Reliability and Validity of an Instrument that Measures Entrepreneurship

Fiabilidad y validez de un instrumento que mide el emprendimiento

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Abstract

The process that goes from prospective decisions (oriented to risks of maximum profits with respect to minimum insurance benefits) to deliberate actions (oriented by avoidance of failures, based on the systematization of errors and successes) is addressed in the present work, aiming to specify a model for the study of Internet entrepreneurship. A non-experimental study was carried out with a non-probabilistic selection of 135 entrepreneurs. From a structural model, the reflective factor of the construct was found to be deliberate actions, but such findings are only applicable to the sample since the type of study, sampling, and statistical analysis suggest the contrast of the model in other scenarios would increase the percentage of the explained variance of its factors, that added to 57% in this case.

Keywords: Globalization, development, Internet, entrepreneurship, model.

Resumen

El proceso que va desde decisiones prospectivas (orientadas a riesgos de máximos beneficios con respecto a mínimos beneficios de seguros) a acciones deliberadas (orientadas por evitación de errores, basado en la sistematización de errores y éxitos) se aborda en el presente trabajo, con el fin de especificar un modelo para el estudio de la emprendeduría en Internet. Se realizó un estudio no experimental con una selección no probabilística de 135 emprendedores. Desde un modelo estructural, el factor reflejante del constructo se encontró como acciones deliberadas, no obstante, dichos hallazgos son únicamente aplicables al muestreo ya que el tipo de estudio, muestreo, y análisis estadístico sugieren que el contraste del modelo en otros escenarios incrementaría el porcentaje de la varianza explicada de sus factores, que llegó a 57% en este caso.

Keywords: Globalización, desarrollo, Internet, emprendeduría, modelo.
1. INTRODUCTION

The project is part of the Social Work discipline, an area of informational studies, which includes concepts related to attitudinal psychology, the sociology of work, and labor economics (Sanchez, 2020).

The objective of this paper is to specify a model to study expectations towards social networks, by contrasting hypotheses related to the theoretical, conceptual, and empirical trajectories around entrepreneurship, through some Information and Communication Technology (ICT), or electronic device. with the purpose of specifying a model for the study of the phenomenon (Bustos, 2020; Juárez, 2020).

Entrepreneurship on the Internet is the result of a deliberate, planned and systematic process of relationships between the demands of the environment with respect to individual capacities; skills and knowledge oriented to a commitment to self-management, academic and professional training in which the individual participates (Carreón, 2013).

However, brandished cognitive process involves a relationship with collaborative groups where such provisions against the use of technology are reduced since that computer are considered to be skills attributable to genetic or personal history of the Internaut (Bustos, Quintero and García, 2017).

In this sense, the sociology of work recovers the impact of collaborative groups through the study of the social and labor climate, that will not only affect the decisions and actions of the individual but will also generate a systematic network formation (Carreón, 2016).

This is because knowledge networks reflect individual capabilities, but they are also the result of the demands of a labor market (Adams, 2020). In this sense, the academic training and professional training are distinguished by their degree of adjustment to market requirements, or else the emergence of opportunities that in the case of the 4.0 economy, close to 40% did not previously exist (García, Bustos and Montero, 2012).
In this way, the study of Internet users expects a diagnosis about aversion and/or propensity towards the labor market. The more specific the area, the more accurate a diagnosis or inventory of individual and computational capacities will be (García et al., 2017).

2. THEORY OF INTERNET ENTREPRENEURSHIP

The theoretical frameworks that explain Internet entrepreneurship are: 1) theory of prospective decisions; 2) theory of social justice; 3) theory of human capital (Clark, 2020).

In a theoretical sense of risks and the likelihood of decision making, entrepreneurship is the result of a reverse process to that of a prospective intention (Anguiano, 2020). If those who assume risky decisions and behaviors are encouraged by a low probability of success, enterprising people arise when the opportunities to carry out an action correspond with an expectation of reward or recognition (García, Carreón and Bustos, 2012).

In the case of Internet entrepreneurship, digital protocols can reduce, or increase, the chances of success, or at least reduce failures, but in an entrepreneurial sense, these probabilities are reversed, and a prospective decision will be taken whenever the digital protocols generate more fraud or identity theft of identity than minimum benefits (García et al., 2015).

However, entrepreneurship seems to be more the result of a generalized idea of justice that would have very little to do with the calculations, albeit minimal balance between opportunities and capabilities, since the individual who makes a decision will proceed to take action, guided by a sense of appetite balance between freedom and equality (Garcia et al., 2016).

