Research Article

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Formation of Intellectual Capital Post Covid-19

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Abstract

In social sciences, the meta-analytical fixed effects models have gained special relevance due to their predictive capacity of a scenario, context and process, although they have focused on the estimation and prediction of simple variables, avoiding the effects of diffuse variables such as those emerging in processes Training and research. The objective of this work was to establish fixed effects models to explain the influence of diffuse variables in the formation of intellectual capital, considering contextual, educational, academic and professional variables. A retrospective study was conducted with literature from 2019 to 2021, as well as an exploratory study with variables that have been conceptualized, but not empirically tested and correlational with an intentional selection of six studies that used diffuse variables to explain attrition. The results show that the model with the greatest adjustment is the one where the emergence of anti-plagiarism software and new editorial provisions explain the dropout, although the research design limited the results to the study scenario, suggesting its extension and sophistication with other statistical techniques.

Keywords: Capital, Intellectual, Formation, Diffuse, Model

Introduction

At the time of writing this document, the pandemic mitigation policies caused by the SARS-CoV-2 and Covid-19 coronavirus have been infected for 16 million, sick for 8 million and charged a life of 700 thousand. In Mexico, he was infected at 500 thousand, sick at 300 thousand and mown at 50 thousand.

In this scenario, the formation of intellectual capital is used as the learning distance of skills and knowledge related to crisis and risk [1]. It is an emerging system of resources in the face of contingencies in the surroundings.

Precisely, the objective of the present work was to reveal the structure of the formation of human capital considering the complex dimensions as its diffuse and emerging logic in terms of agents and contained.

What are the homogeneous random effects of the determinants of the formation of intellectual capital in risk scenarios, critical and imponderable contingent situations in the literature published from 2018 to 2020?

The hypothesis that guides the present work is that the literature reports studies with a prevalence of random homogeneous effects during the period of revision established due to the fact that the educational systems react more and more to the complexity of the environment as to the emergence of factors and its diffuse relationship.

In this way, a review of theoretical, conceptual and empirical frameworks is included in order to expose the prevalence of diffuse relationships among the determinants of the formation of intellectual capital in contexts of risk, critical situations and imponderable contingencies. Then the review is approached in order to be able to establish the parameters that demote the hypothesis and discuss the scope as the limits of the studio, sub raying lines of investigation.

Theory of Intellectual Capital

In the framework of pandemics, mitigation policies centered on the confinement of people and their effects on the formation of this intellectual capital, theories explain the diffuse logic with which the different variables are linked [2]. It is a series of corollaries in which the emergence of factors previously observed such as

social confinement, distance from people and distrust in distance communication is observed.

If the academic, professional and labor training is based on the traditional or virtual classroom, the pedagogical sequences are centered on the interactive learning of the people with the technology, but in the confinement, distance and the expression of this process is reduced to its minimum expression [3]. Therefore, the relationship between professors and students seems to depend on the relationships of trust established in the traditional class and extended to other scenarios of practices, but in the distance, it provides more good hiding because of the intimacy of the identity robot.

In this way, as literature has shown, to recover this intellectual training based on trust, a direct communication, a strategy of informative synthesis and an exposition of worse than supposed things is needed [4]. The verisimilitude of this information and the verification in other sources directly affects the distance training, generating trust between the interlocutors, as well as a negotiation, accuracy and provisional co-responsibility, assuming that the contingency is transitional.

The problem is aggravated when the confinement is prolonged, generating mistrust between the parties, as well as the scale of violence and conflicts due to this condition [5]. In these contexts, the virtual class intensifies its gamification in order to be able to transfer content before emotionally affected actors. Crisis management, as well as restoring empathy between the parties, is crucial.

In short, an increase in the confinement of people turns the formation of intellectual capital into an administration and risks and crisis management. Through an active communication, the process takes place, while reducing the discussion of content, its verisimilitude and verifiability, sustaining itself through negotiation and agreements between the parties.

Studies of Intellectual Capital

In the sciences of complexity, the analysis of diffuse logic has been instrumented to observe the emergence of emerging entities such as university governance in which new actors seem to define the quality of academic processes and products such as case of managers, producers and knowledge transfers [6].

The diffuse logic is due to the mathematical and computational algorithms applied to the orientation of aerospace or vehicular technologies to face the imponderables of air or land traffic, avoiding coalitions and facilitating the transfer of people or goods [7].

In that tenor, the investigation; management, production and transfer of knowledge have been involved in complex, random and diffuse processes that affect the formation of human capital in general and intellectual capital [8]. Therefore, a systematic review of the educational, academic, scientific and technological systems is necessary to establish training, training and training paths for the interested parties [9].

However, traditional studies of fuzzy logic have been built based on disturbances, contingencies and disturbances in which gradients (corruption, catastrophes, collisions) are fuzzy determinants of population distribution, their capacities and resources [10].

