

Intangibles, Emerging value spaces and Public policy

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Intangibles and the
emerging value spaces
« Acceluction in action »

1- « Intangibles » & innovation performance

- Intangibles , including IPRs (“hard intangibles”) are important sources for growth and innovation – whatever the context
- Intangibles – and IPRs are important ingredients for transactions and socio-economising, e.g. for the way the production and innovation systems are organised
- In the business sphere, the epistemic view has been – and is still- built on an organisational setting which is relatively stable in space and time (the firm)
- But new challenges and new “production systems” are now emerging, where society is no longer a target , but is more a resource and a key player for innovation
- For IPRs specifically we need to understand the role, contribution and evolution of these items under the emerging production regimes

2- Intangibles and the emerging « value spaces »

Arguments

- Our analysis of value creation is fundamentally based on traditional spaces - firms exercising in transactional markets (the transaction regime)
- But since at least the mid of 1980s , firms, especially larger ones , have been the subject of a deep transformation, and new modalities and spaces for value creation appeared : outsourcing (since the Kodak contract of 1989), networking and now open innovation, are the hard fact practices for such a transformation
- In parallel, and thanks to the digital revolution new ways of value production appeared and in many cases, transaction is now related to a multitude of links
- Therefore, we might consider that the new production system is fundamentally a production of links before , or beside, the production of transactions
- The acceluction concept is proposed here as a way to characterise the new production system of value, especially in digital spaces

2.1.

Lessons from ISD , the international research programme on the 2020 enterprise

www.fondation-cigref.org

Intangibles and the socio-economic systems dynamics

The Transaction Order

Exclusive Intangibles & IPRs



Private Hierarchies (firms)

Public Hierarchies (administrations)

Constrained Communities

The Entrepreneur

Joint Intangibles & IPRs

Quasi-Organic Communities (ex: Open source)

Organic Communities (Villages, local Communities, ...)

The Recognition Order

The Governance of the CIGREF Foundation

Governance

Consultative Committees

Scientific Committee (20 members)

Coordinated by Pr. BOUNFOUR

Made up of renown scientists
Advises the Steering Committee
and validates scientifically the ISD
research themes.

Strategic Committee

Presided by Alain POUYAT

Made up of 4 Sponsors
+ Leaders + Qualified persons
Proposes guidelines to the Steering
Committee according to the
business needs.

Steering Committee (8 members)

President
Pascal BUFFARD

CIGREF Members

Ex Officio Member

Qualified persons

Defines the guidelines of the
Foundation, its communication
and decides what actions to be
fund

Technical Committees

Organising Committee

By Delegation of the Pt. Of
CIGREF, under the authority of
the SG of the Foundation

