Business Models at NMCAs – An introduction

Joep Crompvoets (KU Leuven/EuroSDR) + Frédéric Cantat (IGN France/EuroSDR)
Items

Business model definitions
Types of business models
Business canvas
Propositions
What is a Business Model?
Definition of Business Model

‘Abstract representation of an organization (e.g. a NMCA), be it conceptual, textual, and/or graphical, of all core interrelated architectural, cooperational, and financial arrangements designed and developed by an organization presently and in the future, as well as all core products and/or services the organization offers, or will offer, based on these arrangements that are needed to achieve its strategic goals and objectives’ (Al-Debei, M. M., El-Haddadeh, R., and Avison, D., 2008)
A Business Model

“A business model describes the rationale of how an organization creates, delivers, and captures value”

Business Models

The way how an organization balances income and expenditure

NMCA needs a sustainable business model in the same manner as a commercial organization

-> needs a rather recurring positive cash flow to conduct its essential geospatial activities
Financial Model

- The financial component describes the financial resources required to develop and deliver a service (cost model) and in which way revenue is generated (revenue model).
What types of Business Models exist?
Business Models - Types

Relevant types of business models:
- Freemium model
- Licensing model
- Open-source model
- Platform model
- Subscription model
- Advertising model
- Ecosystem services model
- Others: Product selling, State budget
Business Models - Freemium

Freemium model:
A basic product is provided for free but you are charged for additional services or features

Example is Ordnance Survey which makes some data available, free data under its Open Data Plan as well as having paid for Premium Service
Business Models - Licensing

Licensing model:
Technology or innovations are monetized by selling user licenses, subscriptions or transaction credits to use software or services

Example Esri. The more you use the more you pay.
Applied by NMCAs?
Business Models – Open source

Open Source

Product is free and is largely created by crowd sourcing either data (as in Open Street Map) or software (as in Quantum GIS)

Partner organizations generate revenue by selling services to customize the data or software
Business Models – Platform

Platform model

Uber's business model at its simplest connects drivers who are offering rides (supply) to passengers (demand) and charge a commission for providing the service. They do not own the assets (or vehicles).

Applicable for NMCAs?
Business Models - Subscription

Subscription
Customers pay a recurring fee to access your product or service
Example Netflix

Applicable for NMCAs?
Business Models - Advertising

Advertising model

Google’s advertising led business model
Searching is free, in other words the user does not pay, rather companies pay to get themselves to the top of the search listings
Business Models – Ecosystem services

Ecosystem Services model

Extension of the concept of the platform model to answer simple natural language questions fusing multiple information sources with market knowledge

ChatGPT is early example
Business Models – Others?

Product selling
State budget

Others?
Business Model canvas
How do you determine what value your organization delivers? Business models are used to develop a business strategy by identifying key attributes of the business and how it creates, delivers and generates value.
Business model canvas

A tool for understanding your current and target business model.
Can we develop a generic Business model canvas for NMCAs? What are the commonalities? What are the differences?

<table>
<thead>
<tr>
<th>Key partners</th>
<th>Key activities</th>
<th>Value Propositions</th>
<th>Customer relationships</th>
<th>Customer segments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government</td>
<td>Producing geospatial information</td>
<td>Providing and managing authoritative geospatial data of a country</td>
<td>Customer facilitation</td>
<td>Data acquisition</td>
</tr>
<tr>
<td>Cities &amp; municipalities</td>
<td>Managing geospatial information</td>
<td></td>
<td>Customer awareness</td>
<td>Modelling, integration and processing</td>
</tr>
<tr>
<td>Local self-governments</td>
<td>Distributing geospatial information</td>
<td></td>
<td>Customer acquisition</td>
<td>Information usage</td>
</tr>
<tr>
<td>Academia</td>
<td>Add value to geospatial data and services</td>
<td></td>
<td>Customer retention</td>
<td>Visualisation (cartography)</td>
</tr>
<tr>
<td>NGOs</td>
<td>Leading geospatial information in a country</td>
<td></td>
<td>Customer loyalty</td>
<td>Business</td>
</tr>
<tr>
<td>Private sector companies</td>
<td></td>
<td></td>
<td>Customer satisfaction</td>
<td>Knowledge transfer</td>
</tr>
<tr>
<td>Citizens</td>
<td></td>
<td></td>
<td>On-demand support</td>
<td></td>
</tr>
<tr>
<td>International partners</td>
<td></td>
<td></td>
<td>Cooperation/Partnerships</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Automated services</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Self-service</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Co-creation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key resources</th>
<th>Customer segments</th>
<th>Channels</th>
<th>Revenue streams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human resources</td>
<td></td>
<td>Data value chain</td>
<td>State budget</td>
</tr>
<tr>
<td>Organizational resources</td>
<td></td>
<td>Communication channels</td>
<td>Financial loans/grants and donations</td>
</tr>
<tr>
<td>Technological resources</td>
<td></td>
<td>Sales channels</td>
<td>Service (SLA)/licensing fees</td>
</tr>
<tr>
<td>Data resources</td>
<td></td>
<td></td>
<td>Intellectual property revenues (royalties, patents)</td>
</tr>
<tr>
<td>Communication resources</td>
<td></td>
<td></td>
<td>Membership fees</td>
</tr>
</tbody>
</table>

