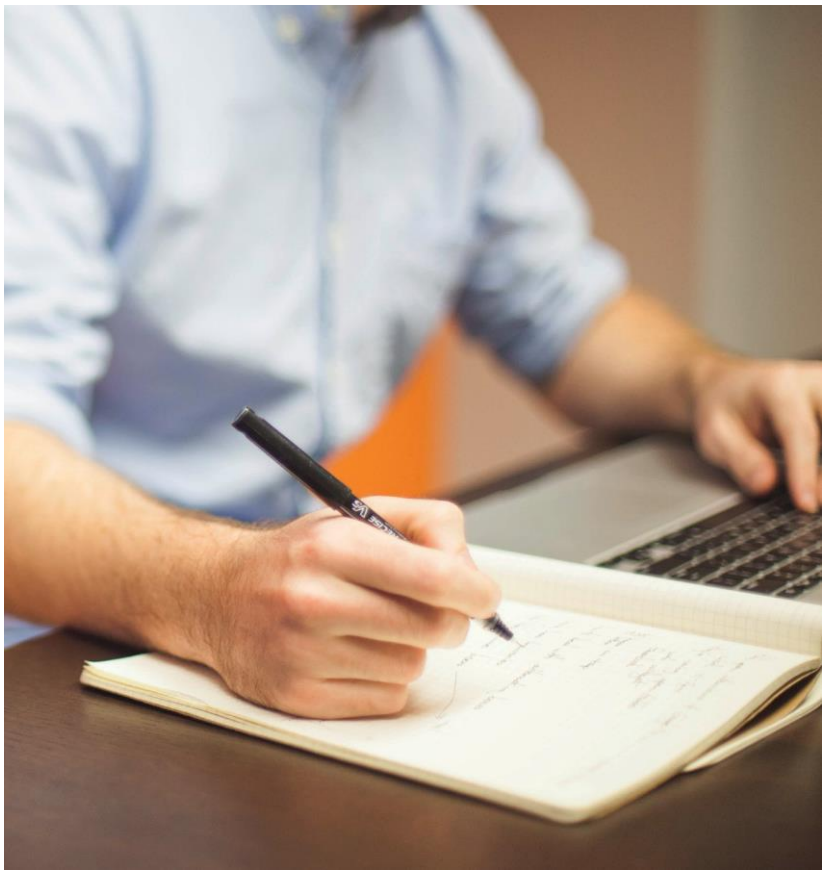
Research Article

Professional Training Network: Knowledge Management, Innovation, and Entrepreneurship

Red de formación profesional: gestión del conocimiento innovación y emprendimiento

DOI: https://doi.org/10.54104/papeles.v13n26.1002

Received: August 10, 2021
Approved: September 30, 2021
Published: December 13, 2021



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To cite this article: García Lirios, C. (2021). Professional Training Network: Knowledge Management, Innovation, and Entrepreneurship. *Papeles*, *13*(26), e1002. https://doi.org/10.54104/papeles.v13n26.1002

Abstract

In the COVID-19era, the traditional classroom was replaced by the electronic whiteboard, revealing a gap between academic, professional, and work training. The goal of this project was to answer this question: Are there significant differences between the knowledge management published in the literature regarding to the observations of the present study? To answer this question, a qualitative exploratory study was carried out with in-depth interviews and discourse analysis of three participants in a professional training network. The categories of training, knowledge, innovation, and entrepreneurship were established as axes of the training agenda. A structure of categories and indicators was found that explain the differences between the training models. In relation to the literature consulted that highlights the transfer of knowledge between actors, the importance of technologies, devices, and networks for establishing compatibility between training demands and institutional and organizational resources is discussed in both, the checked literature, and the present study.

Keywords: Network analysis, entrepreneurship, processing information, social transformation

Resumen

En la era Covid-19, el aula tradicional fue sustituida por la pizarra electrónica, evidenciando una brecha entre formación académica, profesional y laboral. El objetivo del presente trabajo fue responder a la cuestión: ¿Existen diferencias entre estos tipos de formación reflejados en la literatura y las opiniones de expertos con respecto a la información circundante en los medios y redes en torno a oportunidades, retos y desafíos laborales? Para responder a la cuestión se realizó un estudio exploratorio cualitativo con entrevistas en profundidad y análisis del discurso de tres participantes en una red de formación profesional. Se establecieron las categorías de entrenamiento, conocimiento, innovación y emprendimiento como ejes de la agenda formativa. Se encontró una estructura de categorías e indicadores que explican las diferencias entre los modelos formativos. En relación con la literatura consultada que destaca la transferencia de conocimiento entre los actores, se discute la importancia de tecnologías, dispositivos y redes para el establecimiento de la compatibilidad entre las demandas formativas y los recursos institucionales y organizacionales.

Palabras clave: Análisis de redes, emprendimiento, procesamiento de la información, transformación social

1. Introduction

Within the framework of organizational and educational development, vocational training networks are those that transfer knowledge production from the center to the periphery. In this model of management, innovation and entrepreneurship, there are transperipheral nodes that disseminate skills, values and knowledge based on information flows that can be structured inside and outside of management and network systems. The general balance of the differences between information inputs and outputs determines the development of the network (Figure 1).

