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E-DEMOCRACY AND SOCIOPOLITICAL DIGITAL INTERACTIONS: ANALYSING CO-CREATION IN PUBLIC SECTOR INNOVATION

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Introduction

General objective

- To build an integrated background between e-democracy, sociopolitical digital interactions and public sector innovations.

Guiding question

- What connections can be established among the democratic process of sociopolitical digital interactions and the generation of public sector collaborative innovations?

Specific objectives

- a) To map e-democracy academic production;
- b) To propose a conceptual framework for analysis of the sociopolitical digital interactions (SDI);
- c) To verify the statistical validity of a theoretical model of the process of public sector collaborative innovation.

ARTICLE 1

A Systematic Review of e-democracy

Possibilities and Limits of E-participation: A Systematic Review of E-democracy

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ARTICLE 2

Sociopolitical Digital Interactions' Maturity: Analyzing the Brazilian States

INTERNATIONAL JOURNAL OF ELECTRONIC GOVERNMENT RESEARCH, 10(4), 76-93, OCTOBER-DECEMBER 2014

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ARTICLE 3

Collaborative Innovation in the Public Sector: A case of the Brazilian Federal Government

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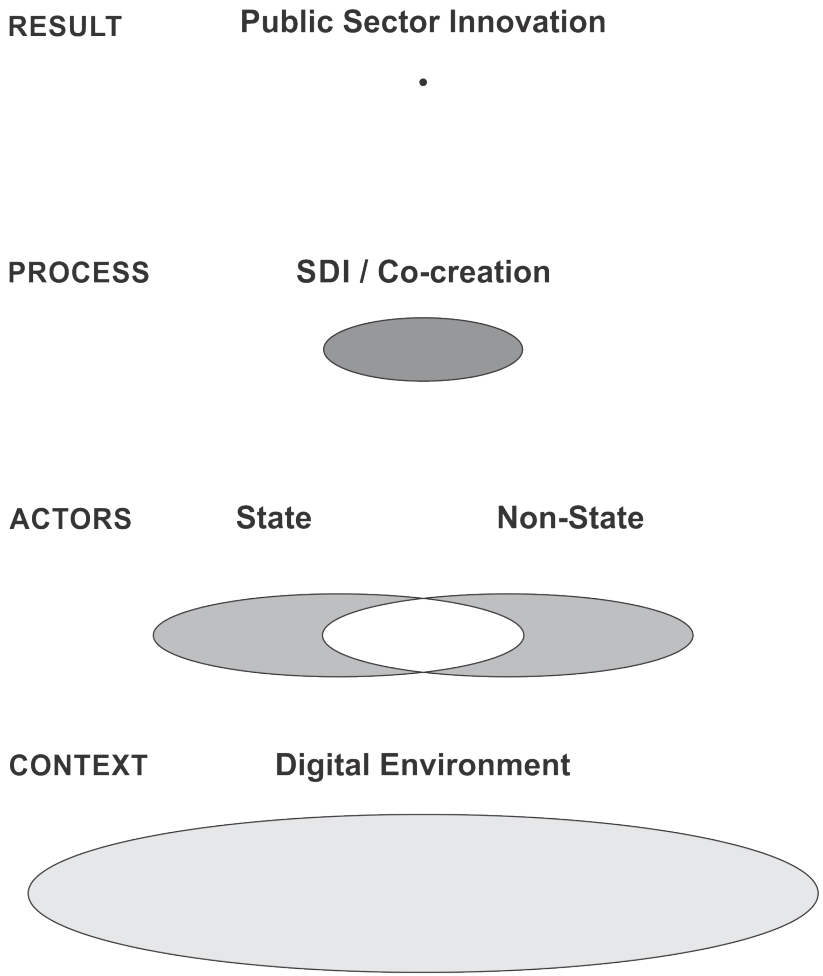
Research Model

Reframing **CIPP** model for evaluation of "programs, projects, personnel, products, institutions, and systems" (***STUFFLEBEAM**, 2003*) composed by (**Context, Inputs, Processes and Products**); ***Denyer and Tranfield*** (2009) **CIMO** model (**Context, Intervention, Mechanisms, and Outcome**) which points out specific critical dimensions for investigation, it was developed, specifically to this research, the **CAPR** conceptual scheme.