Is in charge of the operational
management of ISD tasks

History Committee

Presided by Didier LAMBERT

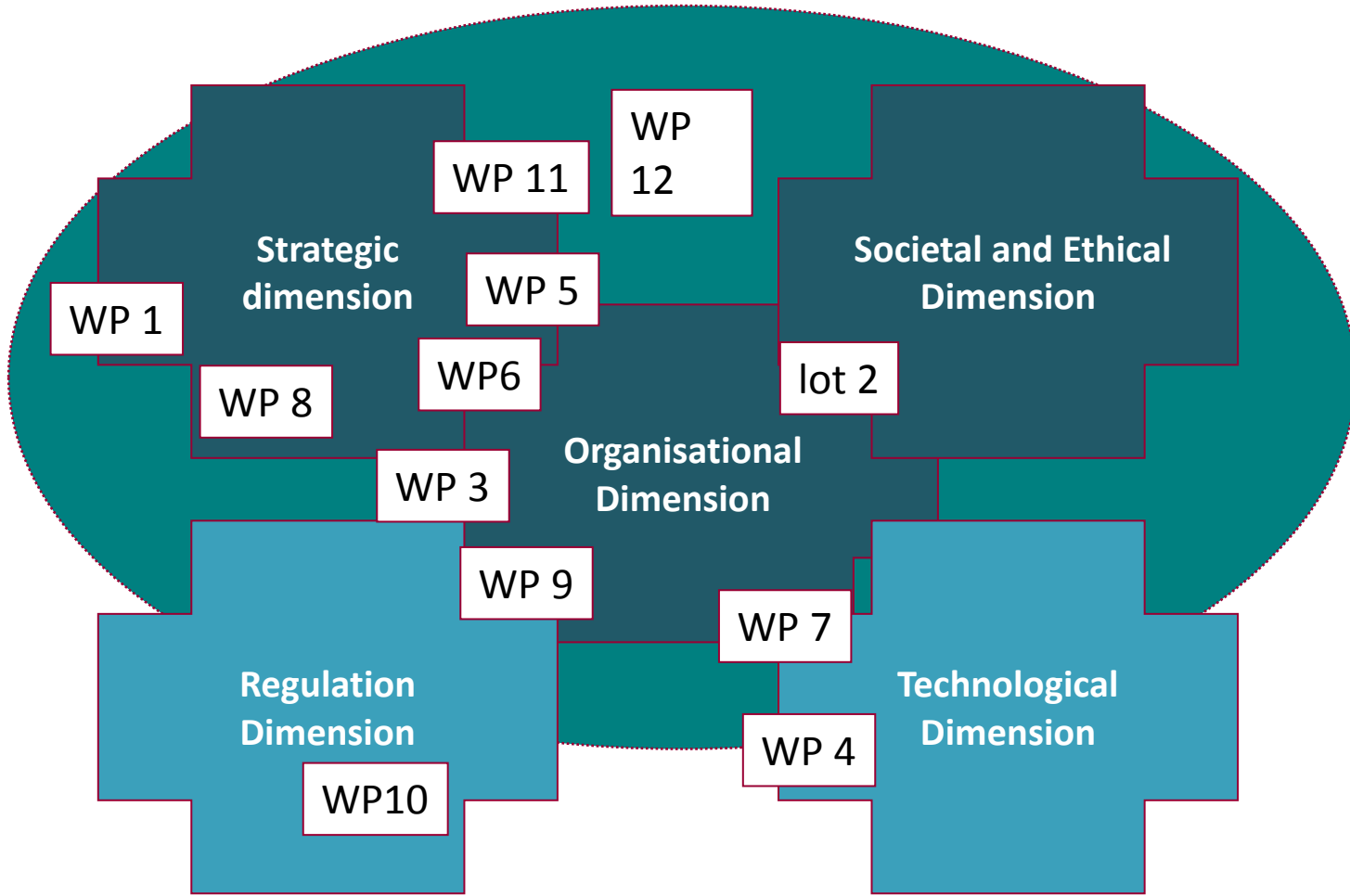
Made up of former Pts. of
CIGREF + Researchers

Coordinates the historic
researches of ISD programme

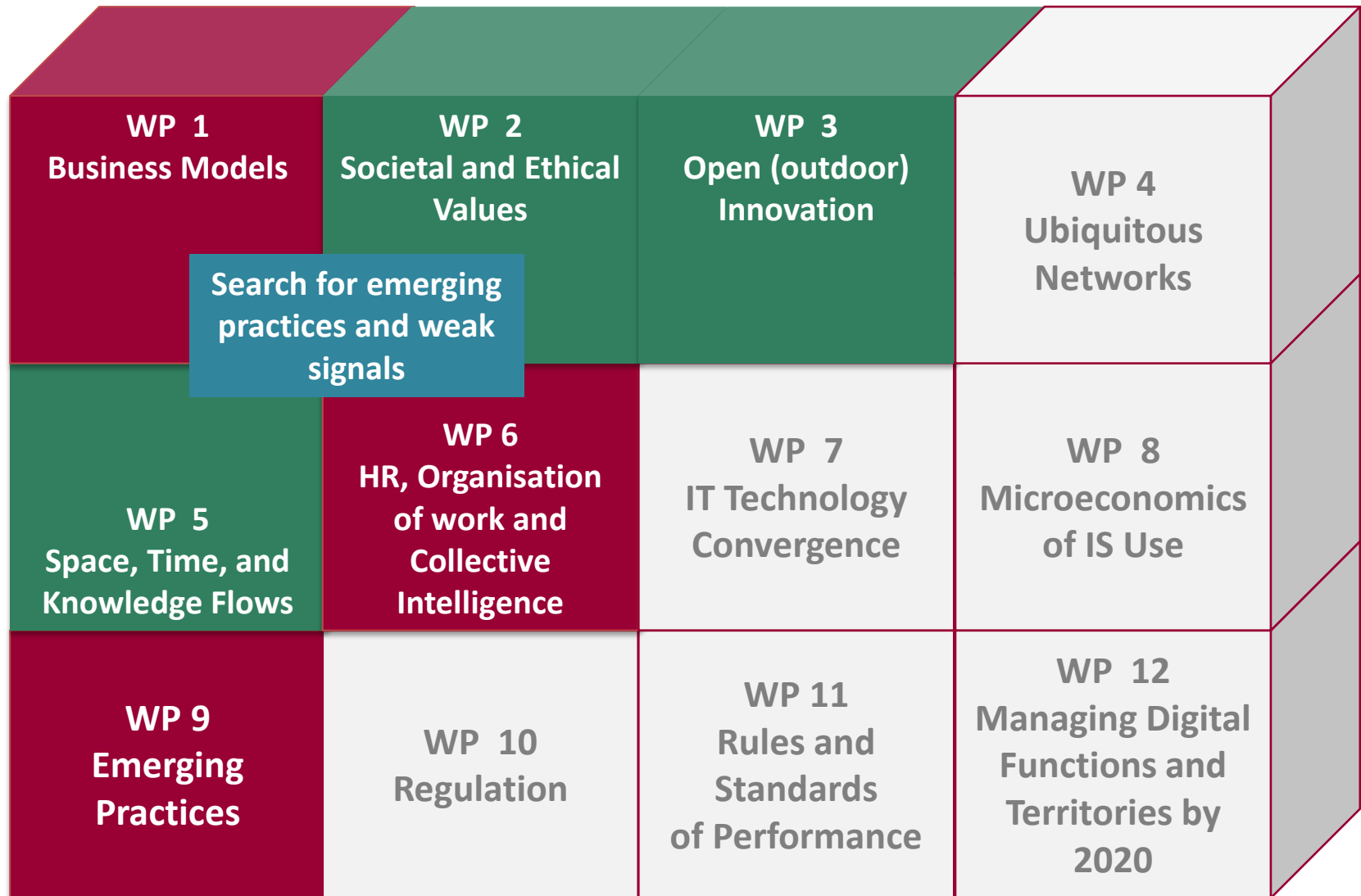
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The Key dimensions of ISD:

