DIGITAL GOVERNMENT
PRINCIPLES, PRACTICE AND RESEARCH

MODULE 4: INFRASTRUCTURE AND SERVICES

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AIM

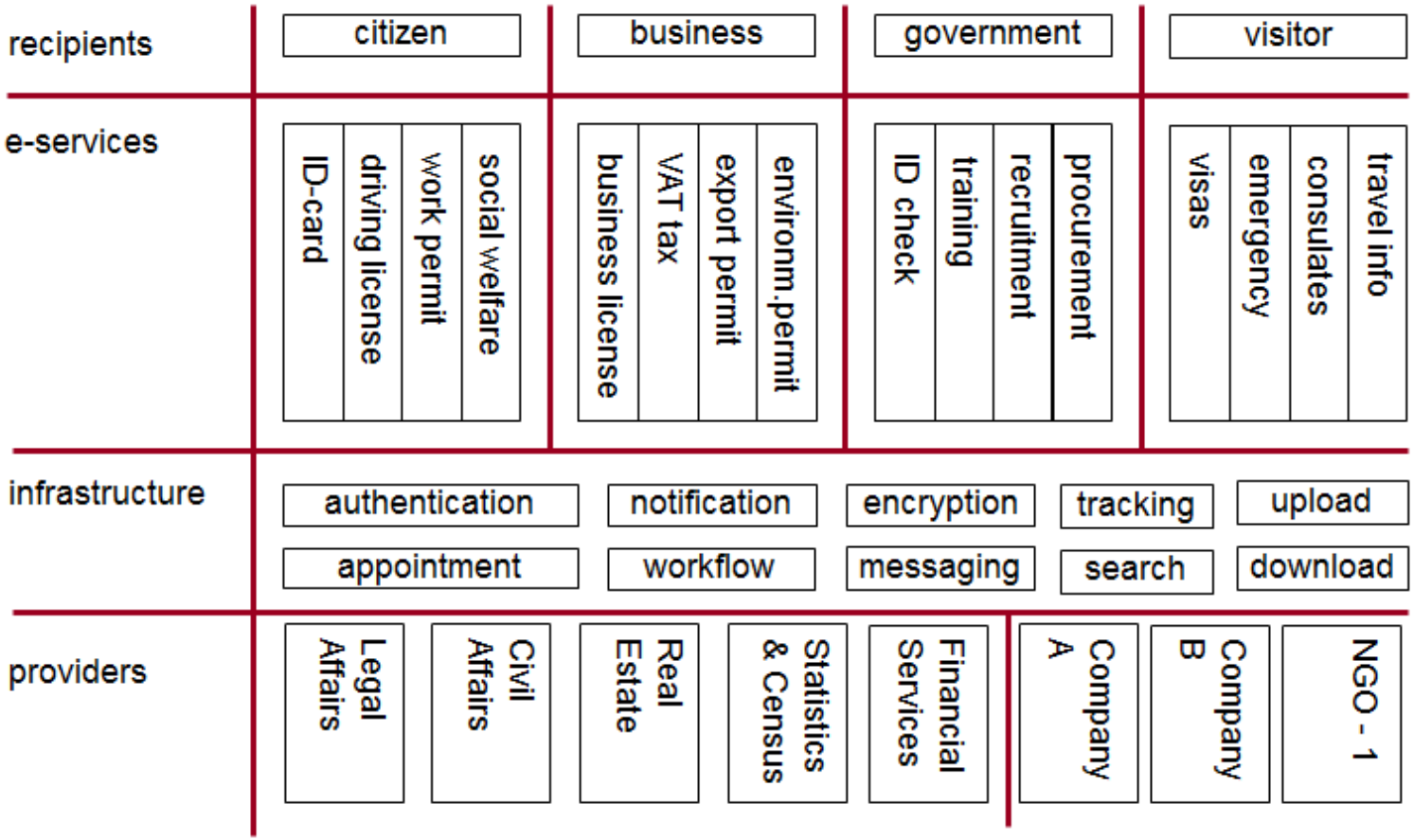
1	To define the concept of Electronic Public Services
2	To show how Electronic Public Services can be implemented

OVERVIEW

1	What are the main concepts that define Electronic Public Services?
2	How to categorize Electronic Public Services?
3	How to innovate Electronic Public Services?
4	How do deliver Electronic Public Services?
5	How to sustain Electronic Public Services?
6	What was covered by this module?

WHAT ARE THE MAIN CONCEPTS DEFINING ELECTRONIC PUBLIC SERVICES?

ELECTRONIC PUBLIC SERVICE FRAMEWORK

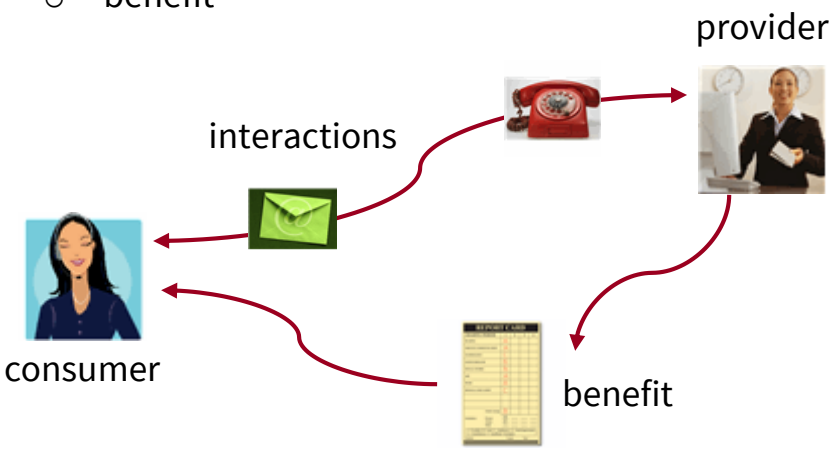


SERVICE

Service is the outcome produced and delivered in interaction between a service provider and a service consumer in order to benefit the consumer or fulfill the consumer's needs.

KEYWORDS

- interaction
- service provider
- service consumer
- benefit



A service is delivered through a series of business process

- pre-application
- application
- post-application

A business process may comprise different transactions

- submit application
- track application
- approve application

PUBLIC SERVICE

Public Service is a service performed for the benefit of the public, especially provided by a non-profit organization

SERVICE CONSUMER	SERVICE PROVIDES
• citizens • businesses • visitors • …	• government agency • non-government organization

EXAMPLES	
1	providing job-search and job-matching
2	providing social security contributions
3	issuing personal documents
4	issuing building permission
5	providing access to public libraries

HIGHLIGHT

In many countries, public sector development strategies are being revisited to enhance the value of the public services.

ELECTRONIC PUBLIC SERVICE

EPS is a public service using ICT to support interaction between service provider and service consumer.

KEYWORDS

interaction

ICT

INTERACTIONS EXAMPLES

1. submitting application
2. asking for an appointment
3. answering telephone queries

EPS EXAMPLES

1. information on the government portal
2. services delivered through ICT:
   - birth certificate
   - social contributions for employees
   - new company registration

The first step to transform an existing service into an e-service is related to accessibility.

SEAMLESS PUBLIC SERVICES

A public service based on customer needs, pro-actively delivered and usually offered through a one-stop contact.

