
The epistemological character of isomorphism in the generation of innovation

Sued Santos Souza Rocha.

Federal University of Rondônia (UNIR), Rondônia, Brazil
e-mail: sued_s@yahoo.com

Flávio de São Pedro Filho

University of Beira Interior, Covilhã, Portugal
e-mail: pedro.filho@ubi.pt

Maria José Aguilár Madeira Silva

University of Beira Interior, Covilhã, Portugal
e-mail: maria.jose.madeira@ubi.pt

Inon Beydha Lukman

University of Sumatera Utara, Indonesia
E-mail: drinonbeydha@gmail.com

Abstract: This paper presents as its main objective an analysis of the epistemological nature of isomorphism in the generation of innovation in organizations. The present research observed current contents such as analyses of Design Thinking and Isomorphism, with their intra-organizational interactions. It concludes that isomorphism is a frequent practice of managers in organizations who seek to copy structures or actions in order to obtain greater visibility and competitiveness in a specific organizational field. However, innovation is also a prominent way of distinguishing a product for the sake of market competitiveness; as a theoretical contribution it is an excellent form of organizational change, in that it exposes selectively the conceptual proposals of several contributors, focusing on creative modelling for new solutions through design and planning. This study includes diagrams, charts and other elements to meet predictable expectations. They are intended to benefit researchers and other scholars of innovation, in light of the relevance and coverage of this theme.

Keywords: Design Thinking. Innovation. Isomorphism. Institutional Theory.

Biographic notes: Sued Santos Souza Rocha. Master's degree student of the Postgraduate Programme in Business Administration/UNIR. Brazil. Member of GEITEC - Research Group on the Management of Innovation and Technology, UNIR, Brazil.

Flávio de São Pedro Filho. PhD in Administration from the University of São Paulo, Brazil. Doctor in Business Management from the University Autónoma de Assunción, Paraguay. Professor of Innovation and Sustainability on the Post-Graduate Programme in Administration (PPGMAD) of the Federal University of Rondônia (UNIR), where he is Coordinator of the Research Group on the Management of Innovation and Technology (GEITEC)/UNIR/CNPq, Brazil. Post Doctoral Researcher in Management and Economics, focusing on strategy management for innovation and sustainability, at the University of Beira Interior, Covilhã, Portugal.

Maria José Aguilár Madeira. PhD in Management from the University of Beira Interior, Covilhã, Portugal. Academic Advisor to the Post-Doctoral Programme in Management at the University of Beira Interior, Covilhã, Portugal.

Inon Beydha Lukman. PhD Peace Studies from Institute For social Science Studies University Putra, Malaysia. Master in Sciences of Regional Development at the University Of Sumatra Utara. Senior Lecturer at the University of Sumatra Utara, Indonesia.

This article is a revised and expanded version of a study entitled “The Epistemological Character of Isomorphism in the Generation of Innovation” presented but not published in proceeding of the International Conference on Social and Political Development (ICOSOP) / University of Sumatra Utara, in Medan, Indonesia, 21–22 nov 2016.

1 INTRODUCTION

This paper has as its main objective an analysis of the epistemological character of isomorphism in the generation of innovation. To obtain the results in this study the following were established as specific objectives: to raise the theoretical-conceptual basis of isomorphism in the innovation process, considering Design Thinking (1); to characterize the concepts inherent in the relationship of the innovation process in conflict with organizational isomorphism (2); and to analyze the impact of isomorphism from the perspective of institutional theory (3).

Organizations make innovation a requirement and many managers treat isomorphism as a form of competitive differentiation. This approach requires research to guide the cognitive enrichment of the specific organizational practices concerned.

The demand for innovation can be considered as a way to support market competitiveness, encouraging research that establishes the cognitive enrichment of organizational practices. In fact, technological dynamics press for a change in structures, imposing the emergence of the new, in processes, products or services, among others; the adaptation is not enough in view of the level of demand of consumers for the products offered by the companies. In addition, obsolescence and the search for continuous improvement justify the actions taken to introduce innovation.

This fact means not only creating something new or significantly improved, but the need to invent and create, adapting and impacting the market with new releases. This is the approach proposed in this task, in which the topics and subtopics bring as a sequence the theoretical review, the methodology of preparation, the results, the conclusion and its respective bibliographical references.

