Digital Entrepreneurship barriers and drivers
The need for a specific measurement framework

Main lessons (4 slides)

The long version:
• The origins: Schumpeter
• The EIP definitions (OECD/EUROSTAT)
• The EIP indicators framework (OECD)
• Measured variables of the EIP (Eurostat)
• Towards a definition of Digital entrepreneurship
   Specificity of Digital entrepreneurship?
   Definition of ICT-enabled innovation?
• Way forward?

Marc Bogdanowicz
Information Society Unit, JRC-IPTS
Main observations

1. One cannot separate entrepreneurship from innovation (Schumpeter)
2. Innovation is acknowledged in the definitions of entrepreneurship delivered by OECD/ESTAT (EIP)
3. Innovation is missing in the entrepreneurship indicators fwk of EIP (F/P/I)
4. Innovation is missing in the EIP-dedicated business demography statistics
5. Other measurement frameworks fail also to capture this innovative dimension of entrepreneurship
6. AND of course, ICT are (quasi) absent in the whole perspective.
7. The report proposes a definition of Digital Entrepreneurship
8. The definition calls for specific indicators (F/P/I) and their measurement (for an empirical verification of hypothesis about Digital Entrepreneurship)
9. Way fwd: Adapting some existing instruments could help (GEM, GEDI)
10. Such process raises two issues:
   a) Is Digital entrepreneurship specific?
   b) What is ICT-enabled innovation and how to measure it?
Is Dig Entr a relevant policy topic for CNECT?

1. OECD, 2006: Entrepreneurship is associated with the critical stages of creation and development of new economic activity. In other terms, once the business project is established, the entrepreneur turns into a manager.


Source: Discussion Note, Member States Board on Digital Entrepreneurship, 19 June 2015
The Entrepreneurship Indicators Program (EIP)
The Indicators Framework (OECD, 2013)

<table>
<thead>
<tr>
<th>Determinants</th>
<th>Entrepreneurial performance</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regulatory framework</strong></td>
<td></td>
<td><strong>Firm based</strong></td>
</tr>
<tr>
<td>Administrative burdens for entry</td>
<td>Anti-trust laws</td>
<td>Job creation</td>
</tr>
<tr>
<td>Administrative burdens for growth</td>
<td>Competition</td>
<td></td>
</tr>
<tr>
<td>Bankruptcy regulations</td>
<td>Access to the domestic market</td>
<td>Employment based</td>
</tr>
<tr>
<td>Safety, health and environmental regulations</td>
<td>Access to foreign markets</td>
<td>Economic growth</td>
</tr>
<tr>
<td>Product regulation</td>
<td>Access to other types of equity</td>
<td>Poverty reduction</td>
</tr>
<tr>
<td>Labour market regulation</td>
<td>Degree of public involvement</td>
<td>Formalising the informal sector</td>
</tr>
<tr>
<td>Court and legal framework</td>
<td>Public procurement</td>
<td></td>
</tr>
<tr>
<td>Social and health security</td>
<td></td>
<td></td>
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<tr>
<td>Income taxes; wealth/benefit taxes</td>
<td></td>
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<tr>
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<tr>
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<th>Employment</th>
<th>Wealth</th>
</tr>
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<tr>
<td>Employer enterprise birth rates</td>
<td>Share of high growth firms</td>
<td>Share of gazelles (by turnover)</td>
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</tr>
<tr>
<td>Employer enterprise death rates</td>
<td>Share of gazelles (employment)</td>
<td>Ownership rate start-ups</td>
<td>Value added, young or small firms</td>
</tr>
<tr>
<td>Business churn</td>
<td>Ownership rates business population</td>
<td>Productivity contribution, young or small firms</td>
<td></td>
</tr>
<tr>
<td>Net business population growth</td>
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<td>Innovation performance, young or small firms</td>
<td></td>
</tr>
<tr>
<td>Survival rates at 3 and 5 years</td>
<td>Employment in 3 and 5 year old firms</td>
<td>Innovation performance, young or small firms</td>
<td></td>
</tr>
<tr>
<td>Proportion of 3 and 5 year old firms</td>
<td>Average firm size after 3 and 5 years</td>
<td>Export performance, young or small firms</td>
<td></td>
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Thank you

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The origins: Schumpeter (1912, 1934, 1942)

Entrepreneur:
"In his seminal work (...) "The Theory of Economic Development" (Schumpeter 1934), Schumpeter (...) discussed the function of the entrepreneur as an individual who tends to break the equilibrium by introducing innovations ("new combinations") into the system."(Carlsson et al, 2013, pp.6-7).

Innovation:
"The fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers’ goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates. [...] The opening up of new markets, foreign or domestic, and the organizational development from the craft shop [...] incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of Creative Destruction is the essential fact about capitalism."
(Schumpeter, 1942. Capitalism, Socialism and Democracy. pp. 82–83)
"Entrepreneurs are those persons (business owners) who seek to generate value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets. Entrepreneurial activity is the enterprising human action in pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new products, processes or markets. Entrepreneurship is the phenomenon associated with entrepreneurial activity."

The definitions include: the innovation drive, the business project – new or expanding from existing -, and the creation of value.
Some comments around the definitions:

- **Innovation is given its Schumpeterian definition: new products, processes or markets.**
  The definition excludes implicitly two types of innovation of Schumpeter: acquisition of new sources of supply of raw material or semi-finished goods; and the creation of a new industry structure. No explanation is given.

- **The role of large corporates entrepreneurial activity is acknowledged.**
  See in OECD, 2011

- **The status of value creation is expanded.**
  Both monetary and non-monetary returns are said to be acknowledged outcomes of the process

- **Entrepreneurship is associated with the critical stages of creation and development of new economic activity.**
  In other terms, once the business project is established, the entrepreneur turns into a manager. This explains the lesser weight of managerial routine aspects in the definitions.