HIGHLIGHTS

delivered based on life events for citizens and business episodes for businesses

offered instead of requested

delivered based on strong collaborations between government agencies

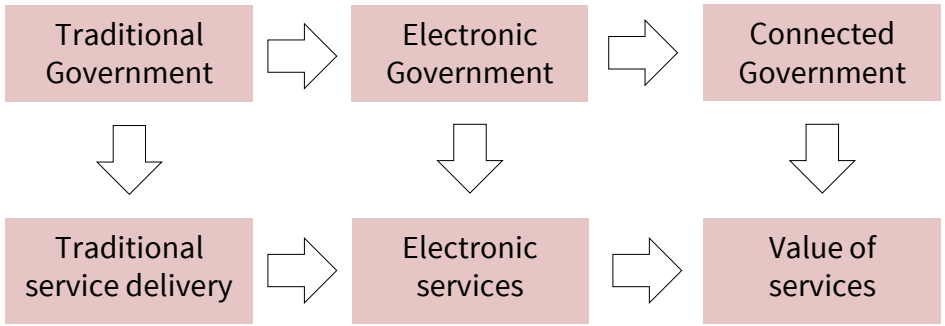
EXAMPLE

issue a birth certificate

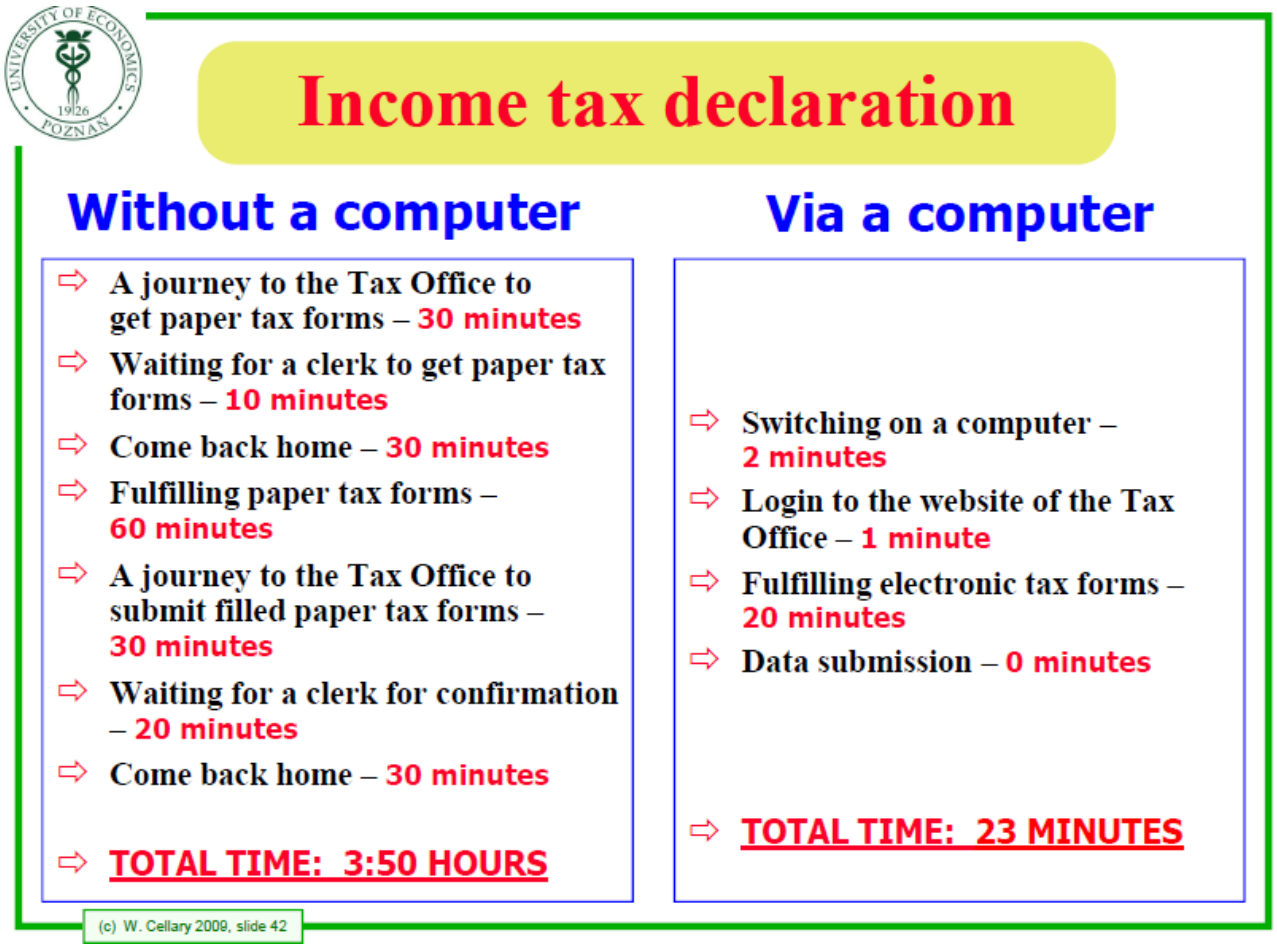
issue an Id card

issue social benefit

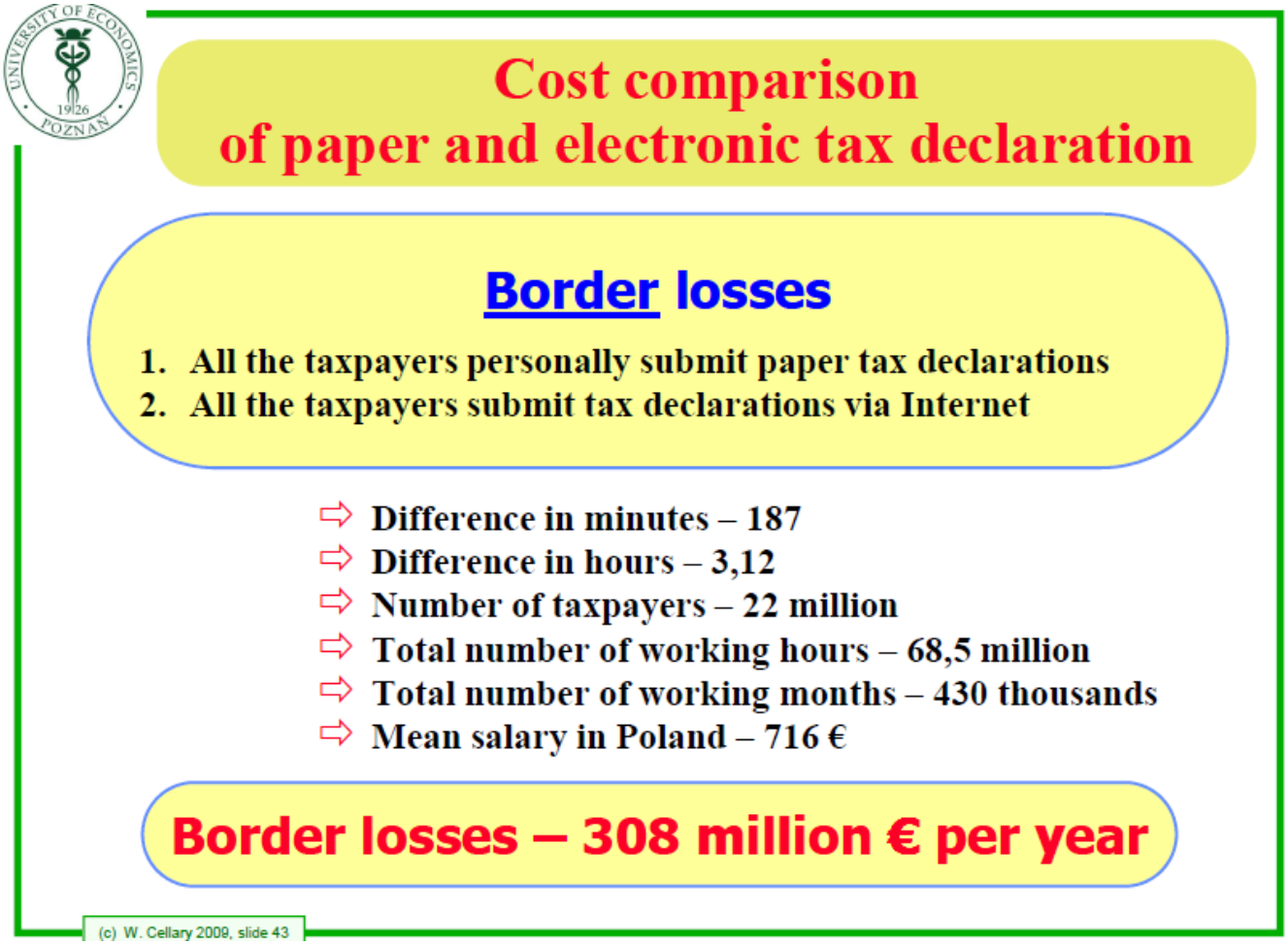
TREND



The focus of the second generation e-government initiatives has shifted from the provision of services to the use of ICTs to increase the value of services.



[Wojciech Cellary, Poznan University of Economics, Poland, 2009]



[Wojciech Cellary, Poznan University of Economics, Poland, 2009]

INTERACTION 17

PROVIDE EXAMPLES OF ELECTRONIC PUBLIC SERVICE PROVIDED BY YOUR UNIVERSITY AND EXPLAIN WHAT PUBLIC VALUE SUCH SERVICES GENERATE.

OVERVIEW

1	What are the main concepts that define Electronic Public Services?
2	How to categorize Electronic Public Services?
3	How to innovate Electronic Public Services?
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HOW TO CATEGORIZE ELECTRONIC PUBLIC SERVICES?

PUBLIC SERVICE TYPES BY FUNCTION

GENERIC TYPES OF PUBLIC SERVICES	
1	Certification
2	Control
3	Authorization
4	Production

PUBLIC SERVICE TYPES BY FUNCTION – CERTIFICATION

Certification services enable administrations to declare and certify different states of the world.

GENERIC PROCESS

#	Actor	Action
1	Entity	applies for certification
2	Admin	asks for evidences
3	Entity	gathers and submits evidences
4	Admin	checks completeness and correctness of evidences
5	Admin	processes inputs (compares with indispensable requisites)
6	Admin	ask for additional evidences
7	Admin	certifies or refuses to certify

EXAMPLES

1	issuing birth certificate
2	issuing marriage certificate
3	issuing certificate of origin
4	issuing tour guide degree
5	issuing health certificate
6	issuing certificate of environmental pollution

PUBLIC SERVICE TYPES BY FUNCTION – AUTHORIZATION

Authorization services enable administrations to grant permissions and approvals. Universal prohibitions are withdrawn (permissive function) or supports are awarded if conditions are met (support function).

