

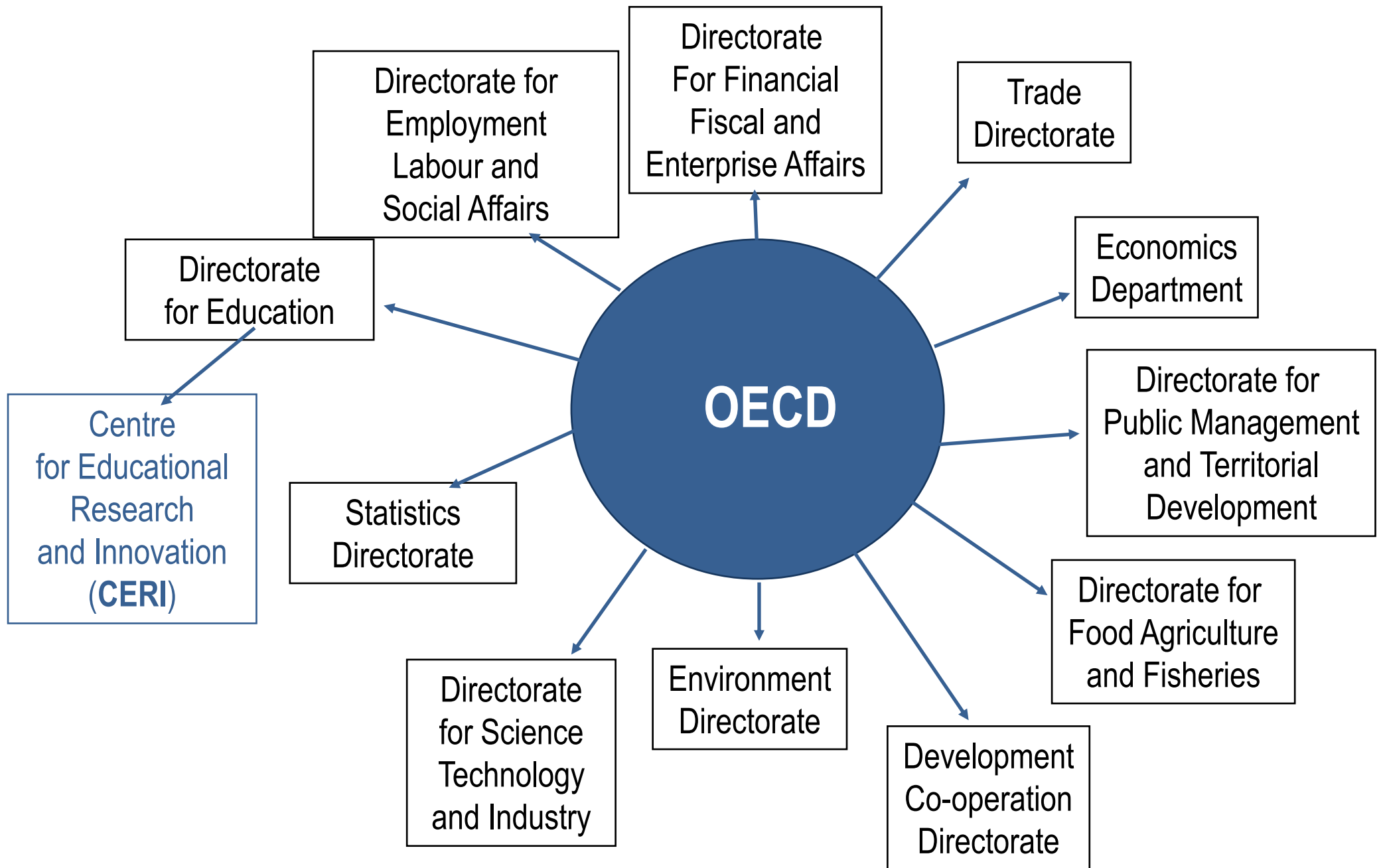
**Beyond Textbooks  
Digital Learning Resources as Systemic  
Innovation in the Nordic Countries**

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## **Aim of the study**

Review the process of systemic innovation:

