

SKILL, INFRASTRUCTURE AND HUMAN CAPITAL NEEDED FOR POST-COVID-19 ECONOMIC RECOVERY: PERSPECTIVE FROM BUSINESS AND ECONOMIC STUDENTS

Deneb Elí Magaña Medina, Universidad Juárez Autónoma de Tabasco
Román Alberto Quijano García, Universidad Autónoma de Campeche
Norma Aguilar Morales, Universidad Juárez Autónoma de Tabasco
Fernando Medina Blum, Universidad Autónoma de Campeche

ABSTRACT

In this study, we examine which areas business and economics students consider relevant for a successful post COVID-19 recovery for a southeastern state in Mexico. For the analysis, we consider variables perceived as critical for a successful recovery including competencies (skills) needed for an economic recovery after the COVID-19 pandemic, training requirements necessary to be competitive, available infrastructure and human capital. We conducted a non-experimental trans-sectional study using data from a survey of 1,530 business and economic college students. The results show that students consider they do not have the infrastructure and human capital to face economic recovery post-pandemic. The study concludes that investment of higher education institutions should focus on infrastructure, training, and skill development in areas such digital and technology for a successful economic and social recovery after the pandemic.

JEL: I2, I23, I25

KEYWORDS: COVID-19, Higher Education, Economic-Administrative, Recovery

INTRODUCTION

Wuhan, capital of Hubei, became the epicenter of the global pandemic, caused by a new virus, the SARS-CoV-2, commonly known as COVID-19. COVID-19 causes severe acute respiratory illness and other issues (Sharma et al., 2020). Spread of the virus was exponential, mainly due to globalization. The world's population has been increasingly concentrated on large cities (Tisdell, 2020). The effects of this pandemic on health, employment and, in general, the world economy has been compared by authors such as Varsi-Rospigliosi et al., (2020) as the third world war. However, we do not have an enemy with defined nationality. It is invisible and, thanks to its available spread, has not stopped at any border. The Economic Commission for Latin America and the Caribbean (2020) consider COVID-19 the worst economic and social crisis in a decade, and its effects on employment, poverty and inequality will require structural changes in the organization of production that are already underway and expected to accelerate.

At the end of 2020, several countries managed to develop health strategies in two areas: 1) treatments to combat the virus and 2) vaccines with emergency health authorization, which allow countries to plan a recovery of world economies for first quarter of 2021 (Gómez - Tejeda et al., 2020; World Health Organization, 2020). For higher education institutions around the world, the challenges have focused on

generating strategies to maintain high academic standards, which are essential for higher education institution to produce quality research and teaching results (Gamage et al., 2020).

The need for state specific information motivated the Council of Science and Technology of the State of Tabasco (Consejo de Ciencia y Tecnología del Estado de Tabasco, CCYTET) to commission, in collaboration with researchers from the Universidad Juárez Autónoma de Tabasco (UJAT), the design and implementation of a survey aimed at higher education undergraduate and graduate students at research centers in the state of Tabasco. As a result, a participatory diagnosis POST *COVID-19* in Tabasco project was developed. The survey includes quantitative and qualitative elements and various demographic variables that allowed the classification of the population (Sánchez, Magaña, Aquino, Gómez, Cornelio, Silva, Palmeros, Aguilar, Rodríguez and Corona, 2020). The CCYTET and the UJAT consider students as relevant actors whose input regarding economic recovery. This is consistent with studies and projects developed by other countries (Abisha Meji & Dennison, 2020; Aucejo, French, Ugalde Araya, & Zafar, 2020; Cohen et al., 2020). These studies provide important results that support the development of strategies and proposals for accelerating economic recovery.