GENERIC PROCESS

#	Actor	Action
1	Entity	asks authorization
2	Admin	asks for evidences
3	Entity	gathers and submits evidences
4	Admin	checks completeness and correctness of evidences
5	Admin	processes inputs (compares with indispensable requisites)
6	Admin	may ask for additional evidences
7	Admin	issues the authorization or refuses and justifies the rejection

EXAMPLES

1	issuing license for food establishment
2	issuing driving license
3	issuing import and export license
4	issuing and renewing aircraft certificates
5	registering a new company

PUBLIC SERVICE TYPES BY FUNCTION – CONTROL

Control services enable administrations to be responsible for the proper execution or to ensure general compliance to the rules, usually by inspecting the behavior of customers.

GENERIC PROCESS

#	Actor	Action
1	Admin	traces and identifies cases of non-compliance using a variety of methods
2	Admin	performs various types of controls
3	Admin	arrives at a decision regarding compliance or not
4	Admin	passes sentences (in case of non-compliance)

EXAMPLES

1	controlling vessel traffic
2	monitoring the construction of economical housing
3	evaluating and approving higher educational proposals
4	controlling casinos concessionaires
5	investigating crime

PUBLIC SERVICE TYPES BY FUNCTION – PRODUCTION

Productions services enable administrations to manage infrastructure and utility services.

There is no generic process, since it highly depends on the service.

EXAMPLES	
1	operating emergency hotline – 999
2	patrolling
3	training of police
4	fighting fire
5	organizing training courses to civil servants

INTERACTION 18

PROVIDE EXAMPLES OF CERTIFICATION, CONTROL, AUTHORIZATION AND PRODUCTION-TYPE ELECTRONIC PUBLIC SERVICE FROM YOUR EXPERIENCE.

PUBLIC SERVICE TYPES BY RECIPIENTS

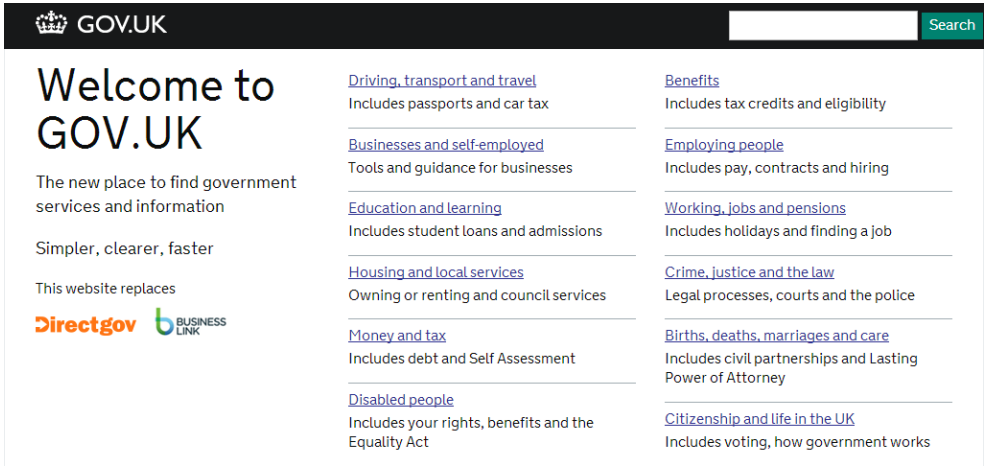
According to the service receiver, various types of public services are identified:

GENERIC TYPES OF PUBLIC SERVICES – BASED ON RECIPIENTS	
1	Government-to-Citizen (G2C)
2	Government-to-Business (G2B)
3	Government-to-Government (G2G)
4	Government-to-Visitor (G2V)
5	Government-to-Employee (G2E)
6	…

G2C PUBLIC SERVICE EXAMPLES 1

G2C – Public services provided to the citizens

EXAMPLE G2C Services - UK



[www.gov.uk]

EXAMPLE ANALYSIS

1 service delivery is effective and convenient for users. Services grouped by recipients and needs:

- driving, transport and travel
- education and learning
- disabled people

2 all services available through one-stop

G2C PUBLIC SERVICE EXAMPLES 2

Among 20 public services adopted by e-Europe, 12 are of the G2C type.

NO	NAME	DESCRIPTION	BEST PRACTICE
1	Income tax	to declare taxes and to receive notification of assessment	All EU countries
2	Job search	to offer pre-selected jobs related to a given profile of the job searcher	Almost all EU countries
3	Social security benefits	to obtain unemployment benefit; child allowance; reimbursement of costs covered by obligatory medical insurance; and student grants for higher education	Austria Finland France Italy Norway
4	Personal documents	to obtain an international passport and a driver license for a personal vehicle not for professional use	Estonia Malta United Kingdom
5	Car registration	to register a new, used or imported car	France Sweden

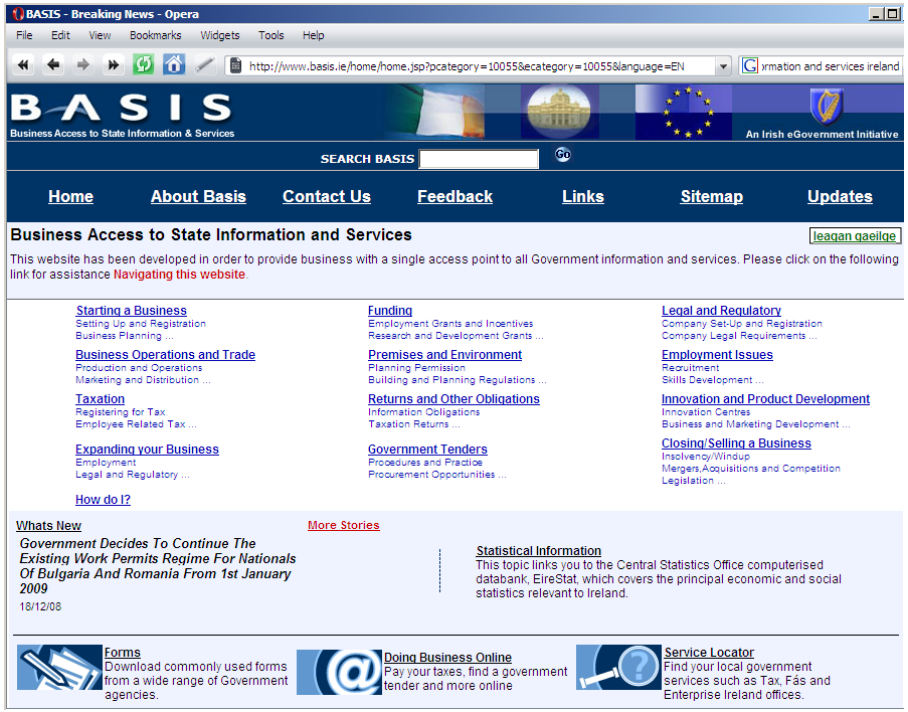
G2C PUBLIC SERVICE EXAMPLES 3

NO	NAME	DESCRIPTION	BEST PRACTICE
6	Building permit	to obtain a building or renovation permission for a personal building	Norway United Kingdom
7	Declaration to the police	to officially declare a theft of personal goods (car or home burglary) to a local police office	Finland Malta, Spain United Kingdom
8	Public libraries	to consult the catalogue(s) of a public library to obtain specific information carrier (Book, CD, etc.)	Austria Denmark Finland, France
9	Certificates	to obtain birth or marriage certificate	France, Malta, Sweden
10	Enrolment in higher education	to enroll students in a university or another institution of higher education (receiving public subsidies)	Hungary Ireland, Slovenia Sweden
11	Announcement of moving	to announce the change of address of a private person	Finland, France Sweden
12	Health-related services	to obtain an appointment at a official recognized hospital	Malta Portugal

G2B PUBLIC SERVICE EXAMPLES 1

G2B – Public services provided to the businesses, business owners and managers.

G2B EXAMPLE FROM IRELAND



http://www.basis.ie

EXAMPLE ANALYSIS

1. fully integrated access to all relevant information under one domain
2. information is structured around the "life events" of a business, e.g. business start-up, development, taxes and employment
3. special focus on accessibility allowing to set display preferences
4. it has a consistent visual identity, allowing customers to easily navigate

G2B PUBLIC SERVICE EXAMPLES 2

From 20 public services adopted by e-Europe, 8 are G2B.