A focused effort on 3 dimensions



Three calls for projects : Wave A, Wave B, Wave C and General structure of ISD



Selected projects – Wave A -

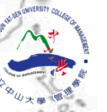
WP 1: BM	University of Southern California	UniFoBM	Towards a unified framework for business modelling in the evolving digital space : identifying the co-creation of value with customers, complementors, competitors and community
WP 1: BM	HEC-Mines	CV&SI	Value creation and information systems
WP 6: HR and organisation of work	BEM	ORISCO	Organisational and IS configurations for exploration and exploitation trade-off: the case of a multinational company”, Bordeaux, School of Management
WP 6: HR and organisation of work	TEM	PMY	Gen-Yers and IS Project Management in Practice
WP 6: HR and organisation of work	Université de Montpellier II	Use.org	uses of collective intelligence tools, what role of the organizational structure?
WP 9: Emerging practices	Université Paris-Dauphine	MLA	Multi-Level Analysis (MLA) of IS emergent practices
WP 9: Emerging practices	Hanyang University	SMC	Use of Smart Phones for organizational Coordination
WP 9: Emerging practices	Université Paris-Dauphine IMRI Mlab	Web 2.0	the impact of Web 2.0 on the organizations
WP 9: Emerging practices	Université de Technologie de Troyes	METEPE	Define and assess a new methodology based on innovative technologies to evaluate the best practices emerging in the professional activities

Selected projects – Wave B

WP 2: Societal and Ethical Values	University of Greenwich, EHESS	THEOP	Testing the “End of Privacy” Hypothesis in Computer-mediated Communication: An Agent-based Modelling Approach.
WP 2: Societal and Ethical Values	DeMontfort University	IDEGOV	Identification and governance of emerging ethical issues in information systems
WP 2: Societal and Ethical Values	Meiji University	DESVALDO	An East asian perspective on the developing ethical and social values of digital object usage
WP 3:Open innovation	Aachen University/Tsinghua University	ILC	Innovating in a Learning community
WP 3:Open innovation	National University of Sun Yat-sen	Knowledge Ecology and Open Innovation Adoption	How Information Technologies Affect the Knowledge Ecology and Their Adoption of Open Innovation: A Multinational Study
WP 3:Open innovation	London business School & Harvard Business School	CODI	The emergence of collaboration in distributed and open innovation systems: A novel filed experiment approach
WP 5: Knowledge flow	Groupe Sup de Co Montpellier Business School	IKME	Internal Knowledge markets Effects
WP 5: Knowledge flow	University of Southern California	ILE	A framework for understanding the use of social media tools in the enterprise to enhance innovation: a cross cultural approach
WP 5: Knowledge flow	Brunel University	GLOBVAL	Globally distributed innovation and Co-creation of value: Cases of UK-China Collaborations
WP 13 : Blanck project	Ecole de management de Strasbourg	ODESI	Observatoire des entrepreneurs en Système d’Information (SI).