2 THEORETICAL AND CONCEPTUAL REVIEW

This work is based on the Institutional Theory, which tries to explain organizational phenomena in order to find a parameter for innovation, according to Souza, et al (2012); for these authors, this parametric phenomenon is called isomorphism, which is a search for innovation, characterized by a hyper competitiveness generated by the conflict between innovation and imitation. Following the same authors, isomorphism allows institutions to consolidate and

strengthen themselves, since the demand for the new begins by the search for adaptive modifications of everything that can be improved in order to achieve the apex of innovation.

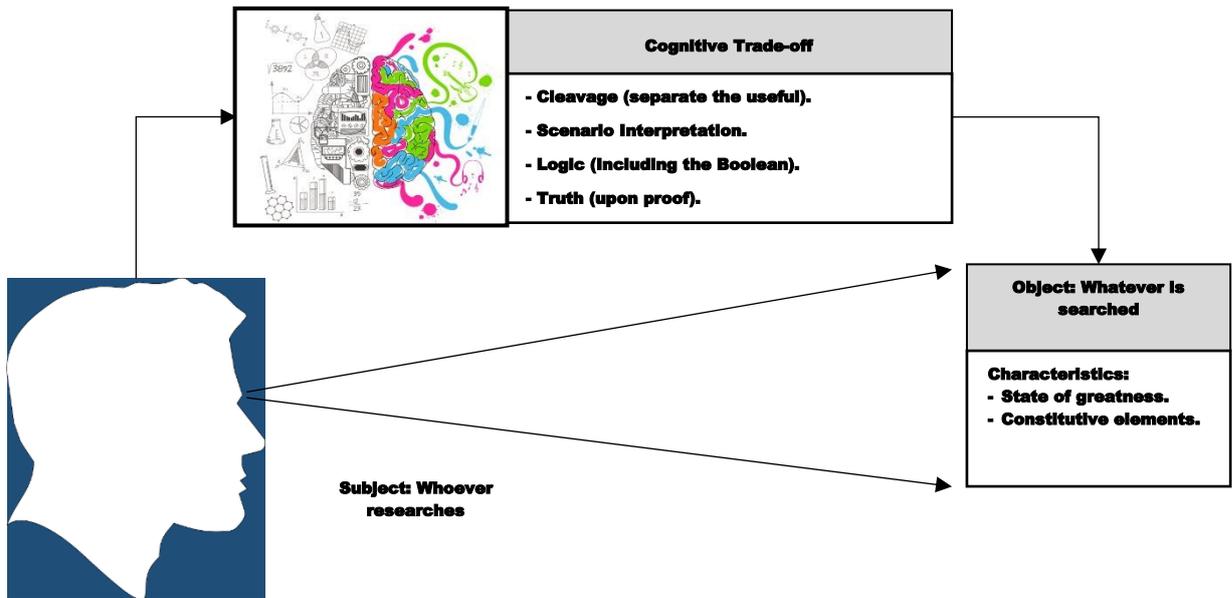
2.1 Concept of Isomorphism:

According to Souza, et al. (2013), isomorphism is the organizational phenomenon by which one seeks to imitate others' structures, or things become similar to each other. Isomorphism is classified into two types: competitive and institutional; the first focuses on market competition, and the second on its own organizational structure. Institutional isomorphism can be coercive, mimetic and normative and therefore organizational innovation may be related to mimetic isomorphism. According to Filippetti Neto (2015), coercive isomorphism is originated from the pressure of stakeholders; mimetic isomorphism is that in which organizations mirror themselves in market leaders; and normative isomorphism, comes from the solution of similar problems faced by the institutions from the professionalization of their managers. In the process of innovation, Rossoni and Pedro Filho (2011) state that, if applied irresponsibly, mimetic isomorphism can lead to disastrous effects, difficult or impossible to fix.

2.2 Reflections on epistemology

Epistemology has its basis in the philosophy of science, according to Serva (2013). For this author, it is possible to say that epistemology is centred on a rigorous analysis of rationalism, resulting in deep reflection, achieving the scientific character of a study. This reflection involves nature, the stages and the limits of human knowledge, in order to observe the relationship between the subject and the inert object; Here is a causal relationship between the subject that researches and the object researched, as Figure 1 and Table 1 below show. The relationship legitimates the cognitive judgment and its various structural paradigms common to the diverse branches of knowledge developed along its process.

Figure 1: mental model in relation subject x object in the perception of isomorphism



Source: prepared by the authors based on BRAGA and PEDRO FILHO (2013).