The **CAPR** conceptual scheme was used as the main structure of this study guiding the integrative perspective among it's constituents elements:

i) **Context**, (ii) **Actors**, (iii) **Processes** and (iv) **Results**.



Conceptual Scheme of the study (CAPR)

Background

Complexity of State

States are complex organizations, composed by entangled political arrangements constituted by collective and personal interests that lead even to contradictory actions and plannings.

The conflicting nature of the orientations of the state, remits to a fundamental duality intrinsic to government actions:

. ***to defend the economic interests of the administrative elite and consequently maintain the political-economic status-quo*** or

. ***to promote the common good, the plural access to resources and the design of inclusive power relations***

These antagonic and even complementary perspectives design the complexity of **government-society power arrangements and networks**.

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E-democracy

- ***Kardan and Sadeghiani (2011) observed that there is no consensus on the definition and use of the term 'e-democracy'.***
- ***Digitalization of democratic processes*** **(Technology)**

Instrumental

- The conception of a virtual political space is related to the idea of digital platforms of multi-stakeholder democratic engagement.

Substantive

- Power relations

Web 2.0

Refers to further exploitation of the Web through a more *interactive and collaborative dynamic*. The inherent values of **Web 2.0** are "***citizen-created content***," "***free flow of information***," and "***freedom of expression***" (Bonsón et al. 2012).

Government 2.0

Implies the adoption of pluralistic forms of government called "**governance networks**" (Tapscott et al. 2007).

The tendency toward **citizen-centered government** is due to technological influences, especially the Web 2.0 technologies (Eggers 2007).

Systematic Literature Review

1 Introduction

2 Theoretical background
2.1 Research Protocol (first part)

3 Methodology
3.1 Research Protocol (second part)
3.1.1 Sample definition
3.1.2 Search strategy
Filters 1,2,3
3.1.3 Inclusion and exclusion criteria
Filters 4,5,6
3.1.4 Information extraction
3.1.5 Analysis procedure

4 Conducting the Review
4.1 Selection
Filters 1,2,3,4,5 and 6

4.2 Information extraction
4.2.1 Main findings
4.2.2 Main words

4.3 Conceptual Tools
4.3.1 Ideological Discourse Placements (IDP)
4.3.1 Core elements framework

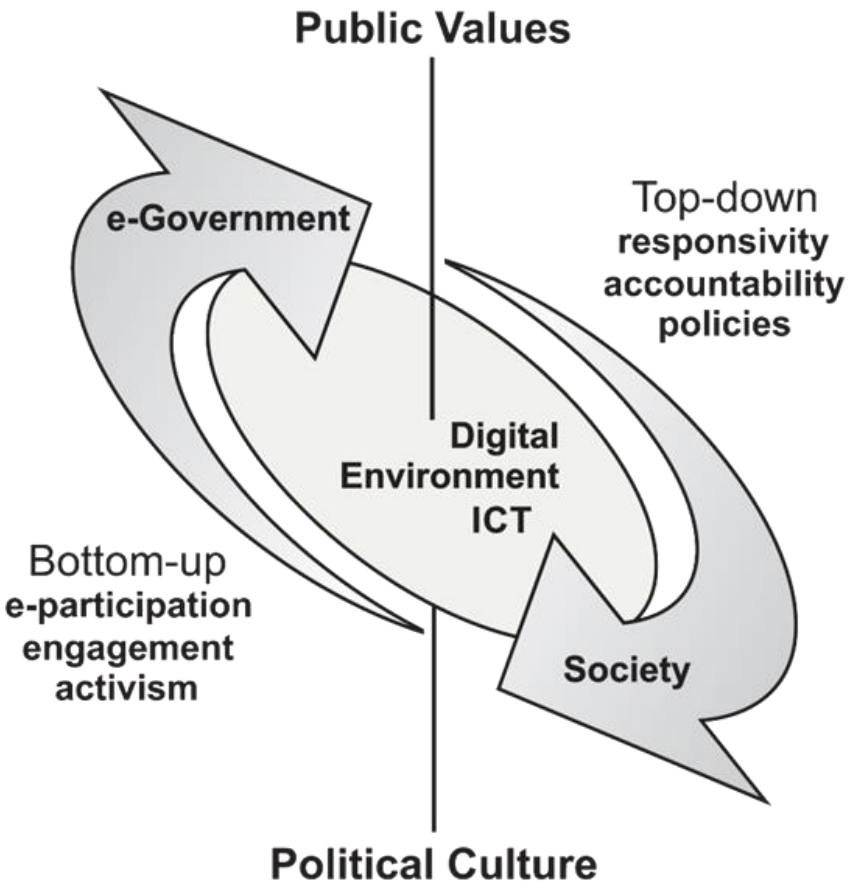
4.4 Analysis
4.4.1 Methodological approaches
4.4.2 IDP locations
4.4.3 Core elements associations