In this study, we focused on determining elements that undergraduate and graduate students in administrative economic science disciplines perceive as necessary for a post-pandemic recovery phase in the state of Tabasco, located in southeastern Mexico. This area was impacted by severe flooding during the pandemic, leaving the state's economy even more vulnerable (Rosales, 2020, Osorio, 2020). Economic recovery after the pandemic is a priority in the sustainable development objectives established by the United Nations (United Nations, 2017, 2020a, 2020b). This research is aimed at generating relevant and valid information according to local and regional needs. This information will serve as a basis for the generation of concrete actions for economic reactivation and the recovery of formal and informal employment. The rest of this research is organized as follows. The literature review section describes literature associated with economic impacts and strategies for economic and social recovery after the pandemic. The methodology section provides the research design, sample size, data collection and analysis. Next, the results section provides a comprehensive analysis of the results. Finally, the conclusions section offers suggestions and future lines of research.

LITERATURE REVIEW

The term Competence, which has not been an easy construct to define, involves elements such as conception of the mode of production and transmission of knowledge, the link between education and society, the mission and values of the educational system, teaching practices and evaluation schemes of both teachers and student performance (Pablo Beneitone et al., 2007). In terms of work efficiency Chouhan and Srivastava, (2014) point out that competencies include the collection of success factors necessary to achieve important results in a specific job or job role in a particular organization, and this can refer to competencies, intellectual, business, social and emotional.

The model focused on competencies related to teleworking, financial management and entrepreneurship, which have been established as keys to the economic recovery for international organizations such as Pan American Health Organization and World Health Organization (ECLAC-UNESCO), (ECLAC-UNESCO, 2020; Pagés et al., 2020; Pan American Health Organization & World Health Organization, 2020; UNESCO, 2020).

With regard to entrepreneurship, Patel and Rietveld, (2020) argue that entrepreneurs are used to facing unpredictable environments, but the pandemic has generated greater uncertainty than what micro and small business owners can handle. This is largely because in Mexico alone, the National Institute of Statistics and Geography (INEGI, 2020a, 2020b), concluded that 59.6% of companies reported that technical shutdown or temporary closure significantly affected their productive activity. Globally, the most optimistic

predictions of economic growth have been a decline of at least 1% (Economic Commission for Latin America and the Caribbean, 2020).

For decades, working from home has been promoted as a way to increase workday efficiency (Zhang et al., 2020). According to Rocha and Amador, (2018) the term teleworking is associated with remote work through information and communication technologies (ICT). In the United States, the use of the term telecommuting is more frequent, while in Europe the use of teleworking is more common. The first term emphasizes the displacement between the workplace and the place where work is performed, being “the office” replaced by the use of ICT. The second focuses on the activities carried out by technological means. Both terms, however, refer to the same employment arrangement where work activities are carried out remotely with the use of technology and without the need to transfer the worker to the place where the results should be presented. The term "home office" is also frequently used; however, it refers to a specific category within the broader context of teleworking that deals with the specificity of being carried out in the worker's home.

In the context of COVID-19, one of the main recommended strategies for economic reactivation was teleworking. However, companies and governments were not prepared for its implementation because of lack of competencies and legal issues (e.g. many labor contracts don't include teleworking). However, during the pandemic is unlikely that employees object to teleworking (Belzunegui-Eraso & Erro-Garcés, 2020). Despite, multiple obstacles that represented the adoption of this form of work, having the necessary skills is essential for efficient performance, as well as the development of a legal frameworks to protect the worker (Zhang et al, 2020).

With regard to Higher Education, the COVID-19 outbreak fundamentally altered its global landscape in 2020. The pandemic forced Institution of Higher Education to rethink the use technology platforms, its capabilities and usefulness for online learning. This has impacted many areas within the higher education sector. Therefore, it is clear that online training is required as an effective and easy-to-achieve short-term strategy (Gamage et al., 2020).