Table 1: mental model in relation subject x object in the perception of isomorphism

Element	Description
Cognitive Trade off	It means the way to the logical construction of knowledge. Under the isomorphism it can reflect on the perception of the formulation of choice in face of a conflict or selective pointing in the relationship of loss or gain.
Cleavage	It means the selection at the time of division between useful and disposable; It involves screening of the elements that might be useful.
Scenario interpretation	It is the locus of a research study, and means the criticism of the surroundings where the research object is. The interpretation requires a formal description of the surrounding elements since it reflects the causal relationship.
Logic	It means the mental mapping that captures the inferences of the causal relationship and that can be proven or demonstrated.
Object	Within the scope of the research is the researched element; that is, what is known by the subject and comes to have a meaning in the context of an investigation.
State of greatness	It is the compatible dimension of perception by the subject on the object when it assigns a meaning regarding a concrete dimension.
Constitutive elements	It means the parts of the whole. In the critical writing on isomorphism these parts may indicate an equivalence, a similarity, an inference and therefore they may indicate the presence of an isomorphism in diverse forms.
Subject	It is one who knows, such as the researcher ; it is one who shares an understanding of the causal relationship, assigning the meaning of the object under investigation.

Source: prepared by the authors based on BRAGA and PEDRO FILHO (2013).

According to Capuano (2015), innovation has an epistemological character by which the phenomenon requires multidisciplinary approaches to its understanding, being a reference in the analysis of innovation, in the past by imitation and after the Renaissance by invention. These phenomena are due to the analysis of approaches originated from human thought.

2.3 Innovation Process

Based on the Oslo Manual by the OECD (2005), innovation has to characterize the implementation of the new to the organization, gaining competitive advantage through five possible innovation typologies: introduction of new products (1), a new production method (2); the opening of new markets; (3); the development of new sources or providers of raw materials and other inputs (4); and the creation of new market structures in an industry (5). The manual distinguishes that innovation has the ultimate purpose of improving

performance, so companies seek to acquire advantages over their competitors when promoting negotiations involving pricing, cost minimization and profit amplification.

The survey of the literature includes the study by Chun-Yao Tseng *et al.* (2016) of the innovation network. It points to centrality, density and cohesion as important indicators for measuring the influence of innovation on the network of relationships. Centrality involves the connection of nodes in a network, measured by the degree, the proximity or the increase of the same centrality. Density is identified by coherence of sustaining speed in the network of information that connects the actors and reflects the interchange between the related subgroups. Cohesion is represented by the belief in and the coherence of identity that allows relationships to be consistent and results in the existence and durability of the innovative network.

The approach of Chun-Yao Tseng *et al.* (2016) may be said to complement the work of Breznik (2016) and his varied concepts of the measurement of interrelated social structures demonstrated in Moreno's sociogram. Breznik offers significant insight into the related network component on the part of the social actors, the group and the organization. The views of the leaders may be harmonized to build strategic configurations of preferences and trends, mainly in the marketing structure aimed at favouring innovation in the competitive market. The diffusion of information contained in the analyzed scenario optimizes the creativity in the productive platforms, which is useful to innovative clusters as they address the launching of new products and services.

Research by Souza, *et al.* (2013) indicates that the implementation and management of innovation stem from the process of searching and the discovery, development, updating, and commercialisation of new processes or procedures, products or business. These authors state that although some companies do not have a complete organizational structure, they can achieve efficient productivity with the release of new products. Cooperation and awareness to being equal to the competition are important factors in the innovation process, once it becomes possible to measure the result of the change arising from the creation of new processes or products, by the development of new technologies.

It is significant to mention reflection in regard to Fortin and Oliver (2016). They approach questions related to identity in two aspects; first by identity and tensions between levels and then in the network context. The authors considered the verb in the context of internal and external optics in order to interpret the coherence in the individual and collective identity, which interaction is predominantly done on the basis of the communication and discourse evidenced in the relation of the two.

For Bonini (2011), the development of process is directly connected to the organizations that seek the increase of efficiency and the generation of innovation. Here, the epistemological feature that is called Design Thinking comes in. It is the search for innovations created by human beings through methods located in the social context, whose basis is the very necessity of the individual.

2.4 Design Thinking

Design Thinking is addressed in Silva et al. (2012) as an art able to put together science and technology in the proposition of new solutions. It involves management methods capable of generating innovation. This connection between the innovation process and the new model of idea generation is the conceptual basis of study involving the complexity inherent in the friction of innovative ideas in the face of technology. Human creativity optimizes the processing of these new ideas in the interests of utility, which can be achieved through Design Thinking.

To Liedtka (2015), Design Thinking is still insufficiently evidenced by researchers. It is a process focused on innovation with emphasis on observation, collaboration, rapid learning, prototyping and simultaneous analysis.