NO	NAME	DESCRIPTION	BEST PRACTICE
1	Social contributions	to declare social contributions for employees	Austria, Finland France, Iceland
2	Corporate tax	to declare corporate tax for income out of normal activities of a corporation	Almost all EU countries
3	VAT	to declare VAT and/or to notify transactions regarding normal activities of a corporation	Almost all EU countries
4	Company registration	to start a new company	Denmark, Norway
5	Statistical data	to submit at least one statistical questionnaire with data	Belgium, Denmark Finland

G2B PUBLIC SERVICE EXAMPLES 3

NO	NAME	DESCRIPTION	BEST PRACTICE
6	Customs declaration	to declare normal activities	Finland, France Ireland, Norway
7	Environment-related permits	to obtain at least one environment-related permit, delivered at the lowest administrative level, concerning the start of a corporate activity	Austria Denmark Estonia Ireland
8	Public Procurement	to manage tenders of public procurements	Denmark, Estonia France, Germany

INTERACTION 20

DESCRIBE AN EXAMPLE ELECTRONIC PUBLIC SERVICE PROVIDED BY YOUR UNIVERSITY AND CLASSIFY THIS SERVICE ACCORDING TO THE FUNCTION, ICT SUPPORT AND RECIPIENT TYPES.

PUBLIC SERVICE TYPES BY ICT SUPPORT – EMERGENT SERVICES

EMERGENT SERVICES	
Characteristics	Can agencies disseminate information (one-way) to citizens?
Features	• Government websites provide information on policies, laws, regulations, and government services and documentation. • Citizens are able to find and access a range of current and archived information government information.
Example	Sabar Shouchagar is a social media-based initiative that raises mass awareness for adapting improved sanitation and hygienic practices in families and communities (District Magistrate Nadia India, 2015).

PUBLIC SERVICE TYPES BY ICT SUPPORT – ENHANCED SERVICES

ENHANCED SERVICES	
Characteristics	Can agencies and citizens engage in (two-way) discrete interactions?
Features	• Government delivers enhanced one-way and/or basic two-way e-communication between government and citizens. • These can include downloadable forms, audio, video, and content in multiple languages. • Capabilities may also include limited abilities to submit requests for personal information or non-electronic forms.
Example	Huduma Kenya Programme is an initiative for delivering public services by integrating physical centers, online and mobile portals, a call center, and a payment gateway, considerably enhancing service delivery (Huduma Kenya Secretariat, 2015).

PUBLIC SERVICE TYPES BY ICT SUPPORT – TRANSACTIONAL SERVICES

TRANSACTIONAL SERVICES	
Characteristics	Can agencies and citizens engage in linked interactions (transactions)?
Features	• Government engages in two-way communication with citizens. • These communications can include completing forms such as license applications, permit applications as well as tax filing.
Example	Express Autor is a service that enables authors to register their literacy and artistic work and receive Certificate of Registration of Works. The interaction between service providers and recipients is supported by technology throughout the whole business proces (Instituto Nacional del Derecho de Autor Mexico, 2015).

PUBLIC SERVICE TYPES BY ICT SUPPORT – CONNECTED SERVICES

CONNECTED SERVICES	
Characteristics	Can agencies coordinate internally (seamlessly) between themselves?
Features	• Government engages in cross-agency integrative e-services, use multiple technologies and platforms. • They seek to move towards greater engagement with citizens.
Example	e-Business Register is a solution that allows entrepreneurs to register their new businesses online without need to visit a government office, relying on technology to enable seamless interaction between entrepreneurs and various government agencies involved in the business registration process (Center for Registers and Information Systems Estonia, 2015).

PUBLIC SERVICE TYPES BY ICT SUPPORT – CHARACTERIZATION

1	An incremental approach
	The implementations of digital public services begin with emergent services, move into enhanced services, then transactional, and finally connected services.
2	A step-wise approach
	• Emergent services are the most basic level, a foundation for further service provision capabilities. • From emergent services, governments can progress to enhanced services, which then serve as a foundation for transactional services. • Without transactional service capabilities, governments cannot engage in connected services.
3	The need for capacities
	• Each stage requires greater technical and knowledge infrastructure for governments and citizens. • For example, connected services require multiple service delivery capabilities by governments (e.g. mobile, computer), a robust telecommunications infrastructure, and the ability of citizens to have access to devices and be able to use a range of applications and technologies.
4	Efficiency focus
	The stages focus on the efficiency of service delivery to citizens through the application of digital technology and thus transcend government, political, and other issues of governance.

PUBLIC SERVICE TYPES BY ICT SUPPORT – DEPENDENCIES

	Standard Services			
Characteristic variables	Emergent	Enhanced	Transactional	Connected
Can agencies disseminate information (one-way) to citizens?	X	X	X	X
Can agencies and citizens engage in (two-way) discrete interactions?		X	X	X
Can agencies and citizens engage in linked interactions (transactions)?			X	X
Can agencies coordinate internally (seamlessly) between themselves?				X

INTERACTION 19

PROVIDE EXAMPLES OF INFORMATIONAL, INTERACTIVE, TRANSACTIONAL AND SEAMLESS-TYPE ELECTRONIC PUBLIC SERVICE FROM YOUR EXPERIENCE.

OVERVIEW

1	What are the main concepts that define Electronic Public Services?
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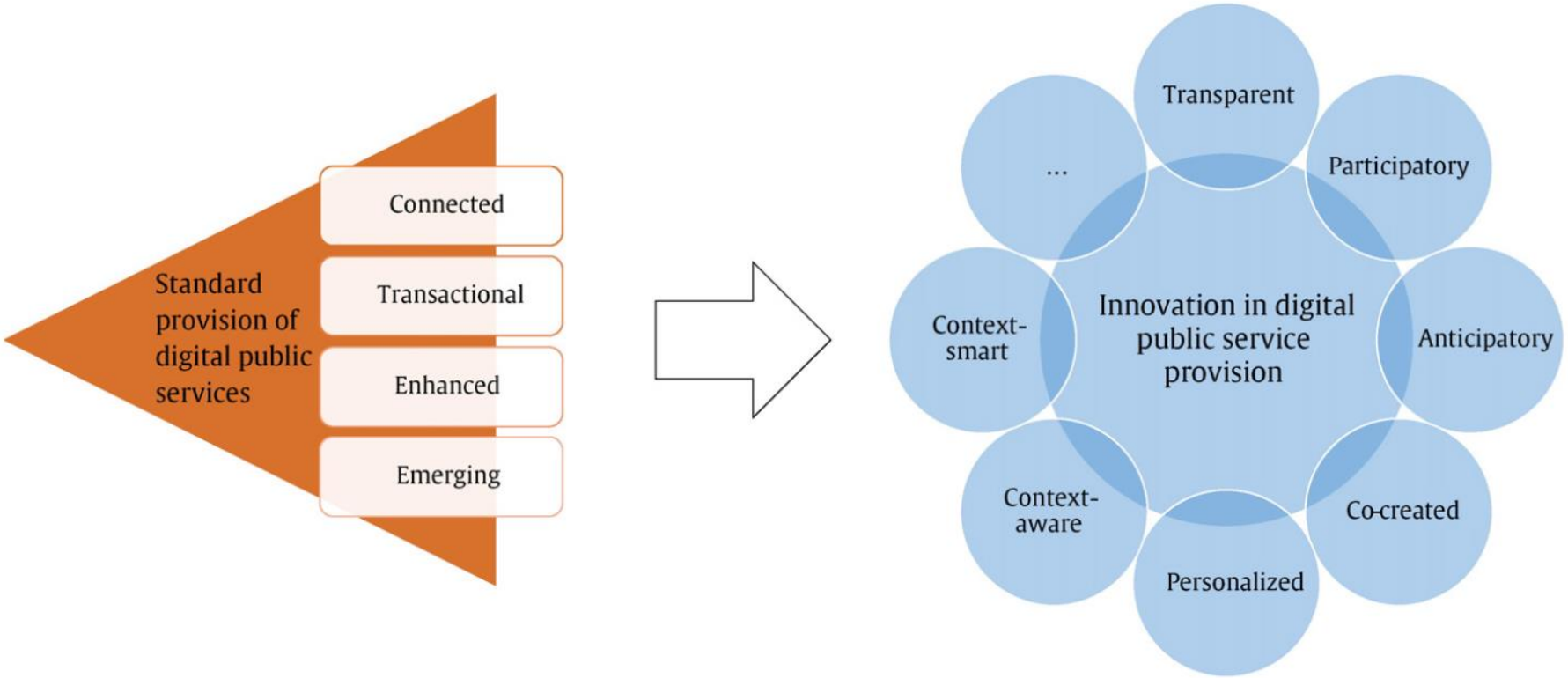
HOW TO INNOVATE ELECTRONIC PUBLIC SERVICES?

FROM STANDARD TO INNOVATIVE PUBLIC SERVICE PROVISION



PUBLIC SERVICE INNOVATION – TRANSPARENT SERVICES

TRANSPARENT SERVICES	
Characteristics	Can citizens know about how decisions about their services are made by government?
Features	• Government moves beyond the posting of budgets, announcements or minutes on government websites, and proactively disseminates through multiple channels and in multiple formats information products, information about government operations, and information about government decisions and deliberations (e.g. hearings, votes) to ensure that citizens are aware of what their governments are doing on their behalf
Example	The Ohio House of Representatives portal provides one-stop access for citizens to information about activities conducted by their representatives: • Directory – enables contacting representatives by informing about their addresses and phones and by facilitating sending emails; • Video Library – videos of the house sessions including information about the time at which contributions during the session took place; • Agenda – publishes the dates when the session took place; • Committees – publishes information about committees, including members, bills, related files, fiscal notes, bill analysis, and all documents produced by witnesses analyzing the bill Through various services available on the portal, citizens can understand how bills are passed and deliberations are conducted through the process.