Selected Projects Wave C

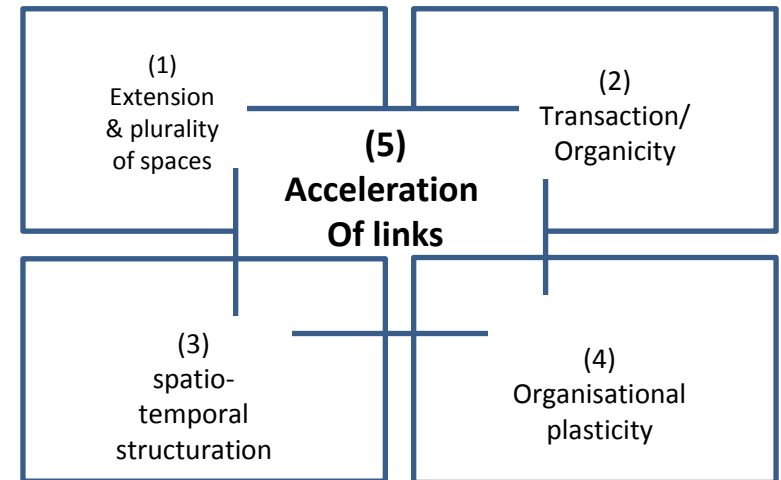
WP06B	Centre d'Etudes de l'Emploi	CA2020	Centre d'appel 2020
WP06B	Temple University (USA)	x	Designing 21st Century Organizations for Generativity: An Organizational Genetics Approach
WP06B	University of Washington, University of Southern California	TMD	Sociotechnical Designs for 2020 R&D Enterprises : Accelerating Innovation by Emergently Leveraging Global Distributed Knowledge, Human Capital, and Digital Assets.
WP06B	University of Southern California	M2Mod	Learning from M2M Business Models: Implications for the Business Enterprise 2020
WP07	Université Paris Dauphine, Strasbourg Ecole de Management	CAITI	Changement et adaptation individuelle aux innovations organisationnelles et aux technologies émergentes: adoption, meilleures pratiques et performance
WP08	George Mason University	ITGovOP	Relationship between Information Technology Governance Configuration and Organisational Performance
WP08	Université Toulouse 1 Capitole, et Aix-Marseille Université	MN-PME2012	Pour un modèle de maturité des espaces numériques pour les PME : passer d'une « envie de technologie web» à une stratégie de technologie web
WP10	University of Cambridge	IPLF	Intellectual Property Law and Freedom : between the national and the International
WP11	University of Nebraska (Center for Collaboration science), TELECOM ParisTech	CINAM	Towards a Maturity Model for the Assessment of Ideation Processes in Crowdsourcing Projects
WP12	RWTH Aachen University	COSMICS	COrporate Standardisation Management in the ICt Sector
WP12	University of Greenwich (UoG)	SSCI	Re-defining the Space for Companies-Communities Interaction : How can firms leverage the Innovative Potential of Open Source Software Production Model ?



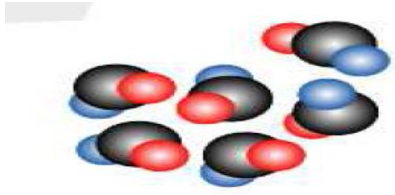
ISD : An international research programme : 30 projects, involving 50 leading team partners worldwide

1-ISD Programme and the firm's organisational design : 20 proposals / 5 dimensions

P1	P2	P3	P4	P5
P6	P7	P8	P9	P10
P11	P12	P13	P14	P15
P16	P17	P18	P19	P20



-The 2020 enterprise : A space of tensions



Regime of Liquidity		Regime of solidity
Liquidity/Plasticity (volatility)	←————→	Solidity/Organicity
Mobility	←————→	Fixity
Market resources / Platforms resources	←————→	Specific Resources
Instability of roles /mobility of resources	←————→	Stability of roles/fixity of resources
Short time-span /finited space	←————→	Long time, space to be built
Horizontality (collaboration, incentive systems)	←————→	Verticality (order)

From Lean production to "Acceluction": The impact of Digital Acceleration

« **Modern** » **Period** : dominance of material objects, and flux related to production
Stable contractual relationships
Stability of rules ... separation between productive time and private time
Heterogeneous spaces of production and exchanges
Stable spaces of socialisation (families, enterprises,)
Relative organicity of relations and exchanges