Bonnini (2011) states that Design Thinking is a business strategy, focusing on organizational processes with the support of creative thinking. Therefore, innovation focuses directly on the individual, in a collaborative manner by an interaction capable of solving propositions despite problems in optimization or the improvement of ideas.

Christopoulos and Steinbeck (2016) deal with tools, strategies and learning. These subjects are useful in coping with constraints, such as the resistance to the institutionalization of innovation techniques and organizational practices. They accept Design Thinking as a workshop, in which they worked cyclically on maintaining creativity in solving problems. In their experimental activity, they could include the actors who were coping with the resistance to identify and promote beneficial objects of mutual interest. The work followed Lawrence and Suddaby's model, which is based on alliance. Data were collected and the treatment process was recorded, as ancillary to organizational and environmental change. They demonstrated the learning process in diagrams at various points in the creation, maintenance and disruption of the negotiated interactive dynamic, and the results show the new practices in action.

According to De Santanna (2014), the use of Design Thinking results in new business processes and it is not a linear method. Given this distinction, Design Thinking is characterized as something unstructured at first sight, but there is no doubt that it is an exploratory method, if properly used in the formulation of alternatives to solve problems. This is how Silva, et al. (2012) address this practice, distinguishing three phases: immersion, ideation and prototyping, in the practice of the argumentative design of ideas. The impact of introducing Design Thinking results in something innovative, able to solve intangible questions, such as business or strategic processes in the formation of a relationship between the observation of a problem, its ideation with creative analysis, its prototyping and the implementation of the required innovation.

2.5 Concept of Institutional Theory

Research in Pereira (2012) indicates that the emergence of the Institutional Theory is a result of noting how organizations incorporate prevailing practices and standards in their environment.

According to him, it is possible to understand that organizations are now shaped by management models, standardised behaviours and adherence to new trends, causing them to obtain an understanding of implied standards and internal organizational diversity. In this sense, we find the contributory factors which do not result from the actions of specific people but from the culture itself in a significant political context.

In this sense, institutionalisation is the transformation of beliefs and actions by rules of social conduct rules, which, having been long accepted, impose behavioural standardisation, which in a controlled manner touches the social relations among the members of the institution, thus keeping the environment stable. Pereira (2012) states that the resulting factor of institutionalism arises from the conjunction of mimetic pressures, evidenced by the desire of organizations to assimilate, and considered successful, or legitimised by members of the structure when they face the results.

3 METHODOLOGY

This paper can be classified as descriptive and it involves qualitative research carried out by an analysis of content. The following procedures were applied: bibliographical and internet research, including an analysis of the arguments of such authors as Dutta (2016), Fortin e Oliver (2016), Filipetto Neto (2015), Liedtka (2015), Souza (2013), Silva, et al (2012), and the Oslo Manual (2005), among others who have led significant debate on Isomorphism and Design Thinking. Creswell (2014), commenting on research techniques, states that content analysis aims to produce inferences from the propositions in newly addressed arguments on the basis of their connection with other propositions that have already been accepted, making the preparation of data consistent with the analysis of these data. Thus, research was pursued in approximately 40 articles and other publications relating to the topic under study; the material was published in the last five years, and is mentioned in the Scielo, Interscience, Capes and Google Scholar databases.

The selected titles are linked to Design Thinking, innovation and isomorphism. Through content analysis, the texts with greatest relevance to what was proposed were evaluated and structured by theoretical and conceptual references. Then the study results were considered and conclusions drawn, and finally, evaluated in terms of the ion the references. The final results were based on the interpretation of the specialised literature and on the authors' own previous experience of articles which they had selected.

4 ANALYSIS OF THE EPISTEMOLOGICAL CHARACTER OF ISOMORPHISM ON THE GENERATION OF INNOVATION

Design Thinking can be considered a significant method in the creation process, thus being one of the issues related to innovation. It is up to the academy to lead to the generation of knowledge on theoretical concepts that validate the scientific value of such procedures. In this task isomorphism was considered a influential way to generate innovation. Although isomorphism is

identified in the market as a form of imitation, it has been applied by managers in organizations as a competitive resource; so it is a motivator in the search for a solution to creating a regular identity in the competition for goods and services in a market. The basis of this study is developed by analyzing the positive and negative points that isomorphism presents in the innovation process, taking theory as a factor in creating market competitiveness.