To support economic and social recovery after the pandemic, several international organizations and authors have studied the phenomenon of teaching in the context of the pandemic. These authors point to online education and teleworking as indispensable elements in the recovery strategy. Thus, proficiency in information and communication technologies (ICT) became essential competences during this period. Therefore, the requirements of training, infrastructure and human capital are focused on the achievement of these competencies to guarantee the required quality standards and contribute to gradual recovery of regional, national and global economies (Gamage et. Al., 2020)

METHODOLOGY

The study follows an experimental, descriptive, cross-sectional design to analyze statistical results. The study involved 1,536 undergraduate and graduate students from different disciplines in the economic and administrative area of seven higher education institutions in the state of Tabasco in Mexico. The study covered all semesters of the different undergraduate and graduate programs.

Three variables from the Magaña and Aguilar model (2020, 2021) were used. These variables examine student perspectives of the effects on productive activity and formal and informal employment. The variables considered were competencies (skills) needed to face the economic recovery process after the COVID-19 pandemic (CPC), training requirements perceived as necessary to be competitive during the recovery (RCAP), and the infrastructure and human capital that is available (IYCH). Reliability values were (CPC $\alpha=0.84$; RCAP $\alpha = 0.70$; IYCH $\alpha = 0.80$) indicating each measure was acceptable (Milton, 2010).

With respect to sampling adequacy, the Kaiser-Meyer Olkin statistical test and the Bartlett sphericity test (KMO= 0.83, $\chi^2= 7438.45$, $gl = 66$, $p < .001$) indicate that an exploratory factor analysis is acceptable (Lloret-Segura et al., 2014). The results are grouped into three factors that explain 54.47% of the variance. All items have factorial loads greater than 0.42, grouped according to the proposed structure (Williams et al., 2010).

We used data results from the online survey "Participatory Diagnosis Post COVID-19 in Tabasco" (Sánchez et al, 2020). For the development of the survey, the consent all participation Higher Education Institutions and Research Centers was requested through the Science and Technology Council. Subsequently, directors of each organization were asked to participate voluntarily and informedly to administer the online instruments to the students through institutional platforms. The students were informed of the purpose of the study, and through the teachers and authorities were invited to participate in the volunteer study guaranteeing confidentiality of the data collected (Magaña, and Aguilar, 2020, 2021). The survey was conducted during June 2020. Descriptive statistics, t-test and ANOVA were used to determine the analyze the data.

RESULTS

Descriptive

The study involved 1,530 students including 39.4% male and 60.6% female. The average age is 21.46 years. According to its distribution by academic level, 92.1% are undergraduate, 7% postgraduate and 0.5% did not indicate a degree so we eliminate these data from the analysis. Of this population one 23.7% work and 40.4% have a scholarship.

With regard to the variables considered, Table 1 presents the descriptive statistics where the highest mean is the perceived level of competency needed to face the post-pandemic recovery, and the lowest is the perceived need for infrastructure and human capital to face the economic recovery.

Table 1: Descriptive Values of the Variables (Scale 1-5)

Variable	Mean	DE	Minimal	Maximum	Asymmetry	Curtois
Skills to cope with the post-COVID-19 economic recovery	4.32	0.75	1.00	5.00	-1.33	2.10
Training Requirements for Competitiveness	3.59	0.82	1.00	5.00	-0.26	-0.07
Infrastructure and Human Capital	3.28	1.02	1.00	5.00	-0.08	-0.39

Table 1 presents the main descriptive Statistics for the sample size using a 1-5 scale.

Mean Difference

When comparing difference in mean by gender, we find that only infrastructure and human capital are statistically significant, where male shows the highest levels (see Table 2). However, it is important to note that 13 percent of the differences in perception is explained by gender.

Table 2: Mean Difference for Gender-Related Variables

Variables	Men		Women		t	p	Cohen's d
	M	SD	M	SD			
Skills to cope with the post-COVID-19 economic recovery	4.33	0.74	4.31	0.74	0.37	0.707	0.04
Training Requirements for Competitiveness	3.62	0.82	3.56	0.81	1.43	0.152	0.07
Infrastructure and Human Capital	3.36	1.02	3.22	1.01	2.57	0.010*	0.13

M= Mean, SD= Standard Deviation, p=significance, Cohen's d = effect size. N=1.536. Significant level at $p < 0.05^*$, $p < 0.01^{**}$, $p < 0.001^{***}$. Data analyzed using IBM SPSS Statistics Software for Windows. Version 24.0.