Based on this network model, the objective of the present study is to establish, through discourse analysis, the relationships between input peripheries, incoming trans-peripheral nodes, peripheral centrals, central node, outgoing trans-peripheral nodes, and output peripheries (Aranu & Montané, 2010).

For this, agents such as professors, administrators, students, interns, the Autonomous University of the State of Mexico (UAEM) and Nippon Sangyo (NISSAN) follow the network model. Agents structure their participation around management, innovation and entrepreneurship derived from internship and professional training agreements. It is a training from the third semester of the current study plan and with a duration of three semesters that can be binding with social service and practices oriented to the preparation of thesis or terminal projects.

The network training model includes agents developing innovation from which the agents interact with each other, enhancing the central node of innovation that involves a professional training manager of knowledge entrepreneur.

The theory of knowledge management suggests that satisfaction between the parties is achieved when common objectives, tasks

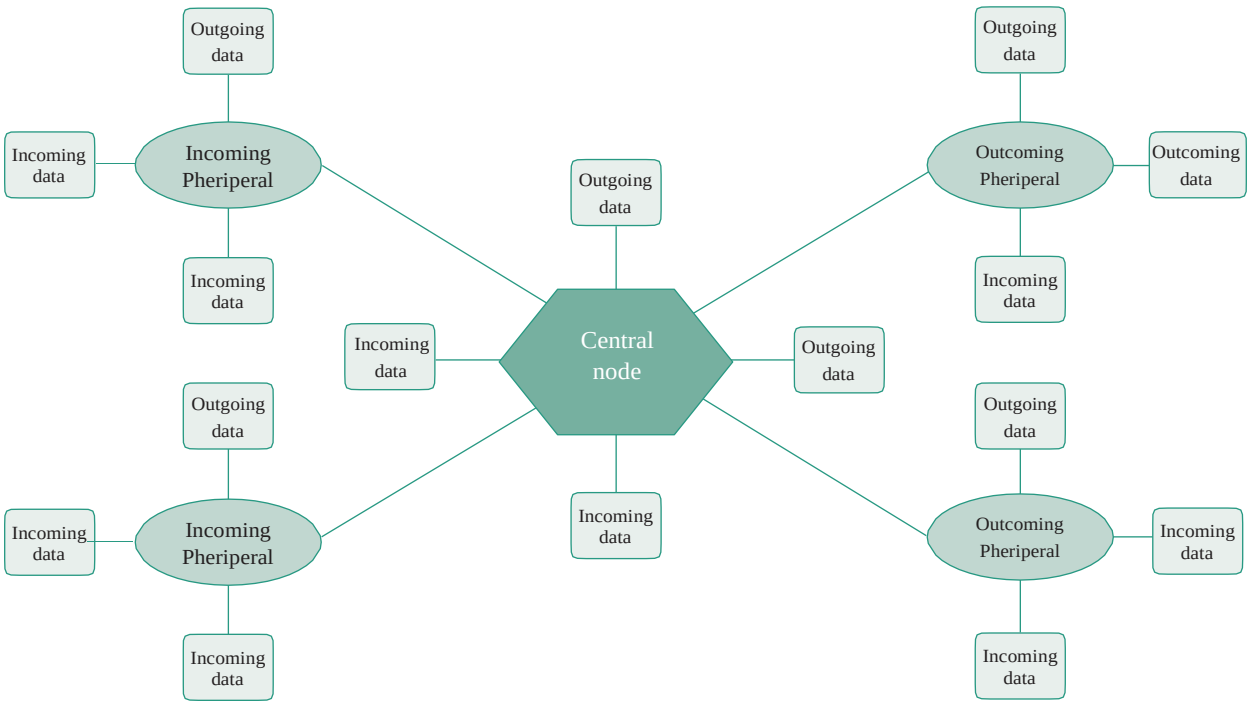


Figure 1. Knowledge network. Source: Elaborated with literature review

and goals are established (Garcia et al., 2021). In this sense, management training supposes a translation of emotions oriented towards the satisfaction of the parties through and environment of human relationships.

From the entrepreneurial approach, satisfaction is the result of the opportunities, and challenges generated from the formation of human capital. It is an intellectual training that guides the transformation of talents into intangible assets (Espinoza et al., 2021). This is the case of knowledge-generating companies that set up collaborative groups based on their affinities, but also on their job expectations. In this way, the optimization of resources and the innovation of processes is the result of entrepreneurial satisfaction.

Precisely, the perspective of innovation suggests that management and entrepreneurship produce satisfaction through the achievement of specific goals (Hernández et al., 2021). Once the benefits within the collaborative groups have been established, they intend to go beyond the optimization of their resources. That is, collaborative groups translate knowledge in such a way that they no longer generate innovations as a result of a scarcity of resources or as a product of collaborative management. Innovation is a hybrid between the opportunities of the environment, the demands of the market and the challenges presented by the training gaps.

In a training network model, opportunities, capacities, and responsibilities are indicative of vital satisfactions because they derive from organizational environments; climates of trust, commitment, and cooperation, although only in a sense that goes from the incoming periphery to the outgoing periphery, inhibiting the emergence of another central node. Or, it is a model of a training network oriented to the demand of the local market, since business development policies are those that finance the synergy between institutions and companies (Castel & Freundlich, 2010).