Mass-Production



Lean Production

**Emergence of new managerial
and societal practices**

Outsourcing and networking
Emergence of the "information flow space"
Instability of social spaces (company, family)
Emergence of **horizontality** as a perspective
Emergence of intangibility (services)

Digital
Acceleration

«Acceluction»

"**Post-modern**" era: dominance of information flows
Shift from Lean production to "Acceluction"
Acceleration and horizontality (collaboration)
Unstable contractual time... instability in rules and blurring of productive/personal time
Ongoing homogenisation of production and exchange spaces
Unstable social spaces (family, company, etc.)
Transaction and Organicity, two complementary modes of governance

:

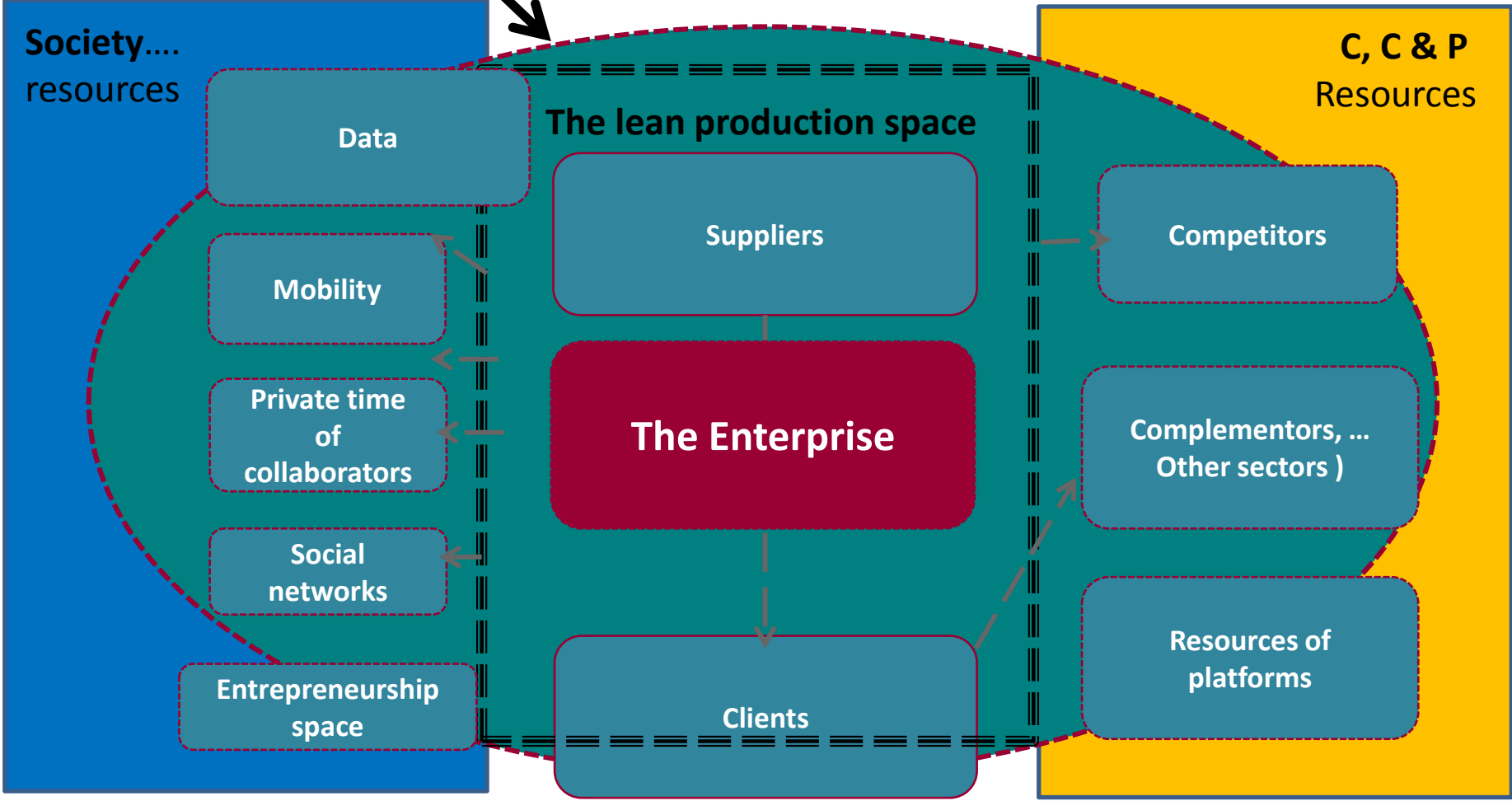
Innovation models and *generativity* of digital technology