That is, the idea of justice will determine the decisions and actions of an entrepreneur when establishing costs and benefits (Bouls, 2020). If you assume that your initiative unfolds in a context or setting of justice, then you will locate your objectives, tasks, and goals in a positive sense, and in case of failure or losses, you will conclude that your behavior is different to that of the majority (Hernández et al., 2017).
In contrast, if you are predisposed to a scenario of injustice, then you will end up recognizing that positive forces will determine the success of your project, or, otherwise, assume that your decisions and actions were not inserted in the due process of the good, neither personal nor social (Carreón, 2013).

The theory of justice demonstrated the insufficiencies of intuitionism (ideology that considered an individual selection of what is good and what is bad) and of social equity (people are born with the same opportunities), considering; a) every person has an equal right to the fullest, it supports freedom for all; b) inequalities are unacceptable, unless it is reasonable to expect that they will act for the benefit of all and 3) positions and offices must be open for all (Carreón, García and Hernández, 2017).

The liberal state as immoral and unjust posed a false dichotomy: freedom versus equality, as well as the reconciliation of both values materialized in a social contract which evolved to ground a State (benefactor and liberal) based on a moral synthesis (Carreón, De la Cruz and De los Santos, 2015).

The theory of social justice implies a method of reflective equilibrium for the study of the immorality of the minimal liberal state; the perception of freedom, the beliefs in turn or the equity of opportunities, the values of equality, the morality that seeks the social good from establishing a point of reflective equilibrium between the values of equality and the perceptions of freedom, cooperation, and participation, a fair democratic society; cooperative, orderly, and stable, as well as the distribution of wealth in a liberal State for a fulfilling life (García, Carreón and Hernández, 2014).

Although the theory of justice complements the panorama of prospective theory, it is human capital theory that will end up locating entrepreneurship in a rational, deliberate, planned, and systematic process, which does not guarantee success, but does anticipate failure. (Limón et al., 2017).

It is a process in which entrepreneurship is gestated from a perception of opportunities and a feasibility of carrying out actions (Korstanje, 2020). That is, entrepreneurship from the theory of human capital, as a reverse process to decisions and prospective actions of presumption of risk, and probable actions of failure in relation to minimal success (Sánchez et al., 2017).
Thus, the maximization of success and the suppression of failure seems to be the hallmark of human capital, mainly intellectual, because it is oriented towards a scenario of exacerbated perception of instrumented capacities such as efficiency (Sandoval et al., 2017).

Requires social learning skills and knowledge in relation to environmental requirements. In this sense, human and intellectual capital is an instrument to achieve a balance between the demands of the environment and the internal resources of an organization dedicated to the creation of knowledge (Carreón, 2016).

Efficiency implies the instrumentation of social learning skills, based on the availability of resources and external demands on the organization (Quiroz, 2020). Effectiveness refers to the achievement of objectives and goals based on the performance of tasks for which accelerated social learning is necessary (Coronado, 2019). Effectiveness is the dissemination of success in the relationships established by the individual with an intellectual capital and its abilities, abilities, and knowledge (Bustos, Quintero and García, 2017).

Accordingly, in the case of the internet entrepreneur, the Internaut will avoid decisions and prospective actions only if his intellectual capital is oriented to the project or business model that he aspires to develop and consolidate (García et al., 2011).

3. STUDY OF INTERNET ENTREPRENEURSHIP

Within the framework of the information society, state management and community self-management have different objectives, tasks, and goals (García, Juárez and Bustos, 2018).

In this sense, civil society organizations have built self-management models that consist of; 1) the diagnosis of the social representations of citizenship, indicated by the establishment of a public agenda on security, 2) the dissemination of information about trust, commitment, entrepreneurship, innovation, and satisfaction as determining factors of the social representations of the State and citizenship; 3) the evaluation of the diffusion of the determining factors of the representation of the State and citizenship (García et al., 2011).
The Internet entrepreneurship studies allude from the entrepreneurial spirit to the strategic vision (see Table 1).

Entrepreneurship refers to civil initiatives and citizen proposals regarding security and sustainability with the purpose of integrating such amendments into the political agenda, government policies, crime prevention programs, and strategies for the delivery of justice and sustainability.

However, the construction of a civil agenda, or social self-management, presupposes the dissemination of information about demand and resources, opportunities and capacities, since it is the digital networks that question the public agenda -Trolling-, or strengthen it -Stalking, Trending-.