Cost structure:
- Organizational costs
- Operational costs
- Investment costs

Revenue streams:
- State budget
- Financial loans/grants and donations
- Service (SLA)/licensing fees
- Intellectual property revenues (royalties, patents)
- Membership fees
- Crowdfunding
- Others (sales, subscriptions, marketing, taxation)
Business model canvas – Key partners

Identified entities, or groups of entities, without which the NMCA Business Model cannot operate at fullest potential and quality

- Government
- Cities & municipalities
- Local self-governments
- Academia
- NGOs
- Private sector companies
- Citizens
- International partners

Missing key partners?
Other suggestions?
Business model canvas – Key activities

Key activities which are necessary in delivering the value propositions, facilitating the customer segments and maintaining the business plan:
- Producing geospatial information
- Managing geospatial information
- Distributed geospatial information
- Add value to geospatial data and services
- Leading geospatial information management of a country

Missing key activities?
Other suggestions
Business model canvas – Key resources

Key resources which are necessary in delivering the value propositions, facilitating the customer segments and maintaining the business plan

- Human resources
- Organizational resources
- Technological resources
- Data resources
- Communication resources

Missing key resources?
Other suggestions
Business model canvas – Value propositions

Answers what are the job, products and services to meet and facilitate the needs of the customers. This element is directed internally and externally

- Providing and managing authoritative geospatial data of a country

Missing Value proposition?
Other suggestions
Business model canvas – Customer relationships

Indicates what type of customer relationships should be established and how are they maintained

- Customer facilitation
- Customer awareness
- Customer acquisition
- Customer retention
- Customer loyalty
- Customer satisfaction
- On-demand support
- Cooperation/Partnerships
- Automated services
- Self-service + Co-creation

Missing customer-relationships?
Other suggestions
Internal and external channels of communications with the customers and partners for delivering the value proposition

- Data value chain
- Communication channels
- Sales channels
- Research & Development

Missing channels?
Other suggestions
## Business model canvas – Customer segments

This element lists the top segments which the NMCA needs to facilitate and meet the needs of each segment:

- Data acquisition
- Data Modelling, integration and processing
- Information usage
- Visualisation (cartography)
- Business
- Knowledge transfer

<table>
<thead>
<tr>
<th>Table</th>
<th>Data</th>
<th>Data Modelling</th>
<th>Integration</th>
<th>Processing</th>
<th>Information</th>
<th>Visualisation</th>
<th>Business</th>
<th>Knowledge Transfer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Missing customer segments?
Other suggestions
Business model canvas – Cost structure

Costs which are necessary in order to conduct key activities, deliver the value propositions, facilitate the customer segments and maintain the customer relationships and channels

- Organizational costs
- Operational costs
- Investment costs

Missing cost structure?
Other suggestions
Business model canvas – Revenue streams

Indicate sources of funding and revenue streams which are to be closely developed and identified within the financial model:

- State budget
- Product sales
- Financial loans/grants and donations
- Service (SLA)/licensing fees
- Intellectual property revenues (royalties, patents)
- Membership fees
- Crowdfunding
- Others (subscriptions, marketing, taxation)