In this way, local development can be explained by the discourses that knowledge managers, innovators and entrepreneurs generate by considering strategic alliances between transnational companies and universities (Castro & Martins, 2010).

In reference to other models such as franchises in which the work environment is determined by the location of the branch, in the knowledge training network model, management precedes innovation because the franchises involve new forms of organization, discourses, products or benefits. Franchises determine their work environment by innovation because it implies new forms of organization, discourses, products, or benefits (Chinchilla & Cruz, 2010).

The planning of the training network does not guarantee its development, since innovation is a consequence of a flexible work environment in which the creativity of the agents constitutes a management parallel to that established (Fuentes & Sánchez, 2010). The innovative training network is a consequence of a flexible work environment.

This is the case of those who reformulate management processes and disseminate innovations in a way that encourages the entrepreneurship of new agents such as first or second semester students, new teachers, promoted administrators or interns who have had a continuity in their duties while developing their degree projects. This is the case of those who reformulate management processes and disseminate innovations in a way that encourages the entrepreneurship of new agents such as first or second semester students, new teachers, promoted administrators or interns who have had continuity.

The training network associates knowledge management with the organizational environment in its trasperipheral nodes. In the first case, leadership is indicative of management, but in reference to organizational culture (Omar, 2010). The training

network assumes that the work culture reflects knowledge management. In other words, the notion of culture is indicative of a management, since a culture of resistance of openness to technology leads to a management of control or innovation (Galindo & Echavarría, 2011).

For its part, the organizational environment, the antecedent of innovation, bases its task relationships on trust and commitment. The work environment that reflects trust and disseminates commitment is linked to innovation insofar as the relationships are asymmetrical or symmetrical. An increase in conflicts generates changes and an increase in cooperation produces competencies in a scheme of demands and resources (Carreón, 2014). The work environment will reflect organizational trust based on commitment. Consequently, the innovation can be asymmetric or symmetric. Mistrust and lack of commitment correlate with asymmetrical innovations. Trust in and commitment to symmetrical innovations.

Commitment sustains the work environment necessary for innovation, based on new forms of cooperation, new skills, new modes of production, or new strategies for mediating conflicts (Tayo & Adeyemi, 2012).

Both trans-peripheral nodes, management, and environment, being linked to the central node of innovation, anticipate job satisfaction and entrepreneurship (Orantes, 2011), but the salient peripheral elements are not always related to trust (Carreón, 2013).

A professional training network can have work climates of trust and commitment, but the input of these factors does not guarantee the execution of the undertaking, only its usefulness (Long, 2013). In the same way, conflict mediation could contribute to job or life satisfaction. However, both indicate rather new forms of relationships (Adenike, 2011). A consolidated training model includes: 1) entrepreneurial management and 2) innovative management. Both involve competencies, values, skills, and knowledge oriented towards collaboration (Gil, 2010).

In short, the training network model of manager, innovator and entrepreneur can be used to strengthen the agreements between UAEM and NISSAN, considering that the exchange of information is permanent and uninterrupted. The balance between the input of information for its transformation into new modes and forms of entrepreneurship can be observed in the speeches at the time that those who have participated in a professional training network handle concepts related to management, innovation and entrepreneurship when remembering the training and monitoring of professional practices and social services. Organizational equilibrium is inferred from the speeches of managers. In this way, professional training consists of management for entrepreneurship and innovation. Both phases are disseminated in professional practices and social services. Organizational equilibrium is inferred from the speeches of managers. In this way, professional training consists of management for entrepreneurship and innovation. Both phases are disseminated in professional practices and social services.

How can these concepts be recorded in such a way as to establish a balance between the inputs of information and the outputs of knowledge applied to an academic project that universities hope to direct towards companies in order to reduce knowledge gaps?

A professional training network can have work climates of trust and commitment, but the input of these factors does not guarantee the execution of the undertaking.

2. Methodology

First study

Design. A qualitative exploratory study was carried out.

Sample. A non-random selection was made with the "snowball" technique to interview three teachers from the Autonomous University of the State of Morelos who have trained students through internships at Nissan SA de CV. The inclusion and exclusion criteria were experience in the internship system and the use of indexed sources as well as exclusion of non-indexed sources.

Instrument. Interviews were conducted in depth. The categories of interview and analysis were innovation and enterprise considering a review of concepts and findings (see table 1).

Table 1. Extracts of Background

E	Year	Author	Definition	Sample	Instrument	Results
e1	2010	Fuentes and Sánchez	Entrepreneurship. "(…) Presents attributes such as: originality and innovation, moderate aversion to risk; acceptance of your responsibilities; knowledge of the results of their actions; planning based on the long term (…) need for achievement, self-confidence, optimism, creativity and autonomy. " (p. 3)	1367 college students	Questionnaire on Entrepreneur Profile and Likert-type scale of Entrepreneurial Attributes	No significant differences were found between men and women with respect to the expectation and initiative of undertaking a project, but regarding the profiles corresponding to the entrepreneurial spirit, women say that initiative, creativity, and inventiveness are required, while men are inclined towards challenges and the opportunities from which the enthusiasm is derived from the unknown
e2	2011	Galindo and Echavarría	Entrepreneurship. "(…) Ability to think, reason and act focused on opportunities, raised with a global vision and carried out through balanced leadership and calculated risk management." (p. 88)	312 students, 102 teachers and 132 workers	Business Culture Trait Scales	Creativity, innovation, and knowledge value were similar in the three samples, although students have a higher risk propensity compared to teachers. Proactivity is the least important element, while the search for information appears as the most important skill.
e3	2012	Vargas and Arenas	Entrepreneurship. "(...) skills necessary for young people to create, lead and sustain business units on their own." (p. 26)	118 students	Entrepreneurial Skills and Management Capabilities Questionnaire	86% consider that quality of education is essential for business skills, 77% are willing to reorient their projects in the face of imminent failure, 90% have a clear idea for their personal future, 72% have an interest in the new, 90% are they consider themselves assertive and 60% are willing to work as a team.