**Table 1. Studies of Internet entrepreneurship**

<table>
<thead>
<tr>
<th>Year</th>
<th>Author</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Borjas</td>
<td>Entrepreneurship</td>
</tr>
<tr>
<td>2011</td>
<td>Adenike</td>
<td>Ideological commitment</td>
</tr>
<tr>
<td>2012</td>
<td>Hazlina, Mohd and Rohaida</td>
<td>Citizen self-management</td>
</tr>
<tr>
<td>2013</td>
<td>Zampetakis and Mostakis</td>
<td>Strategic vision</td>
</tr>
<tr>
<td>2014</td>
<td>García et al.,</td>
<td>Propension to the future</td>
</tr>
<tr>
<td>2015</td>
<td>Sandoval et al.,</td>
<td>Resilience</td>
</tr>
<tr>
<td>2016</td>
<td>Carreón et al.,</td>
<td>Expected opportunism</td>
</tr>
<tr>
<td>2017</td>
<td>Limón et al.,</td>
<td>Cooperativismo</td>
</tr>
<tr>
<td>2018</td>
<td>García</td>
<td>Fractality</td>
</tr>
</tbody>
</table>

Source: self made

Therefore, entrepreneurship refers to the intensive use of Information and Communication Technologies, as well as electronic devices, for the establishment of an agenda on *trolling*, *stalking*, or *trending* towards a figure or political process. In this case, voting intentions or elections.

Local expectations in the face of globalization, indicated by the profits, risks, opportunities, and expected capabilities represent a scenario of competitive advantages, based on intangible assets and intellectual ca-
pital, among which expectations stand out as factors in anticipation of conflicts or disagreements between economic, political, and social actors (Carreón et al., 2013).

The deck of expectations highlights perceived profits as emerging factors in the strategic alliances between multinationals and SMEs, although its relevance lies in the balance of external demands and internal resources within organizations, its function is in the climate of tasks, which would determine the climate of innovations and the climate of supports (Carreón et al., 2014).

However, consubstantial to the perceived profits, the strategic alliances between multinationals and SMEs involve risks in the transfer of knowledge, rather than in the management or production of innovations for the local market. An increase in risks not only implies a reduction in expected profits, but it also implies an increase in the capacities since, in the climate of tasks where risks operate, they are corrected with empathy, trust, and commitment. (Carreón et al., 2016).

Therefore, the climate of relations prevailing with respect to the climate of tasks, supports, or trusts, opens opportunities in management and production rather than in the transfer of information since, in knowledge networks, the climates of tasks are hegemonic (Carreón et al., 2017).

If the opportunities emerge from the climate of supports and tasks, then the capacities will be distinguished by their degree of skills and knowledge, inherent in the climate of innovations. This is due to the fact that skills precede innovations, but underlie relationships of trust and empathy, if not commitment. (García et al., 2012).

The establishment of a model to study the expectations of the consequences of the globalization process, centered on strategic alliances between multinationals and SMEs, translate into opportunities and knowledge management capabilities, rather than production and transfer (García et al., 2013).

However, the type sample selection of information, and the technique of analysis and integration in the proposed model, limit its contrast to a scenario that is distinguished by a high degree of empathy, trust, and
commitment rather than the full functioning of its management, production, and knowledge transfer structures (García et al., 2014).

In relation to identity as the common denominator among imbalances caused by multinationals on SMEs, local values and norms, expectations focus on a type of identity resulting from the organizational climate rather than the context in which it is framed. (García, 2013).

However, a comparative study between localities, with and without strategic alliances of multinationals with SMEs, will allow establishing significant differences, if any, on the impact of economic and political actors on social actors, mainly on talent, intangible assets, and intellectual capitals (García, 2017).

The values, beliefs, and perceptions related to needs, expectations, demands, opportunities, and available resources for safety and sustainability as determinants of entrepreneurial attitudes, motives, and knowledge are indicated by Trolling (agression), Stalking (espionage) and Bullying (ridicule).

Values, beliefs and perceptions determine attitudes, motives, and knowledge affect the intention of entrepreneurship, and are indirect determinants of entrepreneurship through attitudes, motives, and knowledge that determine intentions.

4. METHOD

At first, a documentary study with, a non-probabilistic sample selection of sources indexed to national repositories, considering the year of publication from 2000 to 2017, as well as the inclusion of concepts such as “globalization”, “locality”, “model”, and “entrepreneurship”, using the Delphi technique, which consists of comparing the information and integrating the data to establish the axes and trajectories of relationships between the factors used in the literature consulted.