PUBLIC SERVICE INNOVATION – PARTICIPATORY SERVICES

PARTICIPATORY SERVICES	
Characteristics	Can citizens participate in service decision-making by government?
Features	• Critical to participatory innovation is the ability of citizens and governments to fluidly engage one another through digital technology and thus move beyond one-way government-to-citizen communications • This requires not only the seamless integration between governments and citizens intermediated by technology but also government capacity to absorb and incorporate citizen feedback into its deliberations and policy-making processes

Example	• The Irekia Open-Government portal provides citizens an open window to learn, comment and expresses opinion on the initiatives of the Basque Government.
	• The portal provides two collaboration spaces:
	  • Citizen Petitions, which enable citizens to formulate a petition to the Government and other citizens to argue and vote in favor or against each petition, and
	  • Government Proposal, which allow government to provide information about proposals and draft laws, agencies present their initiatives, and citizens to express their comments and doubts.
	• The portal provides a two-way communication channel between citizens and government, enabling citizens to request services and express opinion, and government to respond.

PUBLIC SERVICE INNOVATION – ANTICIPATORY SERVICES

ANTICIPATORY SERVICES	
Characteristics	Can government initiate (proactively) service delivery to citizens?
Features	• Anticipatory innovation focuses on digital services that anticipate citizen needs, based on demographics, life circumstances or some other factors. • Anticipatory services are therefore predicated on the ability of governments and citizens to seamlessly share information and data that enable the prediction of citizen needs. • Anticipatory services are based upon data, analytics, predictive modeling, and a trust-based relationship between citizens and governments.
Example	• Using consumption trends like, e.g. books bought online or courses selected online the service provider suggests new items that might be of interest to the user. • Examples of such services are provided by Amazon and Coursera respectively. • Digital technology is used to anticipate possible future users' choices based on historical data, identification of behavioral patterns, and data mining techniques.

PUBLIC SERVICE INNOVATION – PERSONALIZED SERVICES

PERSONALIZED SERVICES	
Characteristics	Can citizens choose how they wish to receive services from government?
Features	• One-on-one digital public services between governments and citizens that are based on customization, established user profiles, and authentication. • Citizens are able to create a customized interaction with government, selecting the digital services that they wish to receive and how they wish to receive them. • It is important to distinguish between the requirement to meet a government mandate (e.g. to pay one's taxes) and how a citizen might wish to be informed about and/or mechanisms through which to comply. Personalization focuses on the latter.
Example	• "My Page" is a secure section within the Danish Citizen Portal (borger.dk) where citizens can access personalized data and services through digital signature. • Based on the personal data maintained by public authorities, citizens can access personalized services such as taxes paid; incomes received, housing, e.g. property value or location; and civil registry data, e.g. own, children' or spouse's social security numbers. • In addition, a link is provided to update personal data and print relevant documents. • The solution enables grouping relevant services into a single personalized space.

PUBLIC SERVICE INNOVATION – CO-CREATED SERVICES

CO-CREATED SERVICES	
Characteristics	Can government and citizens engage in designing new services?
Features	• Co-created services are designed, implemented and delivered by collaborative processes engaging representatives of the main internal and external stakeholders, and therefore they usually contribute to behavioral change and social impact. • Through this innovation, the role of government shifts more towards facilitation with constituencies, stakeholders, communities, and others to make decisions and policies (bottom-up) rather than direct decision- and policy-making (top-down).
Example	• The Municipality of Amsterdam provides a crowdsourcing platform that enables co-creation of applications and the delivery of public value with citizens. • Through the platform citizens are encouraged to publish ideas about new practical applications that can add value to Amsterdam dwellers, and other citizens can comment on or discuss the ideas. • From the discussions, a combination of ideas creating value for citizens can emerge. • Proponents are also welcome to discuss their ideas with government officials and experts through email or during workshops on open innovation. • Digital technology provides a platform that facilitates online citizen interactions, as part of the co-creation process.

PUBLIC SERVICE INNOVATION – CONTEXT-AWARE SERVICES

CONTEXT-AWARE SERVICES	
Characteristics	Is the service provider(s) aware of the service delivery context?
Features	• Context-aware digital public services (ubiquitous government) refer to digital services that leverage pervasive applications that are flexible, adaptable, cross-platform, and capable of acting autonomously on behalf of citizens. • Relying on inteligent code (bots), digital technology (increasingly mobile), and Internet-enabled sensors on devices (e.g. meters) or in locations (e.g. mass transit vehicles), context-aware services are in a constant interaction with citizens, their devices, and their environment – and thus able to engage in timely and contextual fulfillment of needs.
Example	• The GUIDE system was developed for providing context-aware services for tourists in Lancaster, United Kingdom. • The aim of the system was to provide services enabling visitors to explore and learn about the city in a flexible way, i.e. to act as an intelligent tour guide or to serve as a rich guidebook depending on the users' needs. • The system uses two types of context information — personal and environmental. The former includes visitor's preferences for visiting places – e.g. history or architecture; and current location. The later includes the time of the day and opening hours of attractions.

PUBLIC SERVICE INNOVATION – CONTEXT-SMART SERVICES

CONTEXT-SMART SERVICES	
Characteristics	Are service providers utilizing context awareness for better service delivery?
Features	• Context-smart services encompass digital public services that leverage context-awareness to provide contextually-relevant actions at the moment of need or desire. • The difference between context-aware and context-smart services is that in the former, plain context-related information is used to deliver services; while in the latter, context-related information plus intelligence is applied. • Context-smart services bring together context-aware technologies; cross-platform technologies; smart city infrastructure; and intelligent software applications that take into account citizen preferences; proactivity; and continuous interaction, learning and sharing.
Example	• Traffic engineers in Washington collect detailed data about traffic volumes and speeding vehicle to analyze traffic patterns, part of a traffic signal optimization system. • Based on the analysis, coordinated signal systems are created to enhance traffic flow by increasing road traffic throughput. • Several digital technologies are used for deploying such systems, such as traffic Closed Circuit TV (CCTV) cameras; traffic detectors, including induction loop; infrared; radars; sound or video imaging; and Bluetooth. • These systems are enhanced through complex algorithms that simulate traffic patterns.

PUBLIC SERVICE INNOVATION

	Standard Services				Innovative services						
Characteristic variables	Emergent	Enhanced	Transactional	Connected	Transparent	Participatory	Anticipatory	Personalized	Co-created	Context-aware	Context-smart
Can agencies disseminate information (one-way) to citizens?	X	X	X	X	X	X	X	X	X	X	X
Can agencies and citizens engage in (two-way) discrete interactions?		X	X	X	X	X	X	X	X	X	X
Can agencies and citizens engage in linked interactions (transactions)?			X	X	X	X	X	X	X	X	X
Can agencies coordinate internally (seamlessly) between themselves?				X	X	X	X	X	X	X	X
Can citizens know about how service decisions are made by government?					X	X					
Can citizens participate in service decision-making by government?						X					
Can government initiate (proactively) service delivery to citizens?							X				
Can citizens choose how they wish to receive services from government?								X			
Can government and citizens engage in collaborative service delivery?									X		
Are service providers aware of the service delivery context?										X	X
Are service providers utilizing context awareness for better service delivery?											X

INTERACTION 21

CAN YOU IDENTIFY ANY REUSABLE COMPONENTS OF AN ELECTRONIC PUBLIC SERVICE DELIVERED BY YOUR UNIVERSITY?

OVERVIEW

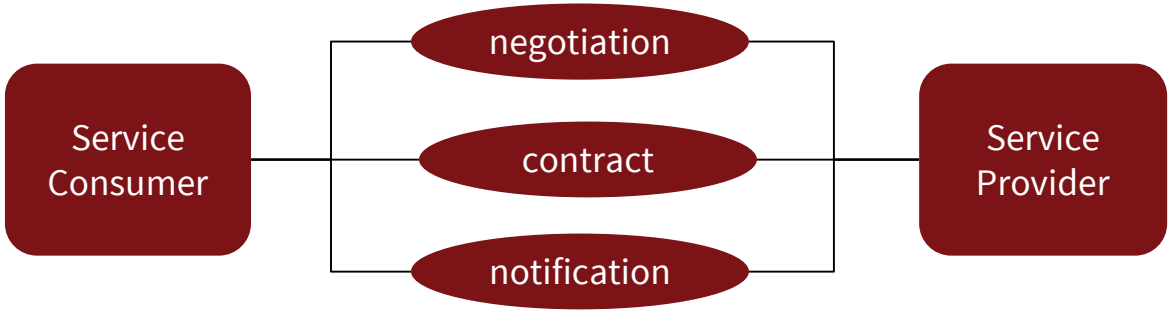
1	What are the main concepts that define Electronic Public Services?
2	How to categorize Electronic Public Services?
3	How to innovate Electronic Public Services?
4	How do deliver Electronic Public Services?
5	How to sustain Electronic Public Services?
6	What was covered by this module?