E	Year	Author	Definition	Sample	Instrument	Results
e4	2021	Espinoza et al.,	Uncertain context "(..)propose alternatives for the management, production and transfer of knowledge, although limited by contrast of initiatives and proposals in traditional interaction scenarios." (p. 3)	100 students	Intellectual Capital Training	The validity of the instrument showed three main axes: management, production, and transfer of knowledge, which explained 42% of the total variance.
e5	2021	Quintero et al.,	Intellectual capital. "is focused on internal capacities, experiences, skills, knowledge and emotions rather than their outsourcing when socializing knowledge."	26 abstracts	Intellectual Capital Inventory	The trust indicator obtained the highest percentage (25%) followed by commitment (22%), empathy (17%), entrepreneurship (13%), satisfaction (9%), innovation (6%), productivity (4%), competitiveness (3%), happiness (1%).
e6	2021	Bustos et al.,	Entrepreneurship. "refers to civil initiatives and citizen proposals regarding security and sustainability in order to integrate such amendments into the political agenda, government policies, crime prevention programs and justice and sustainability delivery strategies" (p. 4)	7 informants	Questionnaire Coffee Entrepreneurship	The values of internal consistency, which barely exceeded the required minimum of 0.700 (general alpha of 0.796 and specific alphas of 0.792 for vertical *habitus,* alpha of 0.704 for horizontal *habitus,* alpha of 0.781 for inherited *habitus* and alpha of 0.756 for *habitus* learned).

Note: Elaborated with literature review. E = Extract, e1 = Fuentes and Sanchez (2010), e2 = Galindo and Echavarria, e3 = Vargas and Arenas, e4 = Espinoza et al., (2021), e5 = Quintero et al., (2021) e6 = Bustos et al., (2021)

From the categories of interview and analysis, an open-ended questionnaire which allowed collecting speeches, meanings, and senses of teachers it was built in the knowledge network.

The questionnaire includes sociodemographic questions: How old are you? What is your monthly income? Have you applied for a scholarship? What is the allocated amount? How much is the percentage of your salary that you assign to your training? Do you belong to a network related to your profession? What events interest you? What are the most common research questions? What information processing technology do you use? Sociodemographic questions include sex, age, education, occupation, and income. The organizational questions were divided into four categories in order to explore cognition, logistics, socialization, and complexity, as noted in the literature review

Procedure. Once the guide was built, we proceeded to interview three teachers whose role within the network corresponded to different points of sale. The three teachers were male respondents who declared that they were 30, 32 and 36 years old, possessed a master's degree in physiology, administration, and sociology, and received a salary of 5,500 pesos per month.

The online interviews were conducted on November 15, 16 and 17, 2020, and on average the interviews lasted from 30 to 50 minutes and were conducted at the corresponding branch. Before starting the interview, each

teacher was asked if their statements could be recorded If this condition was accepted, they proceeded to report on the uses of the interviews for academic purposes, which would not have any positive or negative consequences on their academic training or eventual professional hiring. At the end of the interview, they were invited to see the results of the investigation via email. After a few days, they received their awards for their participation in the study.

Analysis. The symptom technique was used for discourse analysis. This consists of ordering extracts of the answers to the questions posed following a hierarchy of meanings relative to the established categories. Once synthesized and hierarchized in sentences, the statements are related based on their frequencies of relation (input and output of information).

Analysis categories. The knowledge network model was adjusted (see Figure 2). Innovation was considered as the central node, as it was considered the central axis of the local agenda. In other words, the interviewees agree that the relationship between demands and resources is oriented towards a balance based on new forms of management and intellectual capital formation. In this way, peripheral trans nodes were represented in the categories of training, knowledge, education, and entrepreneurship. This is so because these nodes feed information to the central node. In other words, the data for the subcategories delimit innovation.

In the first round, expert judges scored the summaries associated with the analysis categories. In the second round, the initial scores were compared with the average of the other judges in each expert. In the third round the judges either reconsidered their qualification and justified any changes or reiterated their initial assessment and argued their position.