4.1 Survey of theoretical-conceptual basis of the isomorphism in the innovation process considering the Design Thinking

The concept of innovation is the change from something existing or new to the creation or emergence of the unprecedented. The existence of the search for competitive advantage in organizations is presupposed, or perhaps it may be a search for a new form of existence or maintenance in the competitive market. Managers tend to look to isomorphism as a reaction to ensure competitiveness. Table 2 below brings together the theoretical and conceptual basis and the description of the authors gathered in this study.

Table 2: Theoretical-conceptual basis

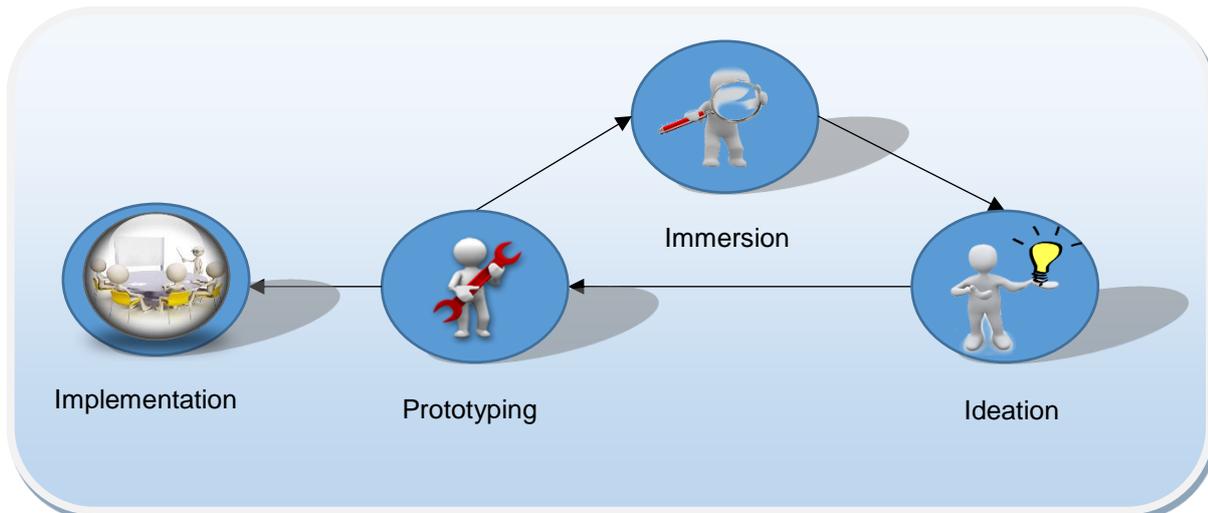
Definition	Description of the base
Innovation. OSLO manual (2005); Souza <i>et al.</i> (2013); Chung-Yao Tseng <i>et al.</i> (2016) and Bonini (2011)	It is understood as a search for a competitive edge, which differentiates a firm from its competitors through efficiency and productivity in the generation of new products or services.
Design Thinking. Silva <i>et al.</i> (2012); Liedtka (2015); Bonini (2011) and De Santana (2014).	It is understood as a business strategy based in innovation processes, redesigning the mode of the organization.
Isomorphism Filippetti Neto (2015); Rossoni e Pedro Filho (2015); Souza <i>et al.</i> (2013);, Dutta (2016).	It is understood as an attitude of an organization that makes use of a similarity, a way to keep in competitiveness through the imitation of something that can be successful, such as a procedure, a product or the service of another organization.

Source: prepared by the author based on internet research.

The Design Thinking process refers to the way of thinking of the designer, although it is little studied in administration. It can be considered as the formulation of questions that lead to the apprehension or comprehension of phenomena in response to information collected through observations made in order to generate consistent modelling with the desired innovation.

The strategy of the use of Design Thinking confirms the intention to make changes that lead organizations to highlight them. The analysis from the perspective of utility indicates the possibility of development and integration of new technologies. However, the so-called Design Thinking search solutions aim at human behaviour, as the development of cognitive, emotional and sensory models; it is a process of implementing new ideas, as shown in Figure 2 and described in Table 3 below.

Figure 2: Design Thinking



Source: prepared by the author according to Silva, et al. (2012).

Table 3: Stages of Design Thinking

Element	Description
Immersion	Stage where the problem is understood both from the organization's point of view (client) and the end user (client of client).
Ideation	Stage of generating innovative ideas, in order to generate solutions within the worked context.
Prototyping	Stage of validation of the ideas generated, it can occur in parallel with the immersion and ideation
Implementation	The moment that consolidates the idea and develops its validation up to its launch in the market

Source: prepared by the authors according to Silva, et al. (2012).

