusiness.org/>