The data were processed in the statistical analysis package for social sciences (acronym

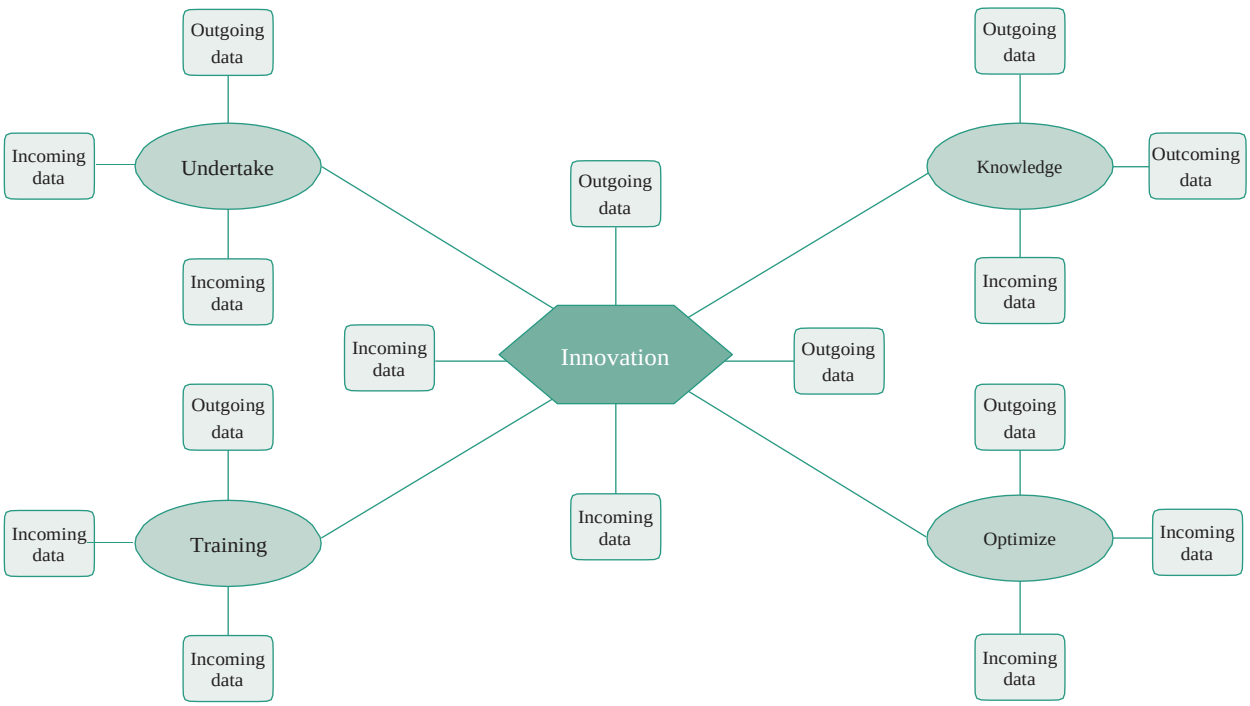


Figure 2. Innovative knowledge network Source: Prepared from the knowledge network model

Table 2. Descriptive od the judges

Sex	Age	Income	Area	Expertise	H Index
Male	57	18’243,00	Economic	Entrepreneurship	
Female	61	19’213,00	Management	Innovation	
Female	73	16’435,00	Psychology	Knowledge	
Male	59	17’832,00	Sociology	Quality	
Male	49	16’921,00	Education	Creativity	
Female	70	18’021,00	Engineering	Production	
Male	66	17’932,00	Psychology	Entrepreneurship	
Male	53	18’672,00	Management	Logistic	
Female	50	16’903,00	Economic	Quality	
Male	46	18’325,00	Management	Production	

Source: Elaborated with data study

SPSS, English version 18.0). The normal, contingent, proportional, and structural distribution were estimated, in order to observe the trajectories between categories and extracts.

3. Results and discussion

First study

In the first study, the frequencies of relationships between the concepts that linked the agents (teachers, administrators, students, and practitioners) with UAEM and NISSAN in three processes of management, innovation and entrepreneurship were established.

The results show that the discourses link the management process with that of innovation (15 information inputs) that contrast with their outputs (18 information outputs). That is, the management of teachers and administrators had an impact on the entrepreneurship of students and practitioners, although these did not influence the other two knowledge agents. This was interpreted as an emerging training network that depends on the management of teachers and administrators rather than on the initiatives of students and practitioners from whom greater participation is expected.

It should be noted that the first and second trans-peripheral information entry node did not establish any contact with any of the four peripheral centrals (innovation of professors, administrators, students, and practitioners), since they were only linked to the central node (innovation UAEM -NISSAN). The balance of information inputs and outputs of the peripheral centers precisely shows an imbalance in the peripheral innovative centers of students and practitioners who receive more information than they produce (E = 6 and S = 4; E = 4; S = 3 respectively). On the other hand, the teachers quadruple the information received and the administrators double it (E = 1; S = 4; E = 1; S = 2 consecutively). That is why the central node’s balance is unfavorable: it receives more information than it emits (E = 6; S = 4). Consequently, innovation is spurious in the UAEM-NISSAN vocational training network regarding management efforts and the emergence of entrepreneurship.

Second study

The normal distribution values of the extracts subtracted from the judges’ qualifications reached values higher than the essential minimums (see Table 3).