Table 3 presents the differences in mean based on academic level (14 surveys were discarded due to incomplete data). Results shows that only two variables present statistically significant differences with greater emphasis at the graduate level. The difference is larger. Most notable is the difference with respect to competencies needed to face the economic recovery, 30 percent of which is explained by the academic level of the student.

Table 3: Difference in Mean Base on Academic Degree

Variables	Undergraduate		Post-graduate		t	p	Cohen's d
	M	SD	M	SD			
Skills to cope with the post-COVID-19 economic recovery	4.30	0.75	4.51	0.61	-2.77	0.006**	-0.30
Training Requirements for Competitiveness	3.57	0.80	3.79	0.91	-2.70	0.007**	-0.25
Infrastructure and Human Capital	3.27	1.01	3.27	1.14	.05	0.957	0.00

M= Mean, SD= Standard Deviation, P=Significance, Cohen's d = effect size. N=1,522. Significant level at $p < 0.05^*$, $p < 0.01^{**}$, $p < 0.001^{***}$. Data analyzed using IBM SPSS Statistics Software for Windows, Version 24.0.

For students who work and study at the same time, we find differences between perceived training requirements and infrastructure and human capital. We find the statistical difference is greater for those who work and go to school at the same time. Even though, the overall result is relatively low, 25% of the differences in terms of the training requirements perceived as necessary, can be explained by the fact that student also work (Table 4).

Table 4: Difference in Means for the Variables of the Question Do You Work?

Variables	Yes		No		t	p	Cohen' d
	M	SD	M	SD			
Skills to cope with the post-COVID-19 economic recovery	4.38	.77	4.30	0.73	1.84	0.065	0.10
Training Requirements for Competitiveness	3.75	.83	3.54	0.80	4.43	0.000**	0.25
Infrastructure and Human Capital	3.41	1.04	3.23	1.01	3.03	0.002**	0.17

M= Mean, SD= Standard Deviation, p=significance, Cohen's d = effect size=1.536, significant level at $p < 0.05^*$, $p < 0.01^{**}$, $p < 0.001^{***}$. Data analyzed using IBM SPSS Statistics Software for Windows. Version 24.0.

With regard to whether they receive financial support through a scholarship, we only find statistically significant the variable competences perceived as necessary to face the economic recovery after the COVID-19 pandemic. Those who are scholarship recipients have greater degree of agreement. Again, the size effect is low and can only explain 13% of the differences of opinion, because they receive financial support through a scholarship (Table 5).

Table 5: Difference in Means for the Question Do you have a Scholarship?

Variables	Yes		No		t	p	Cohen's d
	M	SD	M	SD			
Skills to cope with the post-COVID-19 economic recovery	4.38	0.68	4.28	.78	2.69	.007**	0.13
Training Requirements for Competitiveness	3.60	0.79	3.58	.83	0.60	0.547	0.02
Infrastructure and Human Capital	3.28	1.02	3.26	1.02	0.33	0.738	0.02

M= Mean, SD= Standard Deviation, P=Significance, Cohen's d = effect size. N=1.536, Significant level at a $p < 0.05^*$, $p < 0.01^{**}$, $p < 0.001^{***}$. Data obtained through IBM SPSS Statistics Software for Windows. Version 24.0.

We use a non-dichotomous question to assess age. Table 6 presents the comparisons for five age ranges. We find older respondents are more aware of the need to have the necessary skills and training requirements to be competitive after the pandemic. In terms of training requirements, there are differences in practically all age range except for respondents between 27 and 30 years old. Although, there are significant differences in skills and training requirements, in both cases the size of the effect is too small to be considered

significant. The only variable that did not present differences was the perception about the infrastructure and human capital necessary for the aforementioned period.