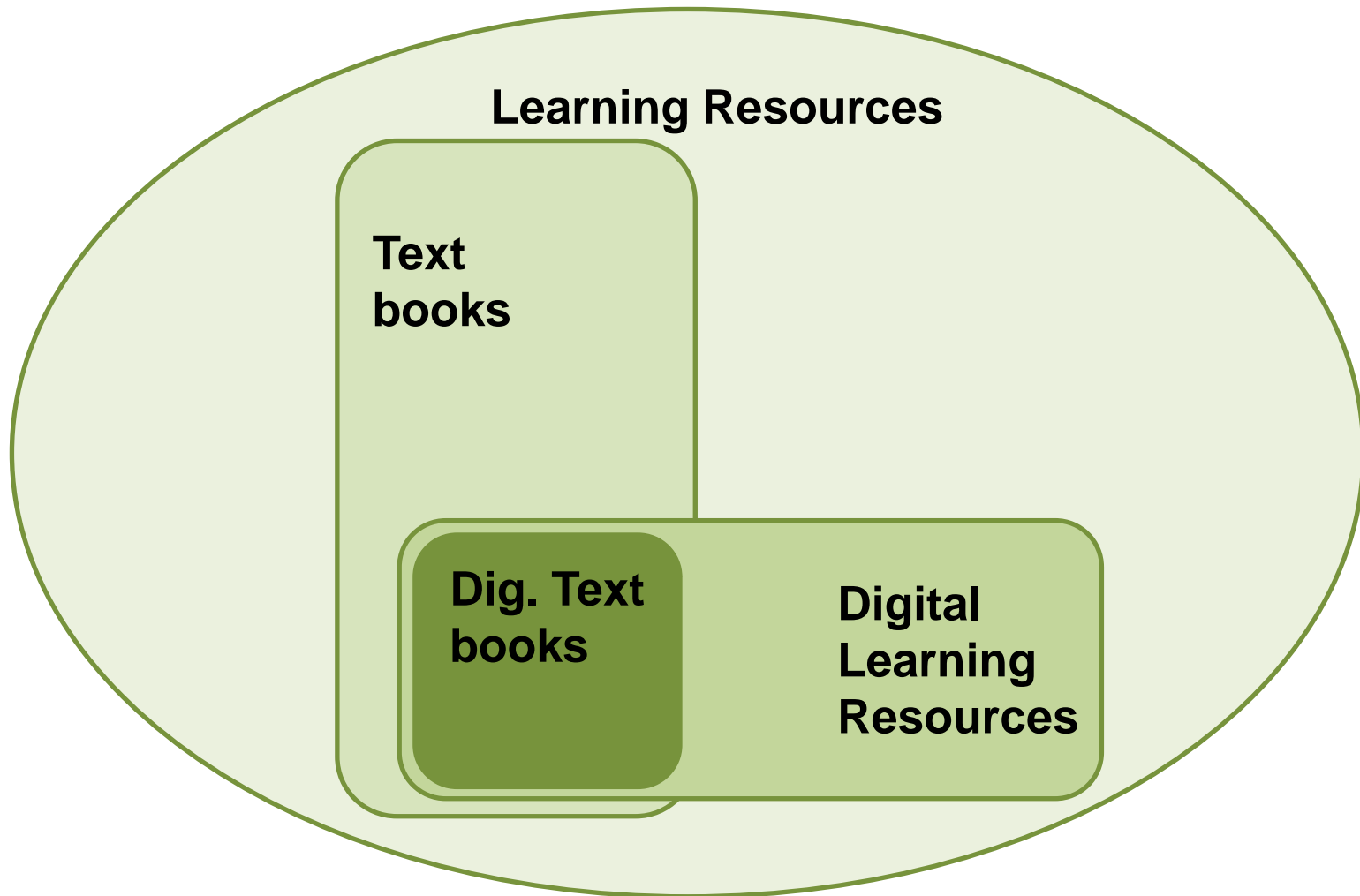
- How countries initiate ICT-based innovations related to DLR
- What factors influence the success of policies aimed at promoting such innovations
- Commercial and user-driven innovations related to DLR
- Comparative study involving Denmark, Finland, Iceland, Norway and Sweden



## **Methodology**

- Background report from each country
- Review visit by experts
- Review report by experts
- Comparative and synthesis report