The results in Chung-Yao Tseng *et al.* and Breznik (2016) point out the significance of innovation analysis through social networking to give substance to general research and especially the research related to innovation. These authors indicate that organizations need to be compensated by the sharing of the information in their network, considering the investment in research and development of what they provide in the configuration where the organization is integrated. It may be affirmed that, considering the isomorphic nature of the repeated searches in the cooperation network, the prevalence of common points of interest located in the informative mass available may negatively impact the innovation.

4.2 Characterization of the concepts inherent to the relationship of the innovation process in face of organizational isomorphism

This section addresses the particular relationship of the innovation process in an organization to isomorphism. According to the authors studied, isomorphism has three types as shown in Table 4 below.

Table 4: Types of Isomorphism

Typology	Description
Coercion	It is presented as a model derived from formal or informal pressures imposed by people or organizations that have a direct interest or can indirectly be linked to the outcome of the project. It is considered a form of framework given to an organization through government regulations (authorities) or by organizations capable of imposing standardization procedures.
Mimetic	It is presented as a model in which an organization starts to imitate others free of charge, usually resulting from an uncertainty, in which it does not individually solve its own problems. It seeks ideas from successful organizations by copying processes similar to theirs and takes them as its model.
Normative	It is presented as a model by which an organization is strengthened by a knowledge base more or less focused according to the professionalization of its managers. Similarly, the quality of the decision-making is linked to the degree of professionalization in solving similar problems

Source: prepared by the author based on internet research.

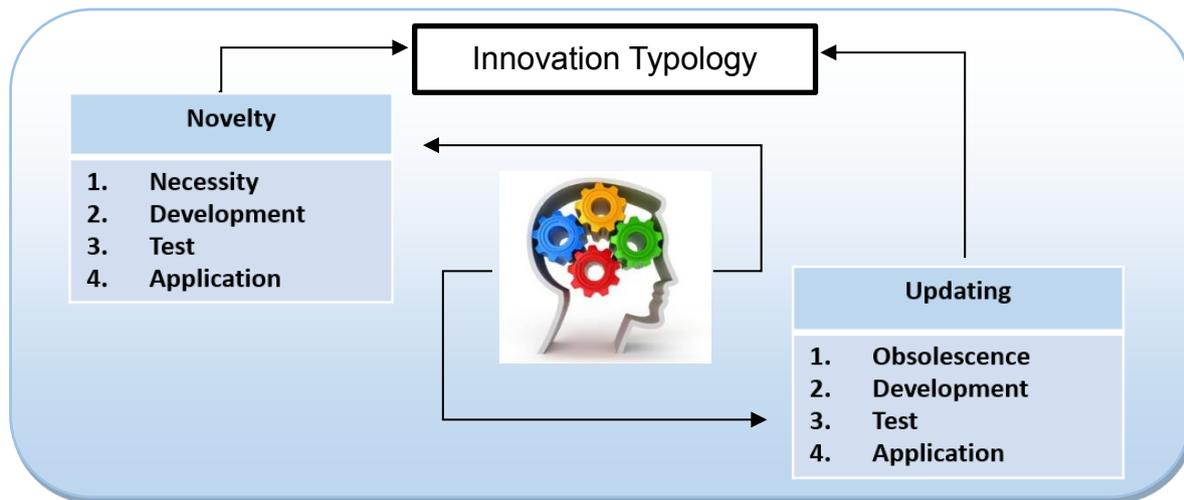
It can be concluded from the table above that the concern for innovation is clear and is due to the need to create something new to fill an organizational situation or to update status when something becomes obsolete. Souza et al. (2013) define innovation as an escape mechanism of isomorphism in structure and a result of the search for similarity between innovative companies.

Fortin and Oliver (2016), on the basis of works on isomorphism, state that isomorphism involves subtle changes, with crossed and decoded identities in the communication and perception of those involved in the market. Nevertheless, isomorphism facilitates collaboration and innovation, albeit of an indelible but less aggressive kind, because it is permeated by coherent processes of adaption that guarantee the success of any scenario where convergence can be found.

A survey of the recent literature shows in a study published by Dutta (2016) three isomorphic forces originating from internal or external pressure in an organization. The first force stems from institutionalized good practices, which generate expectation among the people involved (normative isomorphism); the second, originating in managers' pressure on employees, seeks to maximize results (coercive isomorphism); and the third is characterized by the pressure of competition, which the author identifies as a consequence of looking to imitate other establishments treated as models (mimetic isomorphism). Tabulating his observations, the author traces the causal relationship between the process of research by management theorists and a typology of the isomorphism that they consider. This triangulation serves as a paradigmatic interpretation and it may be stated that the epistemological nature of this treatment can help ethical leaders to adopt innovation in an acceptable way.