Table 6: Post Hoc Analysis, ANOVA and Strength of Association of Model Variables in Relation to Age Range

Variable	a) 18 a 22 Years		b) 23-26 Years		c) 27 to 30 Years		d) 31-34 Years		e) 35 Years and Older		f	Post Hoc	h ²
	M	SD	M	SD	M	SD	M	SD	M	SD			
Skills to cope with the post-COVID-19 economic recovery	4.28	0.75	4.24	0.71	4.46	0.73	4.58	0.59	4.74	0.41	6.44***	a<e	0.02
Training Requirements for Competitiveness	3.51	0.80	3.86	0.79	3.80	0.69	4.00	0.74	4.18	0.75	16.74***	(a<(b)<(d)<e	0.04
Infrastructure and Human Capital	3.27	0.99	3.28	1.10	3.30	1.08	3.25	1.29	3.38	1.11	0.13	-	0.00

N= 1,536; *p<.05, **p<.01, ***p<.001. a) 18 to 22 years, b) 23 to 26 years, c) 27 to 30 years, d) 31 to 34 years, e) 35 years or more. η²=square partial Eta

To assess the sample socioeconomic level, we use the Mexican Association of Market intelligence and Opinion Agencies methodology (AMAI, 2018). AMAI questions related to socioeconomic level were included in the online questionnaire. There were only differences related to the variable training requirements. Individuals with higher socioeconomic status reported the highest mean, but again with a very small effect size.

Table7: Post Hoc Analysis, ANOVA and Strength of Association of the Variables in Relation to Socioeconomic Level

Variable	(a) "E"		(b) "D" Under		(c) "D+" Medium-low		d) "average C-"		(e) medium-high "C"		f) "C+" high		f	Post Hoc	h ²
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD			
CPC	Low														
	4.27	0.76	4.37	0.73	4.28	0.72	4.28	0.80	4.41	0.68	4.20	0.79	1.69	-	0.01
	3.30	0.97	3.49	0.82	3.57	0.78	3.60	0.81	3.77	0.80	3.92	0.75	5.32***	a<b<c<d<e<f	0.02
IYCH	3.18	1.30	3.37	1.01	3.27	0.96	3.24	1.02	3.18	1.08	3.14	0.99	1.29	-	0.00

N= 6929; *p<.05, **p<.01, ***p<.001, AAP= affectations of productive activity: CPC= Competencies to face the economic recovery post COVID-19; RCAP= Training Requirements for competitiveness; IYCH=infrastructure and human capital. (a) very low "E"; (b) "D" under; (c) "D+" medium low d) "C-" medium, e) "C" medium high, f) "C+" high. η²=square partial Eta

CONCLUSIONS

The results shows that students perceive their institution as having a moderate level of infrastructure and human capital to provide students with the skills required to face economic and social recovery in the post-COVID-19 pandemic.

To maintain quality education in the post-pandemic era, Gamage et al., 2020 and Tartavulea et al., 2020 argue that institutions of higher education lack an evaluation process to access infrastructure and human capital formation and to prepare teachers who don't have the skills needed to face the challenge of online teaching and to implement appropriate pedagogical strategies.

The results demonstrate that graduate students, and students with additional income either through work or scholarships demand the greatest training requirements. Suleri, (2020) points out that this is a good time for higher education institutions to change the educational paradigm and give the virtual part of education a permanent place in their academic programs. Online learning should be an essential form of education from now on in higher education. Of course, educators must have the skill and training to provide quality education.

Regil (2014) highlights the importance of generating digital academic skills in higher education, which he indicates can be developed through institutional programs and pedagogical models that focus on self-management and self-regulation of learning.

Training should not focus exclusively on educators' digital skills. Educations should also be able to interact with the students inside and outside the class (Joia and Lorenzo, 2021). Joia and Lorenzo (2021) also pointed out the importance of area in education for the development of hard or soft skills. With regard to differences by socioeconomic level or age, the results indicate cannot be considered relevant. However, we posit that people who have a greater maturity that comes with age, and a higher socioeconomic level, perceive a greater need to possess the skills to face the economic recovery efficiently. Consequently, they identify much better the training requirements necessary to succeed post-pandemic.