In the case of social sciences, diffuse logic models warn of the emergence of actors such as the cases of managers, producers and disseminators of knowledge that, in interrelation with repositories and technologies, make up the metrics of the quality of processes and scientific and technological products of institutions in alliances with knowledge-creating organizations [11].

Budsankon, Sawangboon, Damrongpanit & Chuesirimingkoi carried out a systematic review of the studies that brought effects of the environment on analytical, critical and creative thinking skills, establishing as predictors the classroom environment and intellectual abilities explain 96% of the total variance [12].

Payborji, J and Haghighi, K are performed a meta-analysis on the total effects of intellectual capital management on the productivity of companies, finding a positive and significant relationship between management with respect to knowledge production, the Profitability and corporate reputation [13].

Basyith A, he found in his review that a high percentage of Indonesian companies are family members and, consequently, such a situation would be expected to influence the profitability of companies by not having a system of intellectual capital formation, but the law of listing on the stock market when imposing hiring standards and the quality of employees, led to nepotism not influencing the recruitment of talents [14].

In synthesis, the formation of intellectual capital oscillates between corruption and the traditionalist nepotism until transparency in the hiring of intellectual capital, measuring its performance from the management in its academic, professional and labor training, as well as in its consolidation encrypted in the conversion of intangible assets due to the degree of impact on the value of the companies that create knowledge [15].

Precisely, it is in this phase that match the management, production and transfer of the codified knowledge in the formation of intellectual capital; professional service and work practice established by alliances between institutions and knowledge creation organizations [16].

Therefore, the objective of this work will be to establish the dissipative trajectories of the investigative training process in order to be able to observe prospectively the decision making of managers, producers and diffusers of investigative knowledge, specialized and updated as required by the indexation systems.

Method

This section presents the phase-wise description of the developed risk-impact assessment methodology.

Phase I: Comprehensive Populace Monitoring to determine gestion, production and transfer strategies

Direct monitoring was conducted which gives a detail population count and measure of papers that are of gestion, production and transfer interest, such as types of studies, paradigm, theory, model, construct and variables.

Phase II: Identify threats that inhibit the formation of human capital

Disturbance gradients are identified based on the classification of terminal efficiency, participation in academic events such as congresses and the scientific and technological production published in repositories such as Copernicus, Dialnet, Ebsco, Latinex, Publindex, Redalyc, Scieco, Scopus, WoS and Zenodo. This helps identify threats, areas of opportunity and competitive advantages.

Phase III: Formation of Expert Assessment (EA) Team

The team includes 10 experts in information management, production and transfer. Your responsibilities include:

- Qualification and classification of the questionnaires; Y
- Give your valuable opinions to ensure the reliability of the data.

Phase IV: Determining the Risk Impact

The flow of the method is as shown in Figure 1. The following are the steps to determine the impact of risk on the formation of human capital.

Step 1: Identify t threat classes and group these into j categories to get C_t^j, where C_t^j are the threats in each category.

Step 2: Score these C_t^j to get the Threat Influence Score $(SC_t^j)_i$ for each t in every j and at each study site i. The scoring is done by EA Team using 5-point scale (High-5, Middle-3, and Low-1).

Step 3: Computation of Threat Influence Weights $(WC_t^j)_i$ using following sub-steps:

Step 3.1: Fuzzy pairwise comparison of each C_t^j by the EA Team using the Fuzzy Scale (Table 1).

Step 3.2: Conversion of fuzzy scale in triangular fuzzy number (TFN) $\tilde{a}_t = (a_{1t}, a_{2t}, a_{3t})$ using 9-point fuzzy scale. The triplet (a_{1t}, a_{2t}, a_{3t}) represents the lower, middle and upper TFN for the threat t.

Step 3.3: Formation of Fuzzy Decision Matrix by aggregating the scores of the team members using equation

$$\tilde{v}_m = \left(\prod_{m=1}^{M} \tilde{a}_t \right)^{1/M} \quad (1)$$

Step 3.4: Compute Fuzzy Decision Weights $(\tilde{F}_t)$ using equation

$$\tilde{F}_t = \left(\frac{v_{1t}}{\sum_{i=1}^{p} v_{3t}^{L}}, \frac{v_{2t}}{\sum_{i=1}^{p} v_{2t}}, \frac{v_{3t}}{\sum_{i=1}^{p} v_{1t}} \right) \quad (2)$$

Step 3.5: Computation of Decision Weights (D_t) for the Fuzzy Decision Weights using the equation

$$D_t = [\beta\ c_\alpha(F_l) + (1-\beta)\ c_\alpha(F_r)] \quad 0 \le \beta \le 1,\ 0 \le \alpha \le 1 \quad (3)$$