5 Reporting

Adapted from Tranfield et al. (2003); Colicchia and Strozzi (2012)

Ideological Discourse Placements (IDP)

PARADIGM	CITIZEN VISION	GOVERNMENT MODEL	GOVERNMENT STRATEGY
Neoliberal globalization	The State as enemy	Market-Centric Government	Social apoliticization
Sustainability	The State as potential ally	Citizen-Centric Government	Civic empowerment



e-Democracy Core Elements

CONCLUSION

If rethought of as a means of promoting social access to resources, e-democracy may have great potential in terms of the 'de and re-construction of social and political structures' (Kallio and Käkönen, 2002, p. 3).

• In general, it is observed that e-participation channels are limited to information publicity instead of constituting a means of dialogical communication and government-citizen collaboration.

• Citizens' empowerment are seen as the only option to promote effective connections between citizens' e-participation and the real processes underlying public policies and that it may lead to important improvements of practices of public value generation, understood as a core objective for public organizations' activities.

• ICTs' can only enable the promotion of democratic maturity if political and civic culture converge with the need for transformation of governmental actions through public administration reforms.

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Gaps

- Importance of analysis of government actions in the digital environment (**Bonsón** et al., **2012)**
- ICT's impact on government-citizen relations. (**Cegarra-Navarro** et al., **2012)**

Guiding Questions

- (1) How can the sociopolitical digital interactions' maturity levels be classified?
- (2) What is the current developmental stage of digital sociopolitical interactions in Brazilian states' governmental websites?

Objectives

- To propose a conceptual framework of understanding the levels of sociopolitical digital interactions' maturity (SDIM).
- Assess sociopolitical interactions currently observed in Brazilian states' websites.

Sociopolitical Digital Interactions

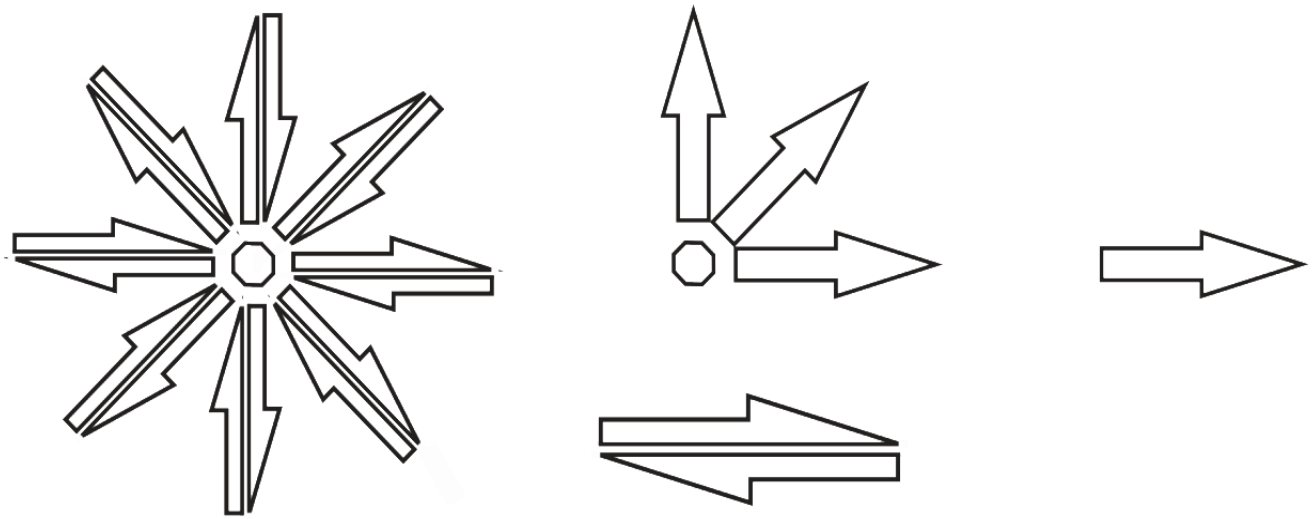
The bottom-up and top-down dynamics of a government-citizen democratic relationship instrumentalized by the information and communication technologies (ICTs).