Although long-term implications of the pandemic are not known, Carnevale and Hatak, (2020) argue that the impact in organizations will not be short-term. However, post-pandemic recovery offers new opportunities for an academic and business communities, and it is important to start working on development this opportunity.

REFERENCES

Abisha, M. & Dennison, M. S. (2020). "Survey on general awareness, mental state and academic difficulties among students due to COVID-19 outbreak in the western regions of Uganda". *Heliyon*, Vol. 6(11), pp. 1-9. <https://doi.org/10.1016/j.heliyon.2020.e05454>

Aucejo, E. M., French, J., Ugalde Araya, M. P., & Zafar, B. (2020). "The impact of COVID-19 on student experiences and expectations: Evidence from a survey". *Journal of Public Economics*, No. 191, pp. 1 -14. <https://doi.org/10.1016/j.jpubeco.2020.104271>

Belzunegui-Eraso, A. & Erro-Garcés, A. (2020). "Teleworking in the context of the Covid-19 crisis". *Sustainability (Switzerland)*, Vol. 12(9), pp. 1–18. <https://doi.org/10.3390/su12093662>

Beneitone, P., Esquintine, C., González, J., Maletá, M. M., Siufi, G. & Wagenaar, R. (2007). Reflexiones y perspectivas de la Educación Superior en América Latina. Informe Final - Proyecto Tuning América Latina 2004-2007. Publicaciones de la Universidad de Deusto. España. <http://tuning.unideusto.org/tuningal> www.rug.nl/let/tuningal

Carnevale, J. B. & Hatak, I. (2020). "Employee adjustment and well-being in the era of COVID-19: Implications for human resource management". *Journal of Business Research*, Vol. 116(May), pp.183–187. <https://doi.org/10.1016/j.jbusres.2020.05.037>

CEPAL-UNESCO. (2020). La educación en tiempos de la pandemia de COVID-19. En Informe COVID-19 (Vol. 11). <https://doi.org/10.5209/GEOP.69137>

Cohen, A. K., Hoyt, L. T., & Dull, B. (2020). "A Descriptive Study of COVID-19–Related Experiences and Perspectives of a National Sample of College Students in Spring 2020". *Journal of Adolescent Health*, vol. 67(3), pp. 369–375. <https://doi.org/10.1016/j.jadohealth.2020.06.009>

Comisión Económica para América Latina y el Caribe. (2020). Measuring the impact of COVID-19 with a view to reactivation. En Comisión Económica para América Latina y el Caribe (No. 2). https://repositorio.cepal.org/bitstream/handle/11362/45477/S2000285_en.pdf?sequence=4