Missing revenue streams?
Other suggestions
## Business model canvas - NMCAs

<table>
<thead>
<tr>
<th>Key partners</th>
<th>Key activities</th>
<th>Value Propositions</th>
<th>Customer relationships</th>
<th>Customer segments</th>
<th>Channels</th>
<th>Revenue streams</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Government</td>
<td>- Producing geospatial information</td>
<td>- Providing and managing authoritative geospatial data of a country</td>
<td>- Customer facilitation</td>
<td>- Data acquisition</td>
<td>- Data value chain</td>
<td>- State budget</td>
</tr>
<tr>
<td>- Cities &amp; municipalities</td>
<td>- Managing geospatial information</td>
<td></td>
<td>- Customer awareness</td>
<td></td>
<td>- Communication channels</td>
<td>- Financial loans/grants and donations</td>
</tr>
<tr>
<td>- Local self-governments</td>
<td>- Distributing geospatial information</td>
<td></td>
<td>- Customer acquisition</td>
<td></td>
<td>- Sales channels</td>
<td>- Service (SLA)/Renewing fees</td>
</tr>
<tr>
<td>- Academia</td>
<td>- Add value to geospatial data and services</td>
<td></td>
<td>- Customer retention</td>
<td></td>
<td>- Research &amp; Development</td>
<td>- Intellectual property revenues (royalties, patents)</td>
</tr>
<tr>
<td>- NGOs</td>
<td>- Leading geospatial information in a country</td>
<td></td>
<td>- Customer loyalty</td>
<td></td>
<td></td>
<td>- Membership fees</td>
</tr>
<tr>
<td>- Private sector companies</td>
<td></td>
<td></td>
<td>- Customer satisfaction</td>
<td></td>
<td></td>
<td>- Crossfunding</td>
</tr>
<tr>
<td>- Citizens</td>
<td></td>
<td></td>
<td>- On-demand support</td>
<td></td>
<td></td>
<td>- Others (sales, subscriptions, marketing, service)</td>
</tr>
<tr>
<td>- International partners</td>
<td></td>
<td></td>
<td>- Cooperation/Partnerships</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Which elements of the Business canvas are rather generic for Europe?

### Which elements of the Business canvas are rather diverse for Europe?
Propositions
Proposition 1

THE PERFORMANCE OF YOUR NMCA BUSINESS MODEL IS:

1. VERY STRONG
2. STRONG
3. MODERATE
4. WEAK
5. VERY WEAK
Proposition 2

IN ORDER TO IMPLEMENT STRONG BUSINESS MODELS AT NMCA’S, THERE IS A STRONG NEED FOR:

1. CLEAR RULES AND WORKING STRUCTURES
2. COMPETITION AND MARKET
3. PROFOUND COOPERATION
Proposition 3

THE MAIN BENEFICIARY OF A STRONG NMCA-BUSINESS MODEL IS:

1. NMCA - ITSELF
2. PUBLIC SECTOR
3. PRIVATE SECTOR
4. CITIZENS
5. SOCIETY
Proposition 4

THE SECOND IMPORTANT BENEFICIARY OF A STRONG NMCA BUSINESS MODEL IS:

1. PUBLIC SECTOR
2. PRIVATE SECTOR
3. ACADEMIA
4. NGO
5. CITIZENS
6. SOCIETY
Proposition 5

THE MAIN BOTTLENECK FOR IMPLEMENTING A STRONG BUSINESS MODEL AT NMCA IS:

1. POLITICAL
2. FINANCIAL
3. LEGAL
4. CULTURAL
5. TECHNOLOGICAL
6. HUMAN COMPETENCES
Proposition 6

THE MAIN BUSINESS MODEL CURRENTLY APPLIED AT NMCA’S IS:

1. Freemium model
2. Licensing model
3. Open-source model
4. Platform model
5. Subscription model
6. Advertising model
7. Ecosystem services model
8. Product selling
9. State budget
Proposition 7
THE MAIN BUSINESS MODEL APPLIED AT NMCAs IN THE FUTURE IS:

1. Freemium model
2. Licensing model
3. Open-source model
4. Platform model
5. Subscription model
6. Advertising model
7. Ecosystem services model
8. Product selling
9. State budget
Proposition 8

THE BUSINESS MODEL OF NMCAs IS IN DANGER:

1. AGREE
2. PARTLY AGREE
3. NOT AGREE
Thank you for your attention