HOW TO DELIVER ELECTRONIC PUBLIC SERVICES?

SERVICE DELIVERY

Service delivery is part of the service process where the interaction between the service provider and the service consumer takes place.

EXAMPLE



asking for information

submitting application

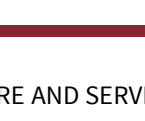
sending a message

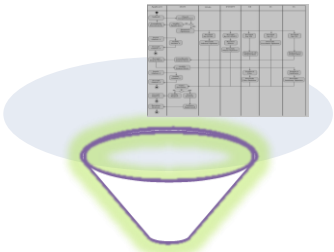
advertising news

publishing information, …

RELEVANCE

1	In an e-service, the delivery process hides the overall business activity – only the delivery is visible
2	An e-Service requires to electronically execute the whole process of interactions between service provider and consumers





Service Business Process

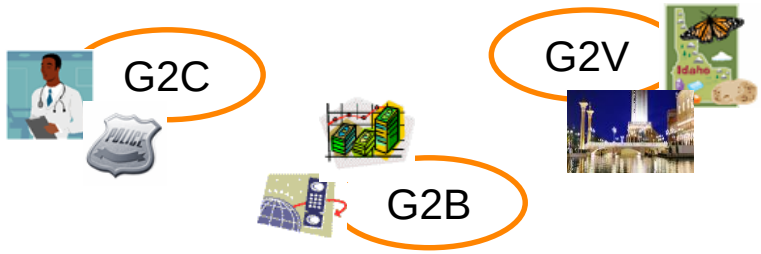
Service Delivery Process

SERVICE DELIVERY STRATEGY

Service Delivery Strategy represents a set of business-driven decisions about how services will be delivered to customers.

EXAMPLE

1 Classify customers and determine their needs



2 Map services by identifying common:
elements
channels
customers
processes
transactions

3 Assess and explore the utility of delivery mechanisms

4 Analyze channels:
capabilities
suitability
costs
usage

RELEVANCE

Introducing a service delivery strategy is about making organizations more customer-centric

MULTIPLE- VERSUS MULTI-CHANNEL

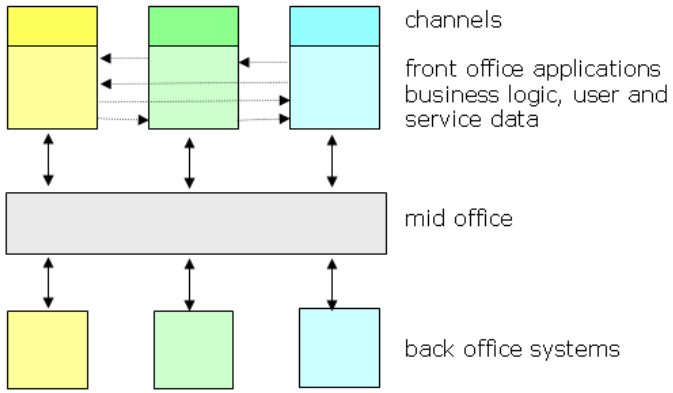
MULTIPLE CHANNEL - FEATURES

1	Separate development for different channels
2	Information known by one channel is not shared with other channels
3	Channels and front-office functionality are tightly integrated
4	For exchanging data, each channel must be connected to the others

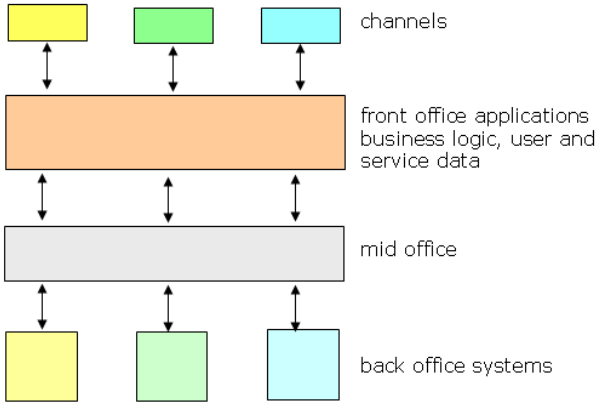
MULTI-CHANNEL - FEATURES

1	Channels are integrated and coordinated
2	Common data used in front-office applications is stored centrally
3	All “contact-points’ retrieve data from the same database
4	Consumers can access the services they want from the location they want

MULTIPLE CHANNEL - ARCHITECTURE



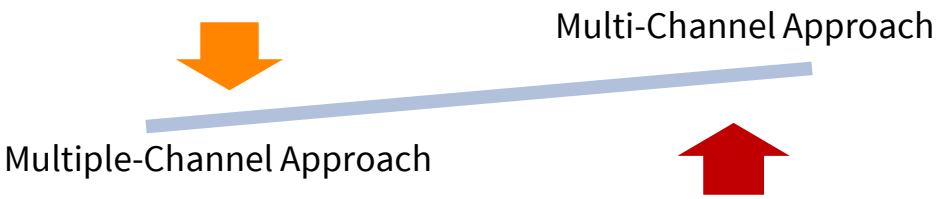
MULTI-CHANNEL - ARCHITECTURE



MULTIPLE VERSUS MULTI – ANALYSIS

MUTIPLE CHANNEL APPROACH	
1	The channels access different databases and data may not be consistent.
2	There is no “central view” of the customer.
3	Front-office applications may be unaware of other service delivery processes.
4	Functionality and databases are built separately for each channel.
5	A new front-office application must be developed for each channel that is implemented for a particular service.
6	Multiple front-office applications and databases produce a complex ICT structure that is expensive and difficult to maintain.

MULTI-CHANNEL APPROACH	
1	Users can easily access services through different channels.
2	Front-office applications are integrated and support the service provision with centrally stored and accessible data.
3	Identical data are available in all channels.
4	Consumers can access the services they want from the location they want.
5	It supports the delivery process involving multiple sessions and where the next step can be taken up by any available channel having access to the central repository.



CHANNELS

Channel means the consumer's or the administration's perspective on how services are delivered.

EXAMPLE

An administration, using two channels for its services: counter and telephone, opens a call centre that can be reached by telephone.

Consumer's perspective	No difference
Provider's perspective	Call centre more efficient

CONSUMER'S PERCEPTION DEPENDS ON

1	technical aspects
2	the way the channel has been implemented
3	the way the channel is operated

CHANNELS

1	Call centre
2	Counter
3	E-Mail
4	Interactive Digital TV
5	Interactive Voice Response Systems
6	Mobile Devices
7	Public Internet Access Points (PIAPs)
8	Short Message Service (SMS)
9	Telephone
10	Websites
11	Social Media

CHANNEL SELECTION

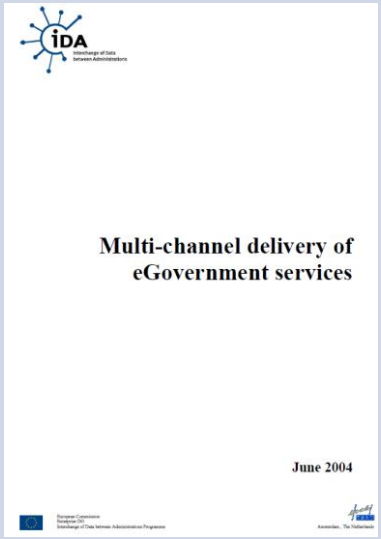
Service delivery depends on a vast range of parameters. Therefore, there is no single formula or solution fitting all situations.

IN PRACTICE

Each administration willing to implement a multi-channel strategy must make its own investigations and choices:

1. identify and study all possible channels
2. follow step-wise procedure for selecting channels

EXAMPLE 1 - IDA EUROPEAN COMMISSION



http://ec.europa.eu/idabc/en/document/3343

ONE-STOP GOVERNMENT PORTAL

One-stop-shop web portal is:

1. one channel for delivering government services to end-users
2. one gateway for other government websites

DISTINGUISHED FEATURE	The look and feel of all linked websites are largely the same and they link back to the gateway portal.

AIM	Macao Government Portal
1 to deliver timely government information and seamless services online through a single window. 2 to reduce high transaction costs - for citizens and government, in terms of time, efforts and lost opportunities 3 to avoid government bureaucracy in service delivery that is logistically and administratively inaccessible to the public 4 to systemize state services provided by ministries and agencies	

GOVERNMENT PORTAL – EXAMPLE 1

USA – GOVERNMENT PORTAL

[http://www.usa.gov]

MAIN FEATURES

The strength of United States' online presence is due to:

- enormous amounts of information at http://www.usa.gov
- integrated portals collecting and consolidating information in one place

Integrated portals examples include:

- http://www.forms.gov – federal government forms
- http://www.pay.gov – payments to the government
- http://www.regulations.gov – portal for view and comment on regulations

The key success factor is the ability to organize information and services effectively for the convenience of the users

GOVERNMENT PORTAL – EXAMPLE 2

CANADA – GOVERNMENT PORTAL (ENGLISH)

[http://www.canada.gc.ca]

CANADA – GOVERNMENT PORTAL

MAIN FEATURES

On line presence is characterized by consistency across sites in terms of:

- extent of information and services provided
- design and navigational standardization

The look and feel of all linked websites are largely the same and they link back to the gateway portal.