- Gamage, K. A. A., Roshan Pradeep, R. G. G., Najdanovic-Visak, V. & Gunawardhana, N. (2020). “Academic standards and quality assurance: the impact of covid-19 on university degree programs”. *Sustainability* (Switzerland), Vol.12(23), pp. 1–14. <https://doi.org/10.3390/su122310032>
- Gómez-Tejeda, J. J., Dieguez-Guach, R. A. & Pérez-Abreu, M. R. (2020). “Alternativas terapéuticas para el manejo de la COVID-19”. *Rev. Habanera Cienc. Méd.*, 19, pp. 1–15. <http://scielo.sld.cu/pdf/rhcm/v19s1/1729-519X-rhcm-19-s1-e3328.pdf>
- Joia, L. A. & Lorenzo, M. (2021). “Zoom in, zoom out: The impact of the covid-19 pandemic in the classroom”. *Sustainability* (Switzerland), Vol.13(5), pp. 1–18. <https://doi.org/10.3390/su13052531>
- Lai, P. (2017). “The Literature Review of Technology Adoption Models and Theories for the Novelty Technology”. *Journal of Information Systems and Technology Management*, Vol. 14(1), pp. 21–38. <https://doi.org/10.4301/s1807-17752017000100002>
- Lloret-Segura, S., Ferreres-Traver, A., Hernández-Baeza, A. & Tomás-Marco, I. (2014). “El análisis factorial exploratorio de los ítems: una guía práctica, revisada y actualizada”. *Anales de Psicología*, Vol. 30(3), pp. 1151–1169. <https://doi.org/10.6018/analesps.30.3.199361>
- Magaña, D.E., Aguilar, N. (2020). Diagnóstico Participativo Post COVID-19 en Tabasco. Eje Económico. [Documento Inédito]. Universidad Juárez Autónoma de Tabasco – Consejo de Ciencia y Tecnología del Estado de Tabasco.
- Magaña, D.E. y Aguilar, N. (2021). “Propuesta de un modelo de sendero para analizar algunos efectos percibidos a causa de la COVID-19 en la actividad productiva”. *Estudios Gerenciales*. Vol. 37(158), pp. 61-72. <https://doi.org/10.18046/j.estger.2021.158.4436>
- Milton, V. (2010). “Confiabilidad y coeficiente Alpha de Cronbach”. *Revista de Estudios Interdisciplinarios en Ciencias Sociales*. Vol. 12(2), pp. 248–252. <http://redalyc.uaemex.mx/src/inicio/ArtPdfRed.jsp?iCve=99315569010>
- Organización Mundial de la Salud. (2020). Enfermedad por el coronavirus (COVID-19): Vacunas. [https://www.who.int/es/news-room/q-a-detail/coronavirus-disease-\(covid-19\)-vaccines?adgroupsurvey=%7Badgroupsurvey%7D&gclid=EAIaIQobChMIgvdUKOTL7wIVsDizAB3dIgfEAAAYASAAEgLUsvD_BwE](https://www.who.int/es/news-room/q-a-detail/coronavirus-disease-(covid-19)-vaccines?adgroupsurvey=%7Badgroupsurvey%7D&gclid=EAIaIQobChMIgvdUKOTL7wIVsDizAB3dIgfEAAAYASAAEgLUsvD_BwE)
- Osorio, C. (2020, 29 de diciembre). “Reporta CANACO el cierre de 1677 MiPymes de Tabasco en 2020”. Telereportaje. Recuperado el 6 de enero del 2021, de: <https://www.xevt.com/tabasco/reporta-canaco-el-cierre-de-1677-mipymes-de-tabasco-en-2020/129394>
- Pagés, C., Aclán, C., Alfonso, M., Arroio, R., Irigoyen, J. L., Mejía, I., Mendieta, C., Moreno, S., Munte, A., Peñaherrera, S., Pombo, C., Regalía, F., Savedoff, B., Stein, E. & Tejerina, L. (2020). Del confinamiento a la reapertura: Consideraciones estratégicas para el reinicio de las actividades en América Latina y el Caribe en el marco de la COVID-19. Banco Interamericano de Desarrollo. <https://doi.org/10.18235/0002349>
- Pan American Health Organization & World Health Organization. (2020). Rehabilitation considerations during the outbreak COVID-19. En Paho - Who (pp. 1–22). Pan American Health Organization World Health Organization. <https://doi.org/www.paho.org/coronavirus>