Where

$c_\alpha(F_{lt}) = [(F_{2t} - F_{1t})\alpha + F_{1t}]$ Represents the left value of -cut for $(\tilde{F}_t)$, and

$c_\alpha(F_{rt}) = [F_{3t} - (F_{3t} - F_{2t})\alpha]$ Represents the right value of -cut for $\tilde{F}_t$

Step 3.6: Determining the Threat Influence Weights by normalizing D_t

Step 4: Determining the Site-Risk Impact Weights $(RC_t^j)_i$ for the study sites using the equation

$$\left(RC_t^j\right)_i = \left(SC_t^j\right)_i \times \left(WC_t^j\right)_i \quad (4)$$

Score the C_t^j according to their timing, range and severity (Table 3) in relation to how likely these 'trigger' the bird species mortality at the study site i, to get Threat Trigger Scores $(TC_t^j)_i$ (Equation (5)). The scoring is done by the EA Team members.

$$\left(TC_t^j\right)_i = TS + RS + SeS \quad (5)$$

Step 6: Now score the students and institutions or organizations sub-type against each C_t^j to get the Threat Influence Score for k students $(IC_t^j)_i^k$ and for l institution or organization sub-types $(IC_t^j)_i^l$. The scoring is done by experts using 5-point scale (High-5, Middle-3, and Low-1).

Step 7: Computing the Total Threat Impact Score $(TIC_t^j)_i^k$ using the equation

$$\left(TIC_t^j\right)_i^k = \left(IC_t^j\right)_i^k \times \left(TC_t^j\right)_i \quad (6)$$

And total habitat threat impact score $(TIC_t^j)_i^l$ using the equation

$$\left(TIC_t^j\right)_i^l = \left(IC_t^j\right)_i^l \times \left(TC_t^j\right)_i \quad (7)$$

Step 8: Calculating the overall Risk Impact Score $(ORC_t^j)_i^k$ for each category using the equation

$$\left(ORC_t^j\right)_i^k = \left(TIC_t^j\right)_i^k \times \left(WC_t^j\right)_i \quad (8)$$

And

$$\left(ORC_t^j\right)_i^l = \left(TIC_t^j\right)_i^l \times \left(WC_t^j\right)_i \quad (9)$$

Results

The descriptive and predictive data of the relationships among the variables most used in the systematic review of the literature, being possible to observe positive relationships, which allowed us to observe the model and meta-analytical structural equations.

The total effects model for the trajectory that explains the dropout is due to the relationship between the emergence of anti-plagiarism software and the editorial provisions of the journals, as would be the preference to single authors, with sophisticated processing techniques. Information and in a dominant language such as English.

Discussion

The contribution of this work to the state of the matter lies in the establishment of a random effects model to explain the diffuse trajectories between risk gradients with respect to job training, considering publications from 2014 to 2019, as well as the type of literature, the knowledge creation phase and the academic division of the students, although the results are limited to the intentional sample of the literature consulted.

In relation to the fuzzy logic models in which the frequencies or probability proportions of risk reduction are highlighted, the present work has proposed a meta-analytical approach to structural equations in which rival models are compared in order to observe the one that best fits the prediction of attrition, the main indicator of the total effects of an intellectual capital training system.

With respect to the traditional meta-analyzes in which the total effects of the literature consulted to establish the influence of a source are analyzed, or the proportional scale of the hegemony of diverse sources, the present work has proposed to observe the relationships between the variables analyzed by the literature consulted in order to establish the trajectory with better adjustment and explanation of a retrospective scenario of intellectual capital formation.

In this sense, the models of structural equations are distinguished by allowing the estimation, analysis, observation and prediction of the trajectories of relationships between variables, but the present work has only included those whose logic is diffused by the emergence of its effects on academic, professional and labor training.

Future lines of research concerning the emerging variables in the formation of intellectual capital will allow more sophisticated meta-analyzes such as mixed random effects models to account for the impact of diffuse variables on the production of knowledge such as scientific articles, indicators of formative quality.

In relation to the theoretical, conceptual and empirical frameworks that highlight the assertive communication in contexts and risks, crisis situations and emotional contingencies, the present work has shown that the diffuse relationships between the determinants of the intellectual formation seem to obey the demands of the surroundings more than the optimization of resources or the innovation of processes. The observation of these elements in other scenarios will make it possible to contrast the conclusions and offer comparatives of situations in order to be able to anticipate the diffuse logic of the phenomenon.

Conclusion

The objective of this work has been to establish the risk trajectories in the training process based on the selection of diffuse variables that, due to their degree of emergency, explain the defection in the elaboration of scientific or academic products; but the research design limits the results to the study sample, suggesting its extension for the observation of more sophisticated phenomena such as mixed random total effects and their processing in data mining, as well as the conversion of these data to language of meta-analytical structural equation models.

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