All websites are implemented in two languages – English and French.

INTERACTION 22

CONSIDER WHICH CHANNELS YOU ARE USING TO ACCESS EPS.

WHICH ASPECTS INFORM YOUR CHOICE?

OVERVIEW

1	What are the main concepts that define Electronic Public Services?
2	How to categorize Electronic Public Services?
3	How to innovate Electronic Public Services?
4	How do deliver Electronic Public Services?
5	How to sustain Electronic Public Services?
6	What was covered by this module?

HOW TO SUSTAIN ELECTRONIC PUBLIC SERVICES?

PUBLIC PRIVATE PARTNERSHIPS (PPP)

Any type of voluntary co-operation between public and private parties. *[Bennett et al., 2000]*

Many definitions are provided considering different purposes of PPPs *[Linder, 1999]*

PPPs as …	DEFINITION
MANAGEMENT REFORM	An innovative tool enabling the flow of knowledge from business to government
PROBLEM CONVERSION	A solution for problems attending the delivery of public services
CULTURAL CHANGE	A transformation of government managers as market participants
RISK SHIFTING	A response to fiscal stringency involving private interests
RESTRUCTURING PUBLIC SECTOR	A reform to administrative procedures for coping with the stakeholders' demands through partnership
POWER SHARING	A tool for spreading control horizontally by changing business-government relations: ○ increasing co-operation and trust ○ sharing responsibilities, knowledge and risk ○ giving-and-taking and negotiating differences

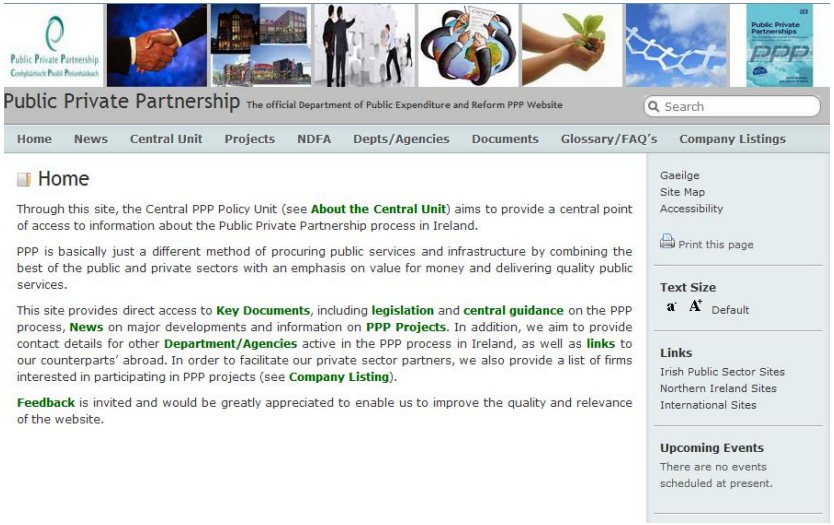
PPP – MORE DEFINITIONS

Public-Private Partnerships (PPPs) are co-operation between public and private actors for developing products and/or services, sharing risks, costs, and benefits, and based on the idea of mutual added value.

[derived from Klijn and Teisman's (2003) definition]

Governments provide their own definitions:

Government of Ireland *[http://www.ppp.gov.ie]*



Government of South Africa *[http://www.ppp.gov.za]*

PPP VERSUS PRIVATIZATION

Often, PPP is used as synonym of Privatization. However, there are main differences:

In PPP:

- costs,
- revenues
- responsibilities

are shared between public and private parties

In PRIVATIZATION:

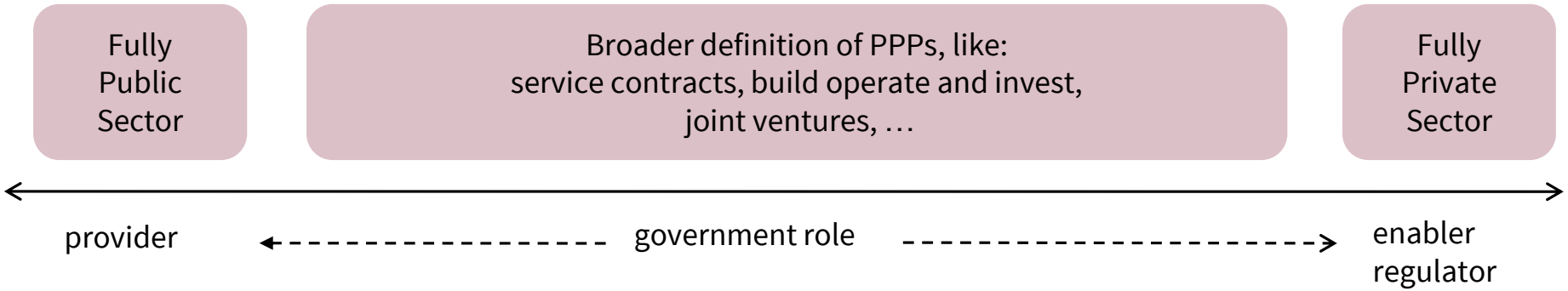
- tasks and responsibilities

are transferred to the private sector, while

- costs and revenues

are in private hands.

The difference can be visualized in a public-private spectrum: PPP is an organizational structure somewhere in the middle between public and private regimes:



PPP – KEY SUCCESS FACTORS

GOALS	the aim of mutual added value and joint goals
NEGOTIATION	the actors' capabilities for negotiating on their own behalf
BENEFITS	revenues are shared according to actors' investments and risk acceptance
AGREEMENTS	The existence of formalized co-operation arrangements

ACCORDING TO THE WORLD BANK

Successful PPPs are characterized by comprehensive planning, clear contractual rules and contingencies, competitive procurement and credible contract enforcement

Countries with strong public sector institutions have typically performed best. Examples include the United Kingdom, South Africa, Australia and Chile.

PPP – BENEFITS

FOR GOVERNMENT	
1	focussing on core policy and business issues instead of technical ICT issues
2	accessing specialised skills which may be difficult or uneconomical to maintain in government
3	benefiting from scale economies for services that are seldom used in one agency
4	obtaining sufficient up-front funding to establish a new service
5	benefiting from innovation and capture efficiencies, that they would otherwise miss
6	reducing risks by formal assessment of technical solutions and by sharing project risks

FOR BUSINESS	
1	integrating the delivery of government services into private infrastructure and hence increasing customers and business opportunities
2	learning about government domain
3	accessing secure, long-term investment opportunities
4	generating new businesses with the certainty and security given by a government contract
5	serving the major consumer of ICT services

PPP – TYPOLOGY

THE TYPOLOGY OF PPP DESCRIBES:

STRUCTURE OF COOPERATION	comprises the financial, legal and organizational agreements, including:	
	FINANCIAL ASPECTS	○ project finance ○ risk division ○ revenue sharing
	LEGAL ASPECTS	○ contracts ○ legal entity ○ law and regulations
	ADMINISTRATIVE ORGANIZATIONAL ASPECTS	○ tasks and responsibilities ○ project organization ○ formal decision making requirements
PROCESS OF COOPERATION	defines the actual interactions	

PPP – MODELS

A wide range of options exists for defining the private sector participation.

Two main approaches are:

FINANCIAL MODEL

- centered on analyzing the investments and returns
- a model is proposed by Trials of Innovative Government Electronic Regional Services (TIGERS) to Australian Government Information Management Office (AGIMO)

OPERATIONAL MODEL

- centered on analyzing the responsibilities undertaken by the private sector
- a model is provided by Government of Canada

PPP – FINANCIAL MODEL

The model proposed by TIGERS to AGIMO defines the following alternatives:

1. Advertising and Sponsorship Revenue
2. Fee-Based Funding
3. Shared Cost Savings
4. Shared Revenue
5. Full Service Delivery

PPP MODEL – SPONSORSHIP

The government may collect fees in exchange for:

- direct advertisement by a private company on a government website
- for indirect marketing - for instance, by analyzing user spending habits on the official websites
- for sponsorships arrangements

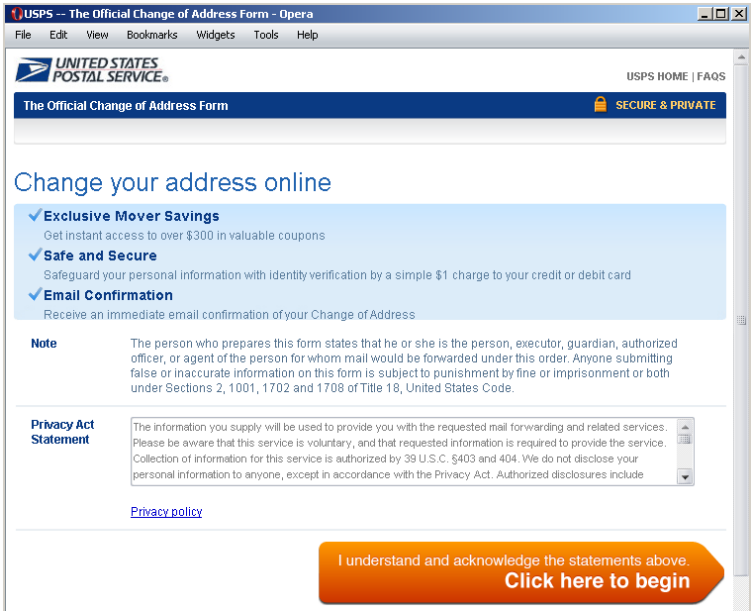
EXAMPLE – US POSTAL SERVICE (USPS)

USPS provides a website for changing the customer's address.