# What is Digital Learning Resources?





## Definition of innovation

- "Innovation" is change introduced with the aim of improving the education system
- Radical or incremental innovations
- Innovation occurs on many levels – we studied the systemic level
- Four phases have been studied:
  - initiation phase,
  - implementation,
  - scale-up,
  - monitoring and evaluation



## Main findings

- Initiation phase

- Minimal involvement of stakeholders
- Limited use of research

- Implementation phase

- No use of pilots – instead incremental development
- In comparison to VET – no organisational issues

- Scale-up

- Marginal cost for one extra user close to zero
- Sustainability key issue – easy to initiate DLR, more difficult to sustain
- Several started with public funding but turned into commercial players (sometimes unwillingly)



## Main findings

- Monitoring and evaluation
  - Monitoring done by web statistics, user feed back mostly non-systematically gathered and market statistics
  - Formal evaluations are rare
- Use of knowledge base
  - Little use of research and "explicit" knowledge (weak knowledge base)
  - Limited efforts by public and private players to strengthen the knowledge-base
  - Resulted in peer learning and policy borrowing



## Enablers

- Political interest in ICT in education
  - High interest in all countries in mid 1990s
  - Faded in some countries, but remained strong in others
- National ICT and DLR policy
- Digital competence seen as key skill
- "Digital commons"



## Political interest influences teacher's motivation

	Access	Competence	Motivation
Denmark	71.3	93.3	70.9
Finland	63.3	84.9	57.8
Iceland	58.8	88.2	29.4
Norway	68.1	90.9	72.8
Sweden	67.9	93.3	41.4
EU 25+2	60.7	82.0	68.4

Source: Empiricia 2006



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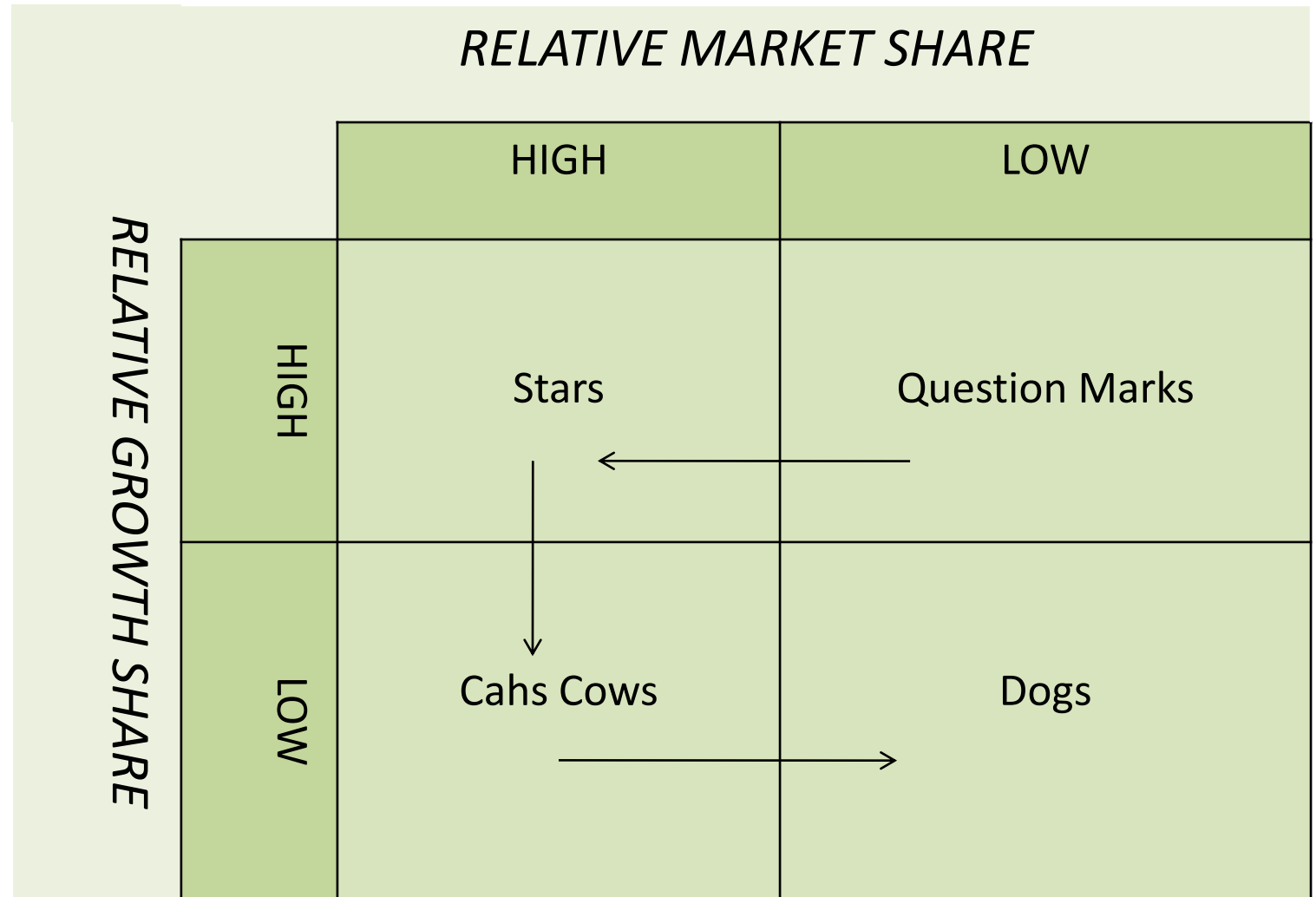