Time → Location of participants ↓	Fixed	Dynamic
Within	Traditional Enterprise Model	Entrepreneurial Model
Outside	Strategic Alliance Model	Generative Digital Platform Model

Youngjin Yoo , Rob Kulathinal , Sunil Wattal, Temple University, Final report to the ISD programme

The Acceluction space

The Platformic Firm



ISD sees 6 possible scenarios for Enterprise 2020

1 Polyspaces	2 Back to basics	3 Mesospaces
4 Platforms rule	5 Network abundance	6 Resistance to digital

-3-

Implications for public policy

3.1. Types of regime, Intangibles and related IPRs

Typology of intangibles	Typology of IPRs
<p><u>Transaction regime:</u></p> <ul style="list-style-type: none">• Proprietary intangibles for traditional firms and public organisations• Proprietary intangibles for individuals• Proprietary intangibles for entrepreneurs• Joint intangibles in platformic firms and organisations <p><u>Community regime:</u></p> <ul style="list-style-type: none">• Individual proprietary intangibles for constrained communities• Joint Communities intangibles	<p><u>Transaction regime:</u></p> <ul style="list-style-type: none">• Exclusive IPRs for firms and public organisations• Individual IPRs• Entrepreneurs IPRs• Platformic IPRs <p><u>Community regime</u></p> <ul style="list-style-type: none">• Joint IPRs• Community IPRs

3.2. Policy (societal) implications

Issues for discussion

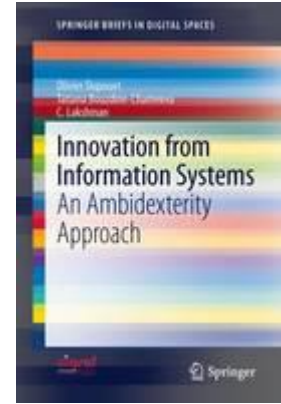
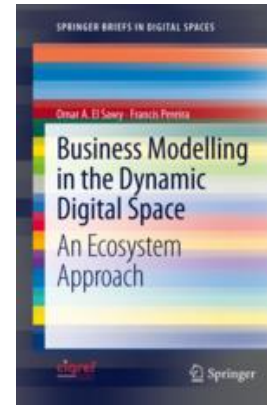
- How to better integrate time (the acceleration dimension) in IPRs regime ?
- How to define policy instruments for building and leveraging Individual assets?
- How to integrated the collective (community) dimension in IPRs regime ?
- How to take into account the platformic dimension in value creation, desintermediation, and value migration ?
- What is the impact of the platformic dimension on the public sphere (desintermediation of the public sphere ?)
- How to integrate the big data issue in IPRs regime (for instance in science 2.0 production systems) ?
- How to support funding mechanisms of innovative intangibles (the market failure issue) , in a situation of instability of roles and links ?

Thank you

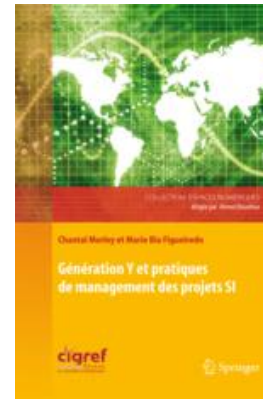
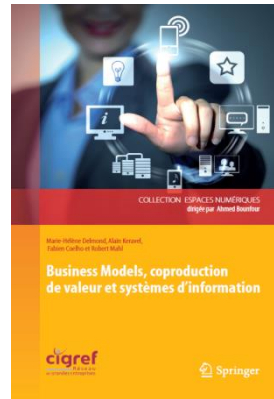
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SpringerBriefs in Digital Spaces



Espaces numériques



Part 1-
« Hard intangibles »
and
innovation performance

1- « Hard intangibles » and innovation performance

The contribution of intangibles to GDP growth

Data for 5 OECD countries: 1995-2010

Primary data: ColInvest project, updated

Table 1: OLS

	Model 1.1	Model 1.2	Model 1.3	Model 1.4	Model 1.5
	b/t	b/t	b/t	b/t	b/t
Labor	.693** (.348)	1.205*** (1.781)	1.353*** (1.963)	1.891*** (1.083)	.782** (.940)
Gfcf	.167*** (.955)	.344*** (.291)	.466*** (.593)	.398*** (1.731)	.294*** (1.244)
Intangible	.554*** (.383)				
Software		.240*** (.221)			.101*** (.428)
RD			.251*** (.817)		.309*** (.686)
Copyright				.188*** (5.100)	.073** (.756)
Constant	-5.156 (-1.588)	-12.214** (-2.415)	-16.949** (-3.187)	-23.793*** (-4.058)	-6.598 (-1.571)
Adj. R^2	.974	.936	.921	.903	.958
Periodes	15	15	15	15	15
Country	5	5	5	5	5