CONCEPTUAL FRAMEWORK

Sociopolitical Digital Interactions' Maturity (SDIM)

- I - **Maturity** levels
- II - Information **flow** dynamics
- III - Digital interactive **tools**

Information flow dynamics



A) multilateral, B) bilateral, and C) unilateral

Sociopolitical Digital Interactions' Maturity

Maturity Levels	Description	Information Flow Dynamics	Digital Interactive Tools
CO-CREATION Level 3	Consultation; Collaboration; Participative Construction; Collective Intelligence.	Multilateral Flow	e-vote; e-petitions; opinion polls; challenges; wikis; discussion forums; applications; open channel for suggestions; open data
CONNECTION Level 2	Communicative Exchanges Dialogue; Discussion and Sharing.	Bilateral Flow	social networks; professional networks; chat; contact forms / e-mail; multimedia sharing services; comment box
INFORMATION Level 1	Production; Dissemination and Access	Unilateral Flow	blogs; microblogs; RSS feed; newsletter; downloading information availability; search engine

Research universe

CO-CREATION										CONNECTION						INFORMATION						
e-vote	e-petitions	opinion polls	challenges	wikis	discussion forums	applications	open channel for suggestions	open data	Subtotal	social networks	professional networks	chat	contact forms / e-mail	multimedia sharing services	comment box	Subtotal	blogs	microblogs	RSS feed	newsletter	downloading information availability	search engine	Subtotal
1		4		1			1	4	11	20		1	25	18	2	66	3	21	14	6	26	25	95

Digital interactive tools quantities by category

Ranking	State	SDIM	Tool Quantities
1 º	Rio Grande do Sul	4.4.4	12
2 º	São Paulo	1.4.5	10
3 º	Pernambuco	1.3.5	9
4 º	Maranhão	1.3.4	8
5 º	Espírito Santo	1.3.3	7
	Roraima	1.3.3	7
6 º	Rio de Janeiro	1.2.4	7
7 º	Ceará	1.1.4	6
8 º	Minas Gerais	0.3.5	8
	Mato Grosso	0.3.5	8
	Rio Grande do Norte	0.3.5	8
	Piauí	0.3.5	8
9 º	Distrito Federal	0.3.4	7

Ranking	State	SDIM	Tool Quantities
	Paraná	0.3.4	7
	Goiás	0.3.4	7
	Amazonas	0.3.4	7
10 º	Santa Catarina	0.3.3	6
	Amapá	0.3.3	6
	Paraíba	0.3.3	6
11 º	Mato Grosso do Sul	0.2.3	5
	Acre	0.2.3	5
12 º	Pará	0.2.2	4
13 º	Rondônia	0.2.1	3
14 º	Tocantins	0.1.3	4
	Sergipe	0.1.3	4
15 º	Bahia	0.1.1	2
16 º	Alagoas	0.0.2	2

Ranking the 27 Brazilian Federation's states' government websites

CONCLUSIONS

The concept of **collaborative platforms** applied to the governmental context refers to the **growing challenges** (technical, political, and ideological) faced by states.