Table 3. Descriptive instrument

E	M	S		C1			C2			C3			C4			C5	
R1			$\chi 2$	Df	p	$\chi 2$	df	P	$\chi 2$	df	P	$\chi 2$	Df	P	$\chi 2$	p	Df
a1	0.764	0.125													17.89	13	<0.05
a2	0.619	0.109	13.24	14	<0.05												
a3	0.562	0.180							13.21	13	<0.05				15.97	18	<0.05
a4	0.601	0.176										12.13	14	<0.05			
a5	0.782	0.160															
a6	0.761	0.109				14.21	13	<0.05							13.98	12	<0.05
R2																	
a1	0.629	0.156	14.23	13	<0.05												
a2	0.641	0.174	13.25	19	<0.05										14.42	15	<0.05
a3	0.673	0.152				14.21	18	<0.05									
a4	0.693	0.145										13.21	14	<0.05			
a5	0.653	0.198							15.32	24	<0.05						
a6	0.782	0.143													17.52	10	<0.05
R3																	
a1	0.760	0.132	15.21	14	<0.05												
a2	0.784	0.153	14.35	16	<0.05												
a3	0.794	0.172	10.21	13	<0.05										16.52	12	<0.05
a4	0.762	0.109				13.21	12	<0.05									
a5	0.641	0.161							15.46	12	<0.05				17.32	18	<0.05
a6	0.781	0.189										15.43	12	<0.05			

Note: Elaborated with data study. A = Abstract, a1 = Fuentes and Sanchez (2010), a2 = Galindo and Echavarria, a3 = Vargas and Arenas, a4 = Espinoza et al., (2021), a5 = Quintero et al., (2021) a6 = Bustos et al., (2021), R = Round, M = Mean, S = Standard Deviation,C = Category; C1 = Training, C2 = Knowledge, C3 = Innovation, C4 = Entrepreneurship, C5 = Optimization

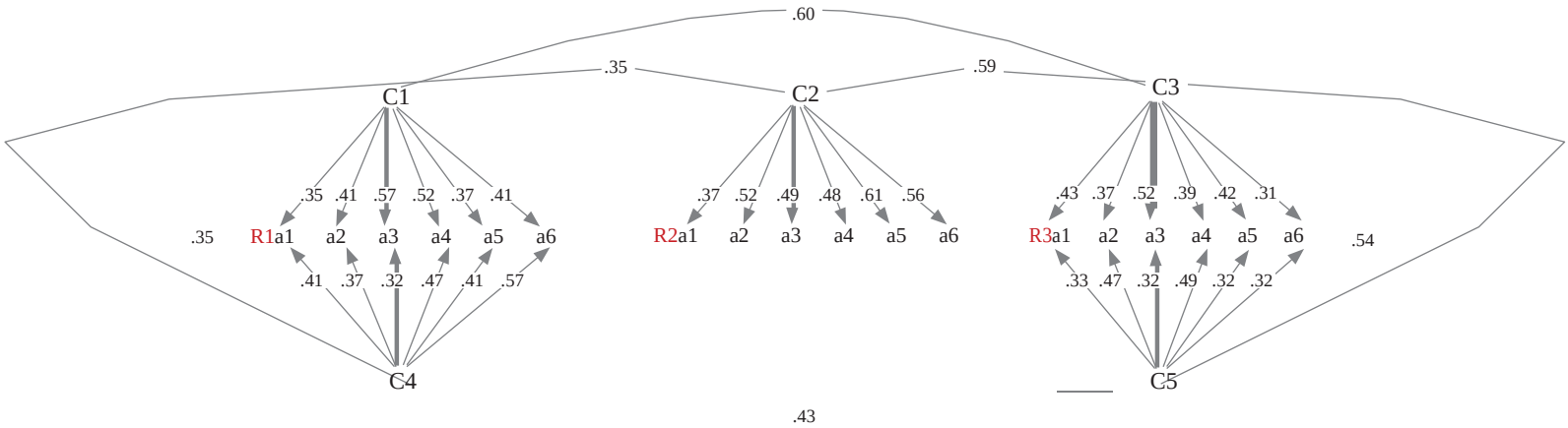
Once the normal and contingent distributions were established, we proceeded to estimate the correlations between the categories, in order to observe their predictive trajectories (Table 3).

Table 3. Odds ratio

	C1	C2	C3	C4	C5
C1	0.23 (0.10 0.46)				
C2	0.43 (0.15 0.60)	0.36 (0.17 0.45)			
C3	0.32 (0.27 0.59)	0.43 (0.29 0.78)	0.44 (0.20 0.78)		
C4	0.54 (0.13 0.56)	0.23 (0.32 0.60)	0.26 (0.15 0.50)	0.36 (0.24 0.60)	
C5	0.32 (0.29 0.54)	0.34 (0.20 0.64)	0.55 (0.20 0.76)	0.55 (0.24 0.69)	0.46 (0.28 0.56)

Note: Elaborated with data study. C = Category; C1 = Training, C2 = Knowledge, C3 = Innovation, C4 = Entrepreneurship, C5 = Optimization

Figure 3. Structural equation modelling



Note: Elaborated with data study. A = Abstract, a1 = Fuentes and Sanchez (2010), a2 = Galindo and Echavarria, a3 = Vargas and Arenas, a4 = Espinoza et al., (2021), a5 = Quintero et al., (2021) a6 = Bustos et al., (2021), R = Round, C = Category; C1 = Training, C2 = Knowledge, C3 = Innovation, C4 = Entrepreneurship, C5 = Optimization. The adjustment and residual parameters [χ2=14,21 (14 df) p > ,05; CFI = ,997; GFI = ,990; RMSEA = ,008] suggest the non-rejection of the null hypothesis relative to the significant differences between the relationships of variables subtracted from the literature review with respect to the contrastmodel of the present work.