- **Failure is said to be part of the process.**
  Entrepreneurs who failed were still entrepreneurial and, indeed, entrepreneurs.

- **The individual characteristics of the entrepreneur are given little emphasis.**
The Entrepreneurship Indicators Program (EIP) The Indicators Framework (OECD, 2013)

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- **Firm based**: Job creation
  - **Employment based**: Economic growth
  - **Wealth**: Poverty reduction, Formalising the informal sector

### Indicators

#### Firms
- Employer enterprise birth rates
- Employer enterprise death rates
- Business churn
- Net business population growth
- Survival rates at 3 and 5 years
- Proportion of 3 and 5 year old firms

#### Employment
- Share of high growth firms (by employment)
- Share of high growth firms (by turnover)
- Share of gazelles (employment)
- Share of gazelles (by turnover)
- Ownership rate start-ups

#### Wealth
- Value added, young or small firms
- Productivity contribution, young or small firms
- Innovation performance, young or small firms
- Export performance, young or small firms
The EIP Indicators Framework (OECD, 2013)

Some comments around the indicators:

Other versions exist but overall structure stays similar.
For example, employment, value added and productivity can be measured by size-class or a special focus can be given to migrants or gender-related numbers.

Indicators are classified into the six categories of determinants
A comprehensive list of indicators of entrepreneurial determinants is available at:

1. Regulatory Framework

2. Market conditions

3. Access to finance

4. Creation and diffusion of knowledge

5. Entrepreneurial capabilities

6. Entrepreneurship culture

The list should not be considered as exhaustive, says the OECD.
The selection of indicators reflects the current availability of data, meaning that important indicators may be missing, for instance in the determinant area "access to finance", just because no source of international data was found.
Business demography – Indicators of the EIP
(Eurostat, 2015)

1. Number of high growth enterprises measured in turnover
2. Number of young high growth measured in employment (gazelles)
3. Number of young high growth measured in turnover (gazelles)
4. Share of high growth enterprises in the population of active enterprises, measured in employment
5. Share of high growth enterprises in the population of active enterprises, measured in turnover
6. Share of young high growth enterprises (gazelles) in the population of active enterprises, measured in employment
7. Share of young high growth enterprises (gazelles) in the population of active enterprises, measured in turnover
8. Share of medium growth enterprises in the population of active enterprises, measured in employment
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Other measurement frameworks

The report goes through 10 additional measurement frameworks:

1. Global Entrepreneurship Monitor – GEM
2. The Global Entrepreneurship & Development Index - GEINDEX
3. The Regional Entrepreneurship and Development Index - REDI
4. Digital Entrepreneurship Monitor – DEM
5. The Community Innovation Survey – CIS (EUROSTAT)
6. Enterprise Surveys (World Bank Group)
7. Doing Business (World Bank Group)
8. EU Flash Barometer Survey on Entrepreneurship (EUROSTAT)
9. Panel Study of Entrepreneurial Dynamics – PSED
10. The comparative entrepreneurship data for international analysis – COMPENDIA

In addition, the following 6 mapping frameworks were also investigated:

1. Startup Genome
2. Compass
3. SEP Monitor- Startup Europe Partnership Scale-Ups Mapping
4. Cambridge Cluster Map
5. Dynamic Mapping of web entrepreneurs and start-ups ecosystem

All fail to cover simultaneously the issues of innovation and ICT
Towards a definition of Digital entrepreneurship

1. Innovation is an integral part of entrepreneurship (Schumpeter)
2. Innovation is acknowledged in the definitions delivered by OECD/ESTAT (EIP)
3. It is missing in the entrepreneurship indicators of EIP
4. It is missing in the EIP-dedicated business demography statistics
5. Other measurement frameworks fail also to capture this innovative dimension of entrepreneurship
6. AND of course, ICT are (quasi) absent in the whole perspective.
7. This calls for a tentative definition of Digital Entrepreneurship
Towards a definition of Digital entrepreneurship

Taking in account the EIP definitions, Digital entrepreneurship can be defined as follows:

"Digital entrepreneurs are those persons who seek to generate value, through the creation or expansion of economic activity, by identifying and exploiting new ICT or ICT-enabled products, processes and corresponding markets.

Digital entrepreneurial activity is the enterprising human action in pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new ICT or ICT-enabled products, processes and corresponding markets.

Digital entrepreneurship is the phenomenon associated with digital entrepreneurial activity."
Towards a definition of Digital entrepreneurship

Some comments around the definitions:

- The innovative dimension is seen as, largely if not solely, as technology-driven, characterised by the production or by the use of ICT.

- The definition encompasses new, small and large firms' Digital entrepreneurial activity, within and outside the ICT sector:
  - entrepreneurship within the ICT sector, defined as pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new ICT products, processes and markets
  - entrepreneurship outside the ICT sector, defined as pursuit of the generation of value, through the creation or expansion of economic activity, by identifying and exploiting new ICT-enabled products, processes and markets.

- The report opts for using the expression Digital entrepreneurship
Towards a definition of Digital entrepreneurship

The proposed definition of Digital entrepreneurship raises two issues which the report does not ambition to fully resolve.

Is Digital entrepreneurship different from entrepreneurship?
- Barriers and drivers, performance and economic impacts are claimed to be different. But still little empirical literature to support these theoretical assumptions.

What is ICT (enabled-) innovation?
- Innovation with an essential ICT component that would have been developed, implemented and/or marketed by another sector than the ICT one

How to make this operational?
- Unit of observation: Investment? Technologies? Use?
- Firm-level, self-reporting...
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