Open government **data** and open **discussion channels** between the society and the government are a fundamental requirement for promoting sociopolitical **collaboration.**

(Observing the case of Maranhão) It was established that it **is not possible to infer the level of institutional democratic development of the state governments by checking the SDIM of a government's website**.

- The **presence** of **Digital interactive tools** on governmental websites does not imply on it's **efectiveness** concerning processes of **democratic participation or it's potential in influencing the decision making processes inerent the public policies.**

The perception of the paucity of digital instrumental level 3 (multilateral flows) denotes **traces** of **political centralization** that makes difficult the adoption and the establishment of:

. **citizen-centered government model**

. **governmental openness** to a **co-creative** and **collaborative public policy model**

. **environment for collaborative culture**

SDIM is likely to be used as a guide for

. **designing,**

. **analysing** and

. **improving *government-society digital interactions*** on government websites.

ARTICLE 3

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Gap

- Sørensen and Torfing (2011) observe that *there is no "commonly accepted theoretical framework for analyzing collaborative innovation in the public sector"*(p.17).
- According to Chathoth et al. (2013) "*research should explore the process of co-production and co-creation from a strategic perspective*"(p.19).

Guiding question

- Which theoretical model can explain the process of collaborative public sector innovations?

Specific objectives

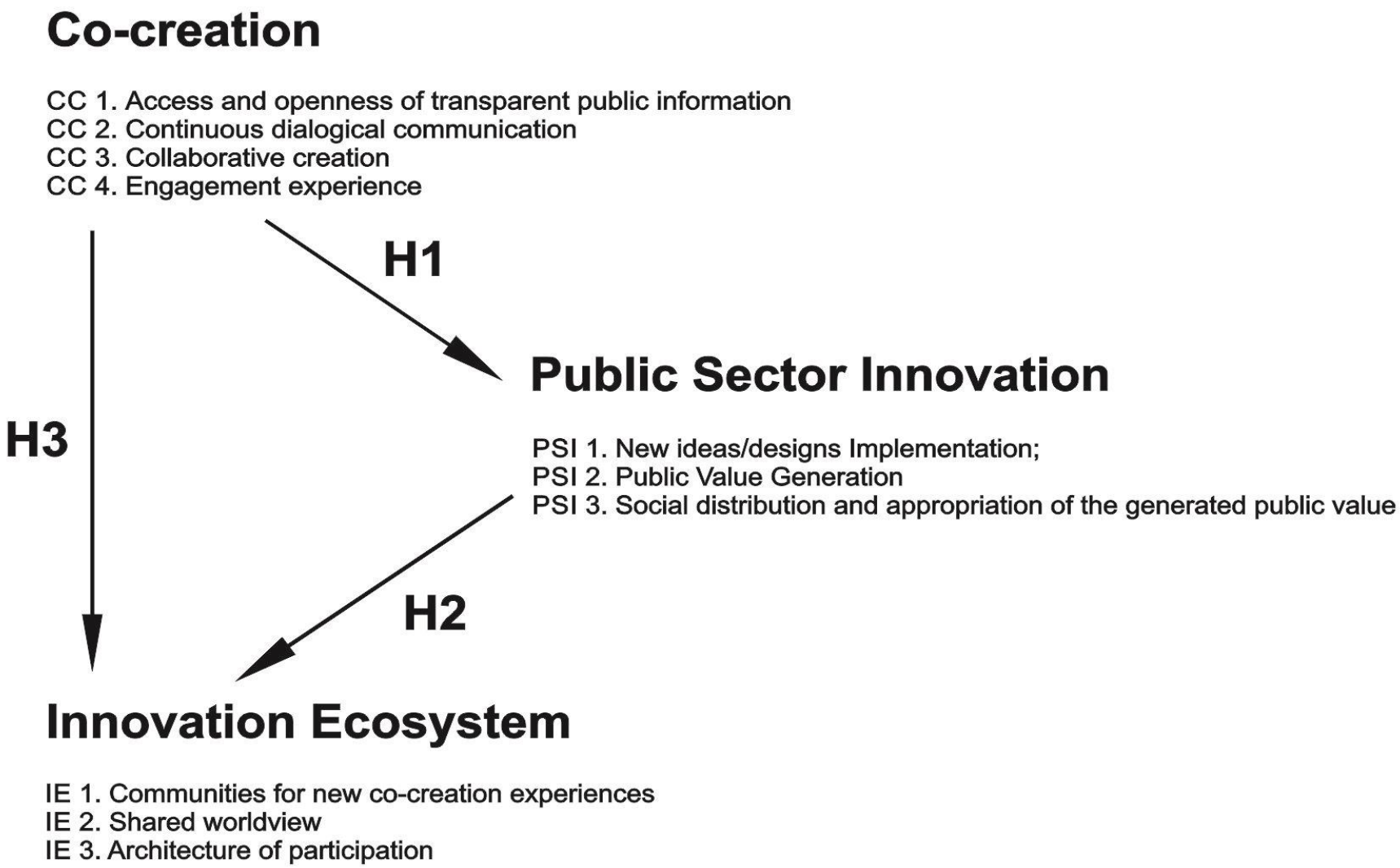
- to propose a theoretical model that describes the elements of public sector collaborative innovations.
- to check the validity of the proposed model through statistical method of structural equation modeling (SEM).