Then, a second non-experimental, documentary, cross-sectional, and exploratory study was carried out, with an intentional sample selection of 135 Internet entrepreneurs from a public university in central Mexico.
The Inventory of Digital Entrepreneurship by García et al., (2015) was used, which includes 44 items on the dimensions of empathy, opportunity, risk, utility, ease, commitment, entrepreneurship, knowledge, innovation, use, and satisfaction, although only 16 reagents were used, which were considered by 3 judges as the most binding to the theoretical dimensions of prospective decisions, justice, and human capital.

In this way, the Digital Entrepreneurship Inventory (IED-15) included five dimensions related to prospective decisions, such as “I will use the interactive multimedia center if I find a diversity of images”, five referents alluding to perceived justice, as it is the case of “I will use the digital library to find more information free of prejudice”, and five reagents linked to human capital, such as “I will use the multimedia simulator to increase my work experience”. Each item is answered with one of five options relative to 0 = “not likely” until 5 = “quite probable”.

Internet users were surveyed by email, with a prior written guarantee of confidentiality and anonymity, as well as a warning that the results would not negatively or negatively affect their academic or business status. The information was processed in the Statistical Package for Social Sciences (IBM-SPSS-AMOS version 25.0). The parameters of reliability, validity, adequacy, sphericity, fit, and residual of the model were calculated in order to contrast the null hypothesis.

5. RESULTS

Table 2 shows the psychometric properties of measuring the entrepreneurial Internaut dimensionally prospective decision (alpha 0.781), perceived justice (0.773 alpha), and deliberate action (alpha 0.765).

Table 2. Descriptions of Internet entrepreneurship

<table>
<thead>
<tr>
<th>R</th>
<th>M</th>
<th>S</th>
<th>W</th>
<th>K</th>
<th>A</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prospective decision subscale</td>
<td>0.781</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R1 I will use the multimedia center to ensure my future</td>
<td>3.45</td>
<td>1.02</td>
<td>1.43</td>
<td>1.56</td>
<td>0.705</td>
<td>0.357</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R2 I will use the multimedia simulator to avoid complications</td>
<td>3.56</td>
<td>1.04</td>
<td>1.56</td>
<td>1.31</td>
<td>0.761</td>
<td>0.325</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continúa...
<table>
<thead>
<tr>
<th>R</th>
<th>I will use the virtual library to learn from successful people</th>
<th>M</th>
<th>S</th>
<th>W</th>
<th>K</th>
<th>A</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
</tr>
</thead>
<tbody>
<tr>
<td>R3</td>
<td>I will use the virtual simulator to learn to make accurate decisions</td>
<td>3.92</td>
<td>1.05</td>
<td>1,98</td>
<td>1,98</td>
<td>0,760</td>
<td>0.306</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R4</td>
<td>I will use the multimedia center to reduce costs</td>
<td>3.56</td>
<td>1.05</td>
<td>1,02</td>
<td>0,734</td>
<td>0.317</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Subscale of Justice Perceived | 0.773 |
| R6  | I will use the virtual library to learn from honest people  | 3.05  | 1.01   | 1,35 | 1,45 | 0.761 | 0.347 |
| R7  | I will use the virtual simulator to avoid corruption         | 3.57  | 1.00   | 1,25 | 1,56 | 0.735 | 0.304 |
| R8  | I will use the multimedia center to reduce bribes            | 3.25  | 1.08   | 1,91 | 1,01 | 0.752 | 0.341 |
| R9  | I will use the virtual library to forge my integrity         | 3.06  | 1.09   | 1,01 | 1,23 | 0,746 | 0.346 |
| R10 | I will use the multimedia center to anticipate fate          | 3.25  | 1.02   | 1,12 | 1,43 | 0.762 | 0.396 |

| Deliberate action subscale | 0.765 |
| R11 | I will use the multimedia center as part of my business training | 3.45  | 1.03   | 1,35 | 1,56 | 0.703 | 0.354 |
| R12 | I will use the virtual library as part of my business project | 3.26  | 1.04   | 1,46 | 1,29 | 0.725 | 0.325 |
| R13 | I will use the virtual simulator as part of my business training | 3.97  | 1.56   | 1,89 | 1,23 | 0.706 | 0.349 |
| R14 | I will use the multimedia center as part of my performance evaluation | 3.10  | 1.36   | 1,01 | 1,43 | 0.738 | 0.386 |
| R15 | I will use the virtual library as part of my self-assessment  | 3.27  | 1.28   | 1,92 | 1,13 | 0.706 | 0.305 |

R = Reactive, M = Medium, S = Standard deviation, W = Swedness, K = Kurtosis, A = Alpha by removing the value of the item. Extraction method: main axes, promax rotation. Adequacy and sphericity \[X^2 = 345.34 \text{ (21gl)} \ p = 0.000; \ KMO = 0.751\] F1 = Prospective Decision (26% of the explained and alpha variance 0, 781), F2 = Justice Perceived (17% of the total variance explained and alpha 0.773) and F3 = deliberate action (11% of to complete explained and alpha of 0.765). All items are answered with any of five options ranging from 0 = not likely to 5 = very likely.