The condition conceptualized in this topic allows us assert that either equalisation or innovation is crucial for the required changes. In Figure 3 below are set out the elements that allow us to understand the operation of the typology and the cognitive model of this relationship.

Figure 3: Types of Innovation - Cognitive Model



Source: prepared by the authors based on internet research.

Table 5: Innovation Types

Element	Description
Innovation typology	Relating to the concepts proposed for the third edition of the Oslo Manual of the OECD, (OECD, 2005, p. 55-67)
Novelty	Something new for the company, new to the market, and new to the world (OECD, 2005, p. 69)
Updating	Changes in a product or service lower than expected and initially planned (OECD, 2005, p. 58)
Necessity	Analysis of consumer information and the experiences of products from a supplier.
Obsolescence	Condition in which a product or service ceases to be useful even in when in perfect working order, due to the emergence of a more advanced technology.
Development	Creative work carried out systematically in order to increase the stock of knowledge, including human knowledge, culture and society, and the use of this stock of knowledge to devise new applications. (OECD, 2005, p. 105)
Test	Operation of the provision of services with the use of new technologies or trials to examine the performance of substantial improvements in existing services (OECD, 2005, p. 109)
Application	Results, in the form of new products, processes or services, or an improvement in some of their attributes.

Source: prepared by the authors based on internet research.

4.3. Analysis of the impact of isomorphism from the perspective of Institutional Theory

This section presents the impact of isomorphism from the perspective of institutional theory, which within organizational phenomena is a crucial point for managers to observe, notwithstanding the imposition of standards by the government that aim, through isomorphic mechanisms, to homogenize companies more and more.

In the context of organizations, it is possible to draw inferences, consonant with the principles presented by Fortin and Oliver (2016), about the way in which the institutionalizing process shapes and amalgamate structures.

This process allows compatibility of form to be achieved and next an identity that differentiates one structure from others. Throughout the network, the interaction of identities comes from the dynamics and the relations between interests, such as those of partners or rivals, which approach or exclude structures in this game; this interaction is therefore very complex. The differentiating identity is characterized by micro-processes formatted in the internal environment which can be transformed by intraorganizational interactions into macro-processes. The analysis of such approaches allows the facilitators to be evaluated and also the difficulties involved in revealing the recognized identity of the individuals and groups where they are located, as well as the constraints arising from this revelation.

Thus, Figure 4 sums up the most significant impacts observed in the literature regarding the relationship between isomorphism and institutional theory.

Figure 4: Impacts of isomorphism of institutional theory and vice versa



Source: prepared by the authors based on internet research.

Table 6: Interpretation of impact elements

Element	Description
Institutional theory	It is understood as a management model with standardised behaviours and adherence to new trends, being a transformative process of beliefs and actions, resulting in behavioural patterning under mimetic pressure.
Isomorphism	It is understood as the attitude of an organization that makes use of similarity, a way to keep in a state of competitiveness through the imitation of something that can be successful, such as a procedure, a product or a service from another organization.
Homogeneity	It is understood as the standardization of procedures, becoming a copy of a standard, considered an imitative procedure.
Organizational Environment	It is understood as the whole context of an organization, managed by a manager, with the applicability of previously consolidated rules and procedures, being referred to as anything that might influence the organization internally or externally, as well as the culture of the organization.
Coercion	It is understood as a proposed legal means to homogenize procedures through coercion, which is imposed for compliance, for reasons arising from regulatory acceptance (government or civil authorities) or the internal rules of organizations.

Source: prepared by the authors based on internet research.

Often, these isomorphic processes arise by means of coercive or persuasive elements imposed by the competent authorities, leading to the standardisation of procedures; although it may allow the operational managers greater control. This procedure tends to take a little of the innovation features.

The presentation to managers of isomorphism before institutional theory brings a certain duality, being seen in its standardisation as a tendentiously negative review; although, reflecting the view of Souza (2013), this standardisation may awaken a motivating source for innovation, which must be opposed to isomorphism in the generation of new services or organizational procedures.

5. CONCLUSION

Taking the content analysis related to the proposed theme, the versatility of isomorphism can be seen both in its proposal of standardisation and in relation to the change of thought when focused on innovation.