The structural equations were calculated to be able to appreciate the axes, trajectories and relationships between the categories, and the indicators to contrast the null hypothesis of significant differences between the theoretical structure with respect to the proposed model (see Figure 3).

The knowledge network is distinguished by a structure that explains the axes, trajectories and relationships between factors related to innovation, entrepreneurship, or academic training, labor training, or other professional training. It is a process in which knowledge is managed as input of translatable information from the classroom to the workplace.

There is no competition for a position, and therefore innovation is absent in the practice system since the reproduction of knowledge is greater than its production or entrepreneurship.

However, a study related to the perceptions of self-efficacy, motivation and commitment will corroborate the exposed findings. As the training network consolidates, competition for positions will increase, creativity will increase, and innovation will emerge as a regulator of project entrepreneurship.

In relation to the consulted literature where the associations between the categories are highlighted, the project described here established and contrasted a model in which the distribution of the selected findings with respect to four conceptual dimensions is appreciated, finding a prevalence of training with respect to knowledge, innovation and entrepreneurship. In other words, the expert judges who rated the extracts seem to prefer job training rather than academic and professional training.

4. Conclusions

Knowledge management, entrepreneurship and innovation can always be observed in academic, professional, and labor training in the face of a strategic network between universities and organizations. In this process, innovation stands out as a

competitive advantage in the face of crisis. In other words, the expectations of the parties involved are directed towards new knowledge management because contingencies demand it. In academic, professional, and labor training, the management of skills, resources and knowledge implies a break, a journey, a stay, and a return to university. In this transformation of social servants and professional practitioners into intangible assets, knowledge management is translated. The surrounding information in the classroom and the workplace is processed as expectations and decisions.

The proposed theoretical model, when its empirical hypotheses are tested, reveals a structure of axes, trajectories, and explanatory relationships of the differences between the literature and the criteria of experts. These asymmetries suggest that professional and academic training is in its infancy. It is due to the incipient alliances between the university and the organizations suggest a network of knowledge in consolidation. Collaboration between both instances suggests a knowledge network in consolidation. A management in its translation phase of capacities, knowledge, and skills. An enterprise that investigates the opportunities, and challenges between the parties involved. An innovation oriented by the input, processing and output of information related to the demands of the environment and internal resources.

The study of innovation as a result of management and entrepreneurship will make it possible to establish an explanatory model of the differences between institutional, academic, administrative and organizational actors. Future lines of research concerning training as an instrument for knowledge management will allow new pedagogical sequences in classrooms and training in the labor field.

Public policies for microfinance for micro, small and medium enterprises can be directed towards knowledge management. Through entrepreneurial and innovative projects, the reactivation of a local economy can take place in the formation of intangible assets. Literature reviews concerning the random effects of these factors on productivity and competitiveness will allow the model to be extended and empirically tested in other settings.

Funding

This research has no external funding.

Disclaimer

The author has no conflict of interest.

References

Adenike, A. (2011). Organization climate as a predictor of employee job satisfaction. *Business Intelligence Journal*, *4*(1), 151-166. https://bit.ly/3Dg3eHM

Arnau, L. & Montané, J. (2010). Contributions on the conceptual relationship between attitude and competence, from the theory of change of attitudes. *Journal of Research in Educational Psychology*, *8* (3), 1283-1302. https://bit.ly/3NkMNyN

Bustos, J. M., Juarez, M. y Garcia, C. (2021). Validity of a habitus model of coffee entrepreneurship. *Summa*, *3* (1), 1-2. https://aunarcali.edu.co/revistas/index.php/RDCES/article/view/172

Carreón, J. (2013). Sustainable local development in the citizen and community sphere. *Society and Economy*, *18* (44) , 35-48. https://www.revistas.una.ac.cr/index.php/economia/article/view/5584/5425

Carreón, J. (2014). Empirical testing of an agenda setting model. *University Act*, *24(3)*, 50-62. https://www.actauniversitaria.ugto.mx/index.php/acta/article/view/598/pdf_10

Carreón, J., Espinoza, F. & García, C. (2021). Modelling perception entrepreneurship in

the Covid-19 era. *Academy of Strategic Management Journal*, *20 (2)*, 1-14. https://doi.org/10.46589/rdiasf.vi36.411

Castel, G. & Freundlich, F. (2010). Perceptions of cooperative members and non-members on job satisfaction. Revesco, 103, 33-58. https://dialnet.unirioja.es/servlet/articulo?codigo=3353967

Castro, M. & Martins, M. (2010). The relationships between organizational climate and employee satisfaction in information and technology organization. *Tydskriff vir Bredyfsielkunde*, *36*(1), 1-9. https://bit.ly/3IINfU0

Chinchilla, N. & Cruz, H. (2010). Diversity and business paradigms: a new approach. *Business and Humanism Magazine*, *14*(1),47-79. https://bit.ly/36TUX00

Espinoza, F., Campos, L. L. & García, C. (2021). Tutorial networks in the development of the research protocol. *International Journal Advances in Social Science*, *9*(1),1-7. https://bit.ly/3uvhJ6F