Source: Elaborated wit data study
Once the factors explaining 54% of the total variance of the construct were established, we proceeded to estimate the factor structure in reflective trajectories of the Internet entrepreneurship.

The parameters of adjustment and residual $\chi^2 = 345.34$ (24 gl) $p = 0.007; GFI = 0.990; CFI = 0.997; RMSEA = 0.000$ suggest the acceptance of the null hypothesis relative to the explanation of empirical theories and findings at 57% of the variance of the construct, considering the factors of prospective decision, perceived justice, and deliberate action as indicators, but deliberate action as the reflecting factor of the construct (0.458).

6. DISCUSSION

The contribution of the present article to the state of the question lies in the specification of a model for the study of Internet entrepreneurship, considering three factors that explain 57% of the variance, although other factors such as expected opportunism or perceived empathy would increase power of the construct.

In addition, the type of exploratory study, the type of intentional sampling, and the type of statistical analysis of principal axes with promax rotation limit the results of the study to context and sample, being necessary to resort to the contrast of the model in other scenarios, with the purpose of testing the null hypothesis relative to the interdisciplinary theoretical frameworks, as explanations of the specified construct.

Carreón et al., (2017) showed that business promotion policies to influence the perceptions of opportunity increase local entrepreneurship, but warn that micro-financing does not affect micro, small, and medium enterprises in the same way as protectionism does for large companies, since a generalized policy disseminates opportunities that benefit large companies, such as the devaluation of the currency, but a reduction in support for micro-entrepreneurs fosters a logic of prospective decision rather than strategic planning.

In the present work, prospective decisions explained 26% of the total variance of the Internet entrepreneurship construct, but they were not the
reflective factor of the construct, which was attributed to the deliberate action. This means that an incidence of microfinance policies in entrepreneurship would generate more than prospective strategies in favor of significant risks in relation to minimum profits.

The study of the phenomenon of Internet entrepreneurship seems rather to follow an exacerbated process of perception, decision, and action that would be accelerated by micro-financing policies, or by the scarce opportunities of the local market.

In this sense, Sánchez et al., (2017) showed that social entrepreneurship, understood as perceptions, decisions, and actions oriented to the common good, not being influenced by any credit or financing policy, depends on empathy and trust between creditors and family or social debtors that would allow a margin of decision and action more leisurely and conditioned by local rules and values.

In contrast, the present work has found that local norms and values, measured by the perception of justice, understood as the conception of evil or good acting in a locality, explained 17% of the total variance of the construct, being prone or susceptible to be complemented with the factors of empathy, commitment or satisfaction, central elements in the explanation of happiness, even when prospective decisions are observed in micro-entrepreneurs.

García (2018) discovered that empathy, commitment, and satisfaction are collateral to entrepreneurship, innovation, and competitiveness. He showed that even in the absence of microfinance policies, the seed capital of ex-migrants activates the propensity for the future, a factor that emerges in communities that share common assets, knowledge, and destinies.

Thus, there is a combination of values and local norms in this study, measured by the factor of perceived justice, with respect to deliberate actions that involve a rational and planned decision process, excluding emotions, but incorporating the community knowledge of local needs.

In this sense, the phenomenon of Internet Entrepreneurship, although it seems to be separate from the sense of community, the attachment to an
environment and belonging to a shared space, is a dual process that goes from emotionality to happiness, and from rationality to competitiveness.

7. CONCLUSION

The objective of this work lies in the specification of a model for the study of entrepreneurship Internet, which seems to be explained from an interdisciplinary approach in terms of personal aspects such as decisions but converges in collective actions that would be the cases of the deliberate actions and implies local values and norms such as the case of perceived justice.

However, the percentage explained of the three factors seem to suggest that they can be complemented with other factors related to empathy, commitment, opportunism and satisfaction, although the literature warns that the policies of business development and micro-financing are two triggers of the dual process and that in its absence, the seed capital of ex-migrants could guide the Internaut entrepreneurship towards a social dimension from which it has not been completely separated.

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