Public Sector Innovations

Concrete government policies that “create the conditions for economic prosperity, civility in social relationships, and the advancement of justice” (Moore and Benington 2011, p. 257), what implies in increasing trust on government and the advance of public Interest.

Operational definitions of constructs

Constructs	Operational definitions	Sources
Co-creation	CC 1 . Access and openness of transparent public information	Prahalad and Ramaswamy (2004); Santos, Tonelli e Bermejo (2014)
	CC 2 . Continuous dialogical communication	Prahalad and Ramaswamy (2004); Santos, Tonelli e Bermejo (2014)
	CC 3 . Collaborative creation	Bason (2010); Santos, Tonelli e Bermejo (2014)
	CC 4 . Engagement experience	Ramaswamy e Gouillart (2010)
Public Sector Innovation	PSI 1 . New ideas/designs implementation	Koch e Hauknes (2005); Mulgan (2007); Windrum (2008); Bason (2010)
	PSI 2 . Public Value Generation	Vargo, Lusch e Morgan (2006); Mulgan (2007); Bason (2010)
	PSI 3 . Social distribution and appropriation of value	Gault (2012)
Innovation ecosystem	IE 1 . Communities for new co-creation experiences	Nambisan (2013); Estrin (2008)
	IE 2 . Shared worldview	Nambisan (2013)
	IE 3 . Architecture of participation	Nambisan (2013)



The conceptual model of the study

SEM

- Through Structural Equations Model (SEM) technique it was analyzed the nature of the relationship between the constructs which structure the research model.

- The Structural Equations Model, consist on a technique of multivariate analysis. According to Debata *et al.*, (2015, p. 27) "SEM depicts a diagram or a pictorial representation of a model that is transformed into a set of equations. The set of equations are solved simultaneously to test model fit and estimate parameters".

- The empirical data were analyzed using SEM technique of AMOS 22.0.

Questionnaire, samples and data collection

- 10 questions, structured on propositions, each one related to an observable variable of the constructs that compose the research model were used as a measurement instrument.
- For data extraction it was used a Likert 5-point scale (ranging from 1 = strongly disagree; to 5 = strongly agree). To conduct this research it was used non-probabilistic and convenience sampling, based on the availability of respondents for filling out the survey.
- The sampling set for the study consisted of representatives of the Brazilian federal government. Questionnaires were sent through Survey Monkey web platform to public servers e-mail found in the websites of the Executive, Legislative and Judiciary; totalling 3582 emails. The questionnaires were first sent at 22 December 2014 and its collection was ended on 20 January 2015.
- It was verified a total of 231 answers. From this total 170 were complete, 24 did not answer 1 question, in 4 were observed repetitive patterns, 33 missed more than 2 answers and were considered incomplete. It was opted for using the set of results for all 194 cases (170 complete questionnaires plus the 24 which missed one question). The missing values were substituted by the rounding off of the result's simple average.