Fuentes, F. & Sánchez, S. (2010). Analysis of the entrepreneurial profile: a gender perspective. *Applied Economics Studies*, 28(3), 1-28. https://bit.ly/3Np8Hkh

Galindo, R. & Echevarria, M. (2011). Diagnosis of the entrepreneurial culture in the Antioquia engineering school. *Journal of the School of Engineering of Antioquia*, *8*(15), 85-94. https://revistabme.eia.edu.co/index.php/reveia/article/view/248/243

Garcia, C., Molina, H. D., Molina, M. R. (2021). Specification of a business training model using the virtual classroom before Covid-19. *Educativa Goinana*, *24* (1), 26-39. http://seer.pucgoias.edu.br/index.php/educativa/article/view/8057

Gil, C. (2010). Corporate communicators: challenges of professional training by competencies in the global era. *Notebooks*, *33*, 49-59. https://bit.ly/3qEL1P2

Hernández, T. J., Carreón, J. & García, C. (2021). Factor structure of the determinants of entrepreneurship in the era of biosafety in the face Covid-19. Academy of Strategic *Management Journal*, *20* (2) , 1-8

Long, H. (2013). The relationships among learning orientation, market orientation, entrepreneurial orientation, and firm performance. *Management Review*, 20, 37-46. https://journals.upd.edu.ph/index.php/pmr/article/view/3643

Omar, A. (2010). Transformative leadership and job satisfaction: the role of trust in the supervisor. *Liberabit*, *17*, 129-137. https://www.redalyc.org/pdf/686/68622584003.pdf

Orantes, S. (2011). Viability of the Technology Acceptance Model in Mexican companies. An approach to the attitudes and perceptions of users of information technologies. *University Digital Magazine*, *12*, 1-15. https://www.revista.unam.mx/vol.12/num1/art08/art08.pdf

Quintero, M. L., Gonzalez, L. M. & Garcia, C. (2021). Intellectual capital in the post Covid-19. *Ageing Science & Mental Health Studies*, *5* (1), 1-3. https://doi.org/10.31038/ASMHS.2021512

Tayo, E. & Adeyemi, A. (2012). Job involvement & organizational commitment as determinants of job performance among educational resource center personal. *European Journal of Globalization and Development Research*, 5, 301-313.

Vargas, M. & Arenas, M. (2012). Entrepreneurial skills in psychopedagogy students from the Pedagogical and Technological University of Colombia. *Journal of Studies Advanced of Leadership*, 1 25-30. https://www.regent.edu/acad/global/publications/real/vol1/num1/REAL_Vol1Num1_pp25-30.pdf

Annex 1. Systematic Review Inventory

Expert evaluation on training, entrepreneurship, innovation, and knowledge

Systematic Review Inventory (IRS). It refers to the qualifications of provisions against or in favor of an entity or internal agent of the institution and organization in relation to training, entrepreneurial, innovative, and knowledgeable scenarios. The instrument contains key dimensions with items in each of them: expectations of dissent and formative consensus, expectations of business costs and benefits, as well as intentions and decisions of innovation. The purpose of this test is to evaluate each area in a university in the State of Morelos.

Instructions. Answer the assertion, considering if in your opinion it reflects the analysis dimension. You can include suggestions.

Dimensions

1. ***Expectations of dissent and consensus training: R****efers to people´s tendency to observe, think and attribute managers, bosses, leaders, or shareholders a level of competition, risk prevention and innovative entrepreneurship in professional practices and social services (Carreon et al., 2016).*

R	Item	Yes	No	Suggestions
a1	In social services, I could see that bosses care about professional training.			
a2	In professional practices, I learned that leaders train their followers.			
a3	In social services, the bosses are challenged by their decisions.			
a4	In professional practices, I could see documentaries of the founders of the organization.			
a5	In social services, I observed photos of the families of shareholders of the organization.			
a6	In professional practices, photos of celebrations of the organization have been disseminated.			

2. ***Expectations cost you and benefits entrepreneurs:*** *It refers to people´s tendency to observe, think and attributed to executives, managers, leaders, managers or shareholders consequences of its initiatives, decisions and entrepreneurial actions in professional practices and social services (Sánchez et al., 2016).*

R	Item	Yes	No	Suggestions
a1	In professional practices, I have seen the testimonies of successful former managers.			
a2	In social services, I have commented on the achievements of my immediate bosses.			
a3	In professional practices, I have reviewed photos of the organization's founders.			
a4	In social services, I have received data that show the success of the organization.			
a5	In professional practices, the leaders 'proposals have been disseminated			
a6	In social services, people write down the benefits of working in the organization.			

3. ***Innovative intentions and decisions:*** *It refer to the tendency of people to observe, consider and decide to carry out the new proposals of their leaders, bosses, managers, shareholders, or executives with dissemination in professional practices and social services (Espinoza et al., 2016).*

R	Item	Yes	No	Suggestions
a1	I would support a leader who, in professional practice, explains how he will defend his ideas.			
a2	I would sympathize with an innovative leader who illustrates his success in social services.			
a3	I would support a boss who, in a professional internship, explains how he is going to achieve his goals.			
a4	I would sympathize with a directive alternative that would spread its achievements in social services.			
a5	I would support a manager who, in professional internships, demonstrates his successes			
a6	I would follow a directive alternative that, in social service, will talk with the employees.			