The present study identifies a connection between isomorphism and innovation; with reference to its theoretical contribution, selectively the conceptual proposals of several authors and focusing on creative modelling for new solutions through Design Thinking. It is inferred that isomorphism is a way by which managers in organizations seek to copy the structures or actions of others to obtain greater visibility and competitiveness within a specific organizational field. However, innovation is a prominent feature by which one seeks difference for the sake of market competitiveness; It is an excellent form of change in an organization's procedures. These contributions suggest that research in this area could be continued, with a view to obtaining the point of convergence between isomorphism and creative thinking,. This could be approached through the new tool of Design Thinking, itself still awaiting adequate study.

In this way the contributions presented in this document correlate with the process of innovation in organizations; here, the use of a new tool such as Design Thinking is a point of convergence, concentrating on isomorphism for the formation of creative thought.

6. ACKNOWLEDGMENTS

We thank the University of Beira Interior, Faculty of Social and Human Sciences, Department of Management and Economics, Post-Doctoral Programme in Management and Economics, focused on Management Strategy for Innovation and Sustainability, Covilhã, Portugal.

Website: http://www.ubi.pt/Entidade/Ciencias_Sociais_e_Humanas

REFERENCES:

Bonini, Luiz Alberto; Sbragia, Roberto. (2011). Model of Design Thinking as a promoter of innovation in companies: an empirical study. **Projects and Management Magazine -GeP**, v. 2, n. 1, pp. 03-25.

- Braga, Iluska; Pedro Filho, Flavio de São (2013). **Handout on innovation and sustainability**. Administration Postgraduate Programme. Porto Velho: UNIR/PPGMAD.
- Breznik, K. (2016). **Using social network analysis to identify innovation clusters**. International journal of innovating and learning, Vol. 19(3), pp. 272- 285.
- Capuano, Ethel Airton. (2015) Information on concept and Innovation Indicators. DataGramZero – **Information Magazine** – Rio de Janeiro: v.16 n.1 fev/15.
- Chung-Yao Tseng et al. (2016), **The relationship between innovation network and innovation capability: a social network perspective**. Technology Analysis & Strategic Management, Vol. 28(9), pp. 1029-1040.
- Creswell, John W. (2014) **Qualitative investigation and research project: choosing among five approaches**. 3rd ed. Porto Alegre: Penso, 2014
- Christopoulos, T.P.; Steinbeck, R. (2016). **Institutionalising the learning process through innovation and participative practices**. International journal of innovating and learning, Vol. 19(2), pp. 188-205
- De Santanna, Isadora Castelo Branco SAMPAIO et al. (2014) Design Thinking as a tool to improve business processes. **Espacios**, v. 35, n. 6, 2014.
- Dutta, Koushik. (2016) **Dynamic Isomorphism and Decision Maker Attributes**. Systemic Practice and Action Research, v. 29(4), pp. 355–377.
- Filippetti Neto, Walter Dalprat. (2015) **Institutional isomorphism in the adoption of corporate social responsibility practices**. 2015. 75 f. Monograph (Administration Bachelor) –University of Brasília, Brasília.
- Fortin, I.; Oliver, D. (2016). To imitate or differentiate: Cross-level identity work in an innovation network. Scandinavian Journal of Management, Vol. 32(4), pp. 427-432.
- Liedtka, Jeanne. (2015). Perspective: linking design thinking with innovation outcomes through cognitive bias reduction. **Journal of Product Innovation Management**, v. 32, n. 6, pp. 925-938.
- Oslo Manual. (2005). Oslo Manual: Guidelines for collecting and interpreting innovation data. **Ed. Brasília, OCDE, Finep**.
- Pereira, Fernando Antonio de Melo (2012). The evolution of institutional theory in organizational studies: a research field to be explored. **Organizations in context**, São Bernardo do Campo. Year 8, n.16 jul-dec.

Rossoni, Estela Pitwak; Pedro Filho, Flávio de São (2011). Risk of mimetic isomorphism, critical awareness and ethical commitment. **Management magazine FACES Journal, Belo Horizonte** · v. 10 · n. 4 · pp. 42-62 · out./dez.

Serva, Maurício. (2013) The emergence and development of administration epistemology – Inferences on the contribution to the improvement of management theory. **Organizational Management Magazine/RGO**. Chapecó: Vol.6.

Souza, Elnivan Moreira; Menezes, Rodrigo Ábner Gonçalves; Franco, Camila. (2013). **Innovation as an Escape Mechanism of Organizational Isomorphism**. Management and Technology magazine, Vol. 13, number 2. DOI: <http://dx.doi.org/10.20397/2177-6652/2013.v13i2.498> - São Paulo: FPL São Paulo: 2013.

Silva, M. J. V. et al. (2012) **Design thinking: Innovation in business**. Rio de Janeiro: MJV.