Results and discussion

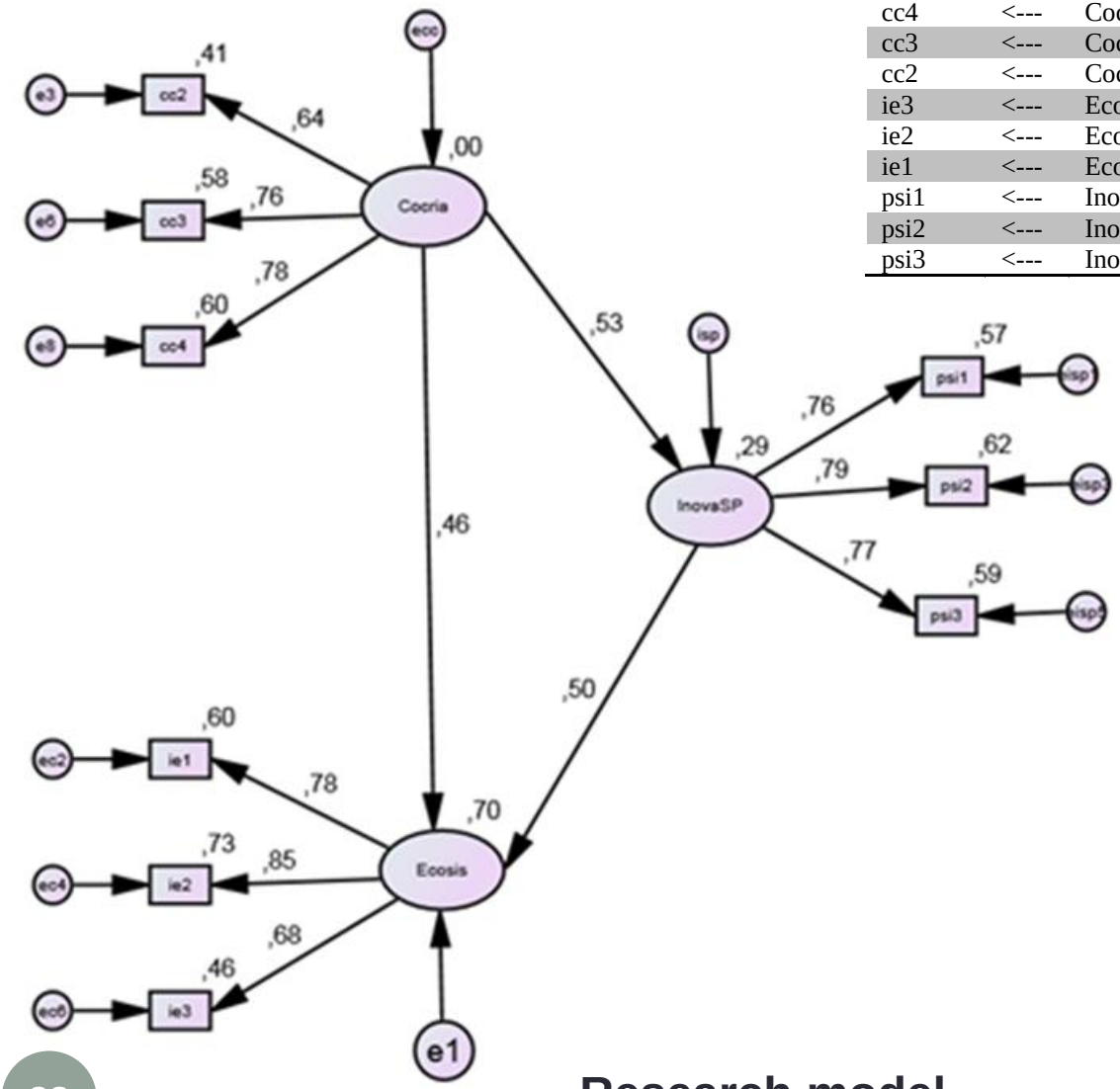
- The number of distinct parameters to be estimated in the proposed model is 21. Thus, there is an average of 9.23 respondents for parameter value and the sample is within the recommended range.
- The model showed adequate fit to the data. As the ensemble of the adjustment measures showed acceptable values wich suited to the reference values.
- The reliability of the factors was verified by Cronbach's Alpha and the three factors presented values above the acceptable minimum (0.7), as pointed out by Hair Jr. et al (2005).