Source: Research project on Intangibles' complementarities and innovation growth, *preliminary results*

1- « Hard intangibles » and innovation performance

Hard intangibles are
important
Ingredients for innovation

Explained variable: Tendency to introduce an innovation

	Model				
	(1)	(2)	(3)	(4)	(5)
<i>IPR variables</i>					
PATENT	0.141*** (0.0136)	0.123*** (0.0136)	0.103*** (0.0138)	0.0829*** (0.0132)	0.0712*** (0.0138)
COPYRIGHT	0.0894*** (0.0229)	0.0707*** (0.0227)	0.0595*** (0.0221)	0,0307 (0.0229)	0,0315 (0.0226)
INDUSTRIAL DESIGN	0.0776*** (0.0228)	0.0620*** (0.0228)	0.0591*** (0.0218)	0.0440** (0.0210)	0.0412* (0.0212)
TRADEMARK	0.0568*** (0.0147)	0.0352** (0.0151)	0.0371*** (0.0140)	0.0373*** (0.0129)	0.0401*** (0.0129)
<i>Control Variables</i>					
Costs are an obstacle		-0.0111* (0.00579)	-0,0088 (0.00541)	-0,00428 (0.00509)	-0,00306 (0.00499)
Lack of market information is an obstacle		0,00843 (0.00672)	0.0105* (0.00634)	0.0204*** (0.00585)	0.0191*** (0.00586)
Presence of inter-firm co-operation		0.0774*** (0.0137)	0.0773*** (0.0131)	0.0478*** (0.0130)	0.0524*** (0.0130)
Firm size		-0,00367 (0.00610)	-0.0110** (0.00557)	-0,00613 (0.00629)	-0,00469 (0.00608)
R&D investments, in log		0.0155*** (0.00248)	0.0247*** (0.00241)	0.0247*** (0.00390)	0.0177*** (0.00394)
non R&D investments, in log		0,00343 (0.00230)	0,00089 (0.00195)	-0,00293 (0.00210)	-0,00191 (0.00208)
CIS 4 observation			0.0710** (0.0277)	0.0915*** (0.0329)	0.103*** (0.0325)
CIS 2006 observation			-0.117*** (0.0296)	-0,00786 (0.0210)	0,00553 (0.0198)
Country effects				YES	YES
Sector effects					YES
Pseudo R-squared	0,05	0,09	0,11	0,16	0,18
Observations	22119	22119	22119	22119	22119

Research project on Intangibles'
complementarities
and innovation growth, *preliminary results* by A.
Barreneche
Primary data: CIS 3, 4, 6

1- « Hard intangibles » and innovation performance

Hard intangibles are important
Ingrédients for innovation

Explained variable: % of income coming from innovations					
	Model				
	(1)	(2)	(3)	(4)	(5)
IPR variables					
PATENT	-0,00971 (0.0118)	-0,0124 (0.0123)	0,0134 (0.0120)	0.0242** (0.0119)	0.0221* (0.0122)
COPYRIGHT	-0,00765 (0.0177)	-0,0189 (0.0177)	-0,00288 (0.0170)	0,0197 (0.0160)	0,00651 (0.0163)
INDUSTRIAL DESIGN	-0,00794 (0.0139)	-0,00953 (0.0137)	-0,00658 (0.0133)	0,00181 (0.0128)	0,00296 (0.0128)
TRADEMARK	0,0184 (0.0125)	0,0107 (0.0128)	0,00329 (0.0124)	-0,0111 (0.0119)	-0,0032 (0.0117)
Control Variables					
Costs are an obstacle	0.0184*** (0.00503)	0.0190*** (0.00570)	0.0165*** (0.00535)	0.0106** (0.00473)	0.0110** (0.00462)
Lack of market information is an obstacle		0,00493 (0.00663)	-0,0025 (0.00619)	-0.0164*** (0.00574)	-0.0169*** (0.00559)
Presence of inter-firm co-operation		0.0311** (0.0143)	0.0286** (0.0145)	0.0515*** (0.0154)	0.0499*** (0.0155)
Firm size		-0.0446*** (0.00570)	-0.0344*** (0.00567)	-0.0485*** (0.00627)	-0.0409*** (0.00596)
R&D investments, in log		0.0196*** (0.00236)	0.00962*** (0.00247)	0.0138*** (0.00321)	0.00925*** (0.00319)
non R&D investments, in log		-0.00755*** (0.00226)	-0,00255 (0.00227)	0.00437* (0.00235)	0.00680*** (0.00230)
CIS 4 observation			-0.0311** (0.0145)	-0.0451*** (0.0151)	-0.0358** (0.0149)
CIS 2006 observation			0.206*** (0.0170)	0.0320* (0.0178)	0.0435** (0.0177)
Country effects				YES	YES
Sector effects					YES
Constant	0.278*** (0.0105)	0.198*** (0.0164)	0.230*** (0.0237)	0.392*** (0.0391)	0.357*** (0.0384)
R-squared	0,005	0,043	0,103	0,199	0,213
Observations	22255	22255	22255	22255	22255