It has a PPP with a private company (Imagitas) who gains revenues via direct advertising and sponsorships of the movers guide website.

The advertisements offer additional services to citizens who are moving.

The USPS provides a disclaimer at the bottom of the page that applicants must accept for accessing the service.



PPP MODEL – FEE-BASED FUNDING

Fees are introduced for informational and transactional services.

Revenues can also be obtained by selling specialized information based on subscriptions.

EXAMPLE – THE GOVERNMENT OF ARIZONA IN USA

PPP with IBM for integrating all services within a single gateway on the Internet.

IBM mitigated up-front costs by providing and supporting the enterprise portal infrastructure and the application development.

IBM had committed an investment of USD 1.5M for initial hardware and software.

Ongoing portal funding is derived from:

- Subscription fees – annual subscription fees for baseline services targeted at businesses and professionals. Fees range from USD 50-100.
- Convenience fees – add-on fees charged for commercially valuable information. Fees range from USD 1-7 per use.
- Transaction fees – fees charged for services and activities, such as licenses, title, registration and renewals. Fees range from USD 1.25-5.00

[http://az.gov/webapp/portal/]

PPP MODEL – SHARED-COST SAVINGS

The costs saving achieved after implementing the solution are shared between public and private sector and could be used to finance the initial capital investment. The private partner incurs on some or all costs for developing a solution and in return receives a portion of the savings expected to come with the new solution.

EXAMPLE- THE US DEP. OF EDUCATION PROJECT FOR THE OFFICE OF STUDENT FINANCIAL ASSISTANCE

A PPP with Accenture, AFSA Data Corp, and KPMG Consulting .

The project integrates Direct Loan e-Servicing system into the student financial aid programs.

Functionality:

- to view their Direct Loan bills online
- to make payments via the Internet or through a third-party service provider;
- to receive correspondence via email;
- to apply self-service deferment and forbearance transactions online, and by phone.

The project cost is USD 6.5M.

The use of the new services is expected to save USD 79.1M over five years.

The private consortium pays for the development and implementation of the system.

It will then be paid based on how well it meets performance measures defined in the five years contract – included whether it generates the expected level of savings.

PPP MODEL – SHARED REVENUE

The new revenues generated by enhanced services are used to finance the investments done by the private sector. Tries to make use of many "out of the box" opportunities to generate revenues. The magnitude of the revenue must be significant for attracting the private sector.

EXAMPLE – VIRGINIA DEPARTMENT OF TAXATION (VATAX) , VIRGINIA PARTNERSHIP PROJECT (1998)

PPP with CGI-AMS for replacing the core accounting system and redesigning business processes.

Functionality:

- iFILE – enabling to file returns;
- eREG – enabling registration of businesses;
- a policy database available for citizens, businesses and practitioners;
- a new collection system for sending correspondence, establishing payment plans, generating liens and lien releases, and other services.

One main feature is that provides a “single view” of the taxpayer.

The partnership is operated under a benefits funding model. Initially, AMS funded the contract, and later it receives compensation as incremental revenues are achieved.

In March 2004, eight months ahead of schedule, the additional revenues were over USD 198M, enough for paying off the value of the contract, including VATAX's share of benefits.

PPP MODEL – FULL-SERVICE DELIVERY

The private sector is hired as a contractor to take over certain responsibility of the government.

This alternative can produce significant savings due to the combination of:

- re-engineered processes
- new technology
- involvement of private sector for delivering services

EXAMPLE – LIVERPOOL DIRECT LIMITED (LDL)

In 2001, LDL – a joint venture company, was formed between Liverpool City Council (19.9%) and British Telecom (80.1%).

LDL provides a wide range of ICT consultancy and delivers a fully integrated end-to-end managed service.

LDL is responsible for ICT, human resources, revenue, benefits and customer contact services.

LDL has been a driving force in the transformation of local government services within Liverpool.

The £300m partnership approach has given Liverpool City Council the benefits of leading-edge, private-sector expertise while still retaining control of the services provision.

PPP OPERATIONAL MODEL 1

The model proposed by the Government of Canada defines the following alternatives:

1. Design-Build (D-B)

   Private sector designs and builds infrastructure services often for a fixed price.

   Fixing the price enables to transfer the risk of cost overruns to the private sector.

2. Operate-Maintain (O-M)

   A private company operates a public asset for a specified time.

3. Design-Build-Finance-Operate (D-B-F-O)

   Private sector designs, finances and builds a new facility under a long-term lease.

   After its development, it operates the facility during the term of the lease.

   At the end of the lease, the facility is transferred to the public sector.

PPP OPERATIONAL MODEL 2

The model proposed by the Government of Canada defines the following alternatives:

4. Build-Own-Operate (B-O-O)

Private sector builds, owns and operates a facility or service in perpetuity.

The public constraints are specified in the original contract and are periodically supervised by a regulatory authority.

5. Build-Own-Operate-Transfer (B-O-O-T)

A private operator receives a franchise to finance, design, build and operate a facility for a specified period.

It has the right to charge user fees. After the specified time, the ownership of the facility is transferred to the public sector.

PPP OPERATIONAL MODEL 3

The model proposed by the Government of Canada defines the following alternatives:

6. Buy-Build-Operate (B-B-O)

   A public asset is transferred to a private or quasi-public entity for operating the assets under a contract specifying that the assets are to be operated and upgraded for a determined period of time.

7. Operate (O)

   A private operator receives a license or rights to operate a public service for a specified term.

8. Finance (F)

   A private entity funds a project directly or uses mechanisms such as long-term lease or bonds.

PPP CRITICAL ISSUES

TWO CRITICAL ISSUES TO CONSIDER:

1. Careful attention must be paid to privacy and security of personal-identifiable information.
2. Contracts must ensure that:
    - the data will not be disclosed or used for other purposes
    - protections will be given at least equal to those that would have been provided if the data remained in the government's hands.

INTERACTION 23

RECALL A PPP PRACTICE FROM YOUR EXPERIENCE?

DOES IT FOLLOW THE FINANCIAL, OPERATIONAL OR OTHER MODEL?

OVERVIEW

1	What are the main concepts that define Electronic Public Services?
2	How to categorize Electronic Public Services?
3	How to innovate Electronic Public Services?
4	How do deliver Electronic Public Services?
5	How to sustain Electronic Public Services?
6	What was covered by this module?

WHAT WAS COVERED BY THIS MODULE?

SUMMARY 1

1	Service-related definitions were presented – service, public service, electronic public service, seamless service	
2	Classifications of services were explained	
	based on functions	Certificate, control, authorization, production
	based on ICT support	emerging, enhanced, transactional, seamless
	based on recipients	G2C, G2B, G2V, G2E, …
3	Public service innovation framework: transparent, participatory, anticipatory, personalized, co-created, context-aware and context-smart services.	

SUMMARY 2

4 Multiple channel and multi-channel delivery strategies were compared

5 Various delivery channels were identified

6 Government portals were highlighted as a main delivery channel

7 Examples of best practices for government portals were provided

8 PPP related concepts were explained

9 Two PPP models were presented:

- FINANCIAL MODEL - advertising and sponsorship revenue , fee-based funding, shared cost savings , shared revenue, full service delivery
- OPERATIONAL MODEL – design-build, operate-maintain , design-build-finance-operate, build-own-operate , build-own-operate-transfer, buy-build-operate, operate, finance

THANK YOU FOR YOUR ATTENTION.

QUESTIONS?

Tomasz Janowski

Elsa Estevez

Pablo Fillottrani

SOURCES

1 Wojciech Cellary, Poznan University of Economics, Poland, 2009

2 John Bertot, Elsa Estevez and Tomasz Janowski. Universal and contextualized public services: Digital public service innovation framework. Government Information Quarterly, volume 33, issue 2, Pages 211-222, Elsevier 2016, http://dx.doi.org/10.1016/j.giq.2016.05.004

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