Factor	Cronbach's Alpha (CC	Items
Co-creation	0,772	3
Innovation Ecosystem	0,813	3
Public sector innovation	0,816	3

Co-creation construct was initially composed of four variables. However, at the reliability analysis, the Cronbach's alpha showed higher value by removing the variable cc1.

			Estimate	β [1]	S.E.	C.R.	P	Hypotheses
InovaSP	<---	Cocria	,588	**,534**	,105	5,598	***	Suported
Ecosis	<---	InovaSP	,512	**,497**	,094	5,470	***	Suported
Ecosis	<---	Cocria	,521	**,459**	,103	5,039	***	Suported
cc4	<---	Cocria	1,000	**,776**				
cc3	<---	Cocria	1,033	**,760**	,113	9,132	***	
cc2	<---	Cocria	,872	**,641**	,109	8,010	***	
ie3	<---	Ecosis	,896	**,680**	,097	9,272	***	
ie2	<---	Ecosis	1,031	**,855**	,089	11,524	***	
ie1	<---	Ecosis	1,000	**,776**				
psi1	<---	InovaSP	1,000	**,757**				
psi2	<---	InovaSP	1,034	**,788**	,104	9,972	***	
psi3	<---	InovaSP	,991	**,767**	,101	9,778	***	

Regression weights



Research model

Conclusions

- (a) Brazilian Federal Government representatives perceive co-creation as a process capable of generating public sector innovation, which leads to the development of innovation ecosystem. Analysis of survey responses confirmed that co-creation has a positive influence on innovation ecosystem.
- (b) Co-creation is a key asset to the formulation of answers to complex challenges and to the improvement of the processes generating public values in non-linear and unpredictable environments.
- (c) The validated theoretical model may be a useful tool for understanding, analysing, improving and designing digital collaborative public sector innovations directly related to the development of innovation ecosystem.
- (d) The capacity to generate public sector innovations through co-creative processes showcases the importance of policy planning by combining government intelligence and democratic participation.
- (e) This design of public policies that incorporates government intelligence and democratic participation may offer a key directive for achieveing strategic advantage in generating new public values and social politicization.

General conclusion

- Even if there is an incipient digital instrumentalization of co-creative processes on states government web-sites; at federal level, the processes of sociopolitical collaboration are seen as important sources of generation of public sector innovations.

- Open government data and open discussion channels - the induction of social empowerment implies in reviewing ideological positioning and the promotion of changes in the power structure and political culture.

- Participative architectures based on processes of sharing decision-making power may lead to important sociopolitical interaction improvements, based on the political and civic culture convergence with the need for transformation of political actions through public administration reforms.

Market-centric-government

From the market-centric perspective, collaborative processes are seen as tools, capable to involve people in **superficial games of cooperation** that deviate the public attention from the possibility to **challenge the power relations**, moving, at the same time, the state's responsibility over private-actors.

Inside these neoliberal projects it may be observed as proeminent trends the **depoliticization of society;** the **creation of a illusion of democracy** and **superficial citizens' empowerment,** that instrumentalize the strategy of **"making power inequalities invisible"** (ROY, 2015, p.61).

Citizen-centric-government

- Collaborative processes have the potential to improve democracy and public management processes; to empower people on the defense of public interests; to increase the capacity to mobilize and contestate, to foster democratic engagement through the promotion of civic culture, political education, social participation and society politicization.

- Based on the alignement among social, political, economic and environmental issues and education is considered the cornerstone of strategic advantages on the promotion of sustainable development.

if the democratic processes are rethought as a means of promoting social access to public values, the sociopolitical digital interactions, specifically the co-creation, may represent an important tool for the generation of public sector innovations, governmental strategic advantages and sustainable development.

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Muito obrigado!

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