Research project on Intangibles' complementarities and innovation growth, *preliminary results*, by A. Barreneche_Primary data: CIS 3, 4, 6

1- « Hard intangibles » and innovation performance

Explained variable: Turnover in reference year, in log

Hard intangibles are
important
Ingrédients for revenues

	(1)	(2)	Model (3)	(4)	(5)
<i>IPR variables</i>					
PATENT	-0,0192 (0.0196)	-0.0633*** (0.0186)	-0.0465** (0.0185)	-0,0134 (0.0183)	0,00149 (0.0182)
COPYRIGHT	-0,0286 (0.0271)	-0.0495* (0.0274)	-0,0372 (0.0261)	-0,0423 (0.0258)	-0,03 (0.0256)
INDUSTRIAL DESIGN	-0,00711 (0.0231)	0,00193 (0.0206)	0,00521 (0.0201)	0,00136 (0.0198)	0,00852 (0.0190)
TRADEMARK	0.0303* (0.0183)	0.0303* (0.0171)	0,0257 (0.0168)	0.0415** (0.0166)	0.0416** (0.0166)
<i>Control Variables</i>					
Turnover two years prior the reference year, in log	0.988*** (0.00214)	0.922*** (0.00710)	0.917*** (0.00714)	0.863*** (0.0107)	0.843*** (0.0115)
Costs are an obstacle		-0.0139* (0.00723)	-0.0179** (0.00715)	-0.0174** (0.00699)	-0.0174** (0.00689)
Lack of market information is an obstacle		0,0123 (0.00802)	0,00634 (0.00789)	0,00373 (0.00763)	0,00531 (0.00742)
Presence of inter-firm co-operation		-0,021 (0.0176)	-0.0349* (0.0182)	-0.0320* (0.0175)	-0.0580*** (0.0179)
Firm size		0,00166 (0.00784)	0,000204 (0.00889)	0.126*** (0.0162)	0.147*** (0.0171)
R&D investments, in log		0.0550*** (0.00660)	0.0491*** (0.00668)	0.0335*** (0.00630)	0.0441*** (0.00616)
non R&D investments, in log		0.0200*** (0.00430)	0.0245*** (0.00452)	0.0208*** (0.00449)	0.0197*** (0.00449)
CIS 4 observation			-0.0954*** (0.0207)	0.0645** (0.0262)	0.0791*** (0.0265)
CIS 2006 observation			0.0985*** (0.0256)	0.165*** (0.0281)	0.175*** (0.0286)
Country effects					
Sector effects					
Constant	0.329*** (0.0308)	0.542*** (0.0462)	0.685*** (0.0536)	1.601*** (0.128)	1.779*** (0.134)
R-squared	0,981	0,983	0,983	0,984	0,984
Observations	21715	21715	21715	21715	21715

Research project on Intangibles'
complementarities and
innovation growth, *preliminary*
results, Work by A. Barreneche.
Primary data: CIS 3, 4, 6.

Public-Private Complementarities

1% investment increase in this public asset	and 1% investment increase in this private asset	is associated with the following % increase in labor productivity	p-value *** p < 0.01; ** p < 0.05; * p < 0.1
database	database	0.035	*
database	R&D	0.078	**
organizational capital	database	0.057	**
organizational capital	R&D	0.106	***
organizational capital	software	0.052	**
organizational capital	training	0.077	*
R&D	tangible	0.400	***
software	R&D	0.074	**
training	tangible	0.010	**