## Barriers

- Lack of resources
- Teachers lack of know-how on how to evaluate DLR
- Lack of overview of on-going innovation
- DLR cannibalizing on textbooks (?)



# Growth-Share matrix from BCG





## Drivers

- Effective demand from schools
- Public funding to development projects or as public tenders to publishers
- Intrapreneurs
- Information on available DLR
- Promote dialogue fora for stakeholders



## Create enabling conditions

- Governments should:
  - Establish a coherent vision and strategic approaches to digital competence
  - Making publicly funded information freely available
  - Support the building up of a formal knowledge base
  - Facilitate access to DLR
  - Provide support services, e.g. uni-login, NORLOM...
  - Increase awareness among teachers
  - Initiate and maintain public debate on use of DLR and textbooks
  - Invest in training in fair use



## Foster innovation

- Governments should
  - Supplement seed money with development and transition funds
  - Promote cooperation between public and private partners for DLR development



## Being leaders of innovation

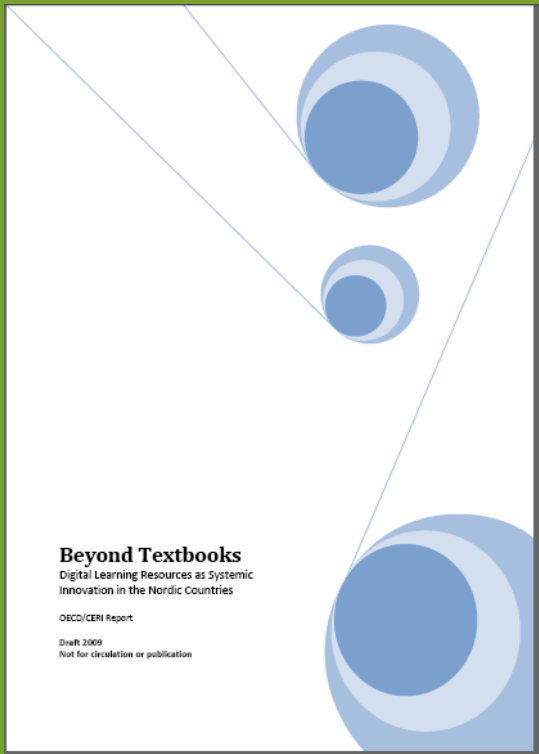
- Governments should:
  - Consider when to act as a leader or support others initiative?
  - Rethink governments role towards communities – "delivery strategy" or "engagement strategy"?



## Conclusions

- Successful ICT-based innovations spread fast – individuals can have systemic impact
- Difficult to plan scale-up: end-users decide
- Limited knowledge-base is not a barrier (same with stakeholders) – but important to have peer learning and policy borrowing

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## Beyond Textbooks

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### Digital Learning Resources as Systemic Innovation in the Nordic Countries

Soon at a web site close to you...

[www.oecd.org/edu/systemicinnovation/dlr](http://www.oecd.org/edu/systemicinnovation/dlr)