- Patel, P. C. & Rietveld, C. A. (2020). “The impact of financial insecurity on the self-employed’s short-term psychological distress: Evidence from the COVID-19 pandemic”. *Journal of Business Venturing Insights*, Vol.14(October), pp. 1 -11. <https://doi.org/10.1016/j.jbvi.2020.e00206>
- Regil, L. (2014). Habilidades digitales académicas en educación superior. <http://somece2015.unam.mx/anterior/MEMORIA/46.pdf>
- Rocha, C. T. M. da & Amador, F. S. (2018). “Telework: conceptualization and issues for analysis”. *Cad. EBAPE.BR*, Vol.16(1), pp. 152–162. <https://doi.org/https://doi.org/10.1590/1679-395154516>
- Rosales, R. (2020, 29 de marzo). “QR, Coahuila, Oaxaca y Tabasco, las economías más vulnerables ante COVID-19”. *El economista*. Recuperado el 6 de enero del 2021, de: <https://www.economista.com.mx/estados/QR-Coahuila-Oaxaca-y-Tabasco-las-economias-mas-vulnerables-ante-Covid-19-20200329-0074.html>
- Sánchez, A., Magaña, D.E., Aquino, S.P., Gómez, N.P., Cornelio, E.M., Silva, M.P., Palmeros, G., Aguilar, N., Rodríguez, A.R. y Corona, A. (2020). Diagnóstico participativo post COVID-19 en Tabasco [Proyecto de Investigación Inédito]. Universidad Juárez Autónoma de Tabasco – Consejo de Ciencia y Tecnología del Estado de Tabasco.
- Sharma, P., Leung, T. Y., Kingshott, R. P. J., Davcik, N. S. & Cardinali, S. (2020). “Managing uncertainty during a global pandemic: An international business perspective”. *Journal of Business Research*, vol. 116(May), pp. 188–192. <https://doi.org/10.1016/j.jbusres.2020.05.026>
- Singh-Chouhan, V. & Srivastava, S. (2014). “Understanding competencies and competency Modeling — A Literature Survey”. *IOSR Journal of Business and Management*, Vol. 16(1), pp. 14–22. <https://doi.org/10.9790/487x-16111422>
- Suleri, J. (2020). “Learners’ experience and expectations during and post COVID-19 in higher education”. *Research in Hospitality Management*, Vol. 10(2), pp. 91–96. <https://doi.org/10.1080/22243534.2020.1869463>
- Tartavulea, C. V., Albu, C. N., Albu, N., Dieaconescu, R. I. & Petre, S. (2020). “Online teaching practices and the effectiveness of the educational process in the wake of the Covid-19 pandemic”. *Amfiteatru Economic*, Vol. 22(55), pp. 920–936. <https://doi.org/10.24818/EA/2020/55/920>
- Tisdell, C. A. (2020). “Economic, social, and political issues raised by the COVID-19 pandemic”. *Economic Analysis and Policy*, 68, pp. 17–28. <https://doi.org/10.1016/j.eap.2020.08.002>
- United Nations. (2017). Decent Work Is Not Just a Goal-It Is a Driver of Sustainable Development. https://d306pr3pise04h.cloudfront.net/docs/publications%2FDecent_Work_and_the_2030_Agenda.pdf
- United Nations. (2020a). United Nations Secretary-General launches plan to address the potentially devastating socio-economic impacts of COVID-19. https://www.un.org/sites/un2.un.org/files/un_brand_sg_press_release_march31_2020_10am.pdf
- United Nations. (2020b). Shared Responsibility, Global Solidarity: Responding to the Socio-Economic Impacts of Covid-19. United Nations, (March), 1–26. https://www.un.org/sites/un2.un.org/files/sg_report_socio-economic_impact_of_covid19.pdf

UNESCO. (2020). COVID-19 y educación superior : De los efectos inmediatos al día después. Análisis de impactos , respuestas políticas y recomendaciones. (No. 44). Autor.

Varsi-Rospigliosi, E., Rosensvald, N. & Torres-Maldonado, M. A. (2020). “La pandemia de la COVID-19, la fuerza mayor y la alteración de la circunstancias en materia contractual”. *Acta Bioethica*, Vol. 26(1), pp. 29–36. <https://scielo.conicyt.cl/pdf/abioeth/v26n1/1726-569X-abioeth-26-01-29.pdf>

Williams, B., Onsman, A. & Brown, T. (2010). “Exploratory factor analysis: A five-step guide for novices”. *Journal of Emergency Primary Health Care*, Vol. 8(3), pp. 1–13. <https://doi.org/10.33151/ajp.8.3.93>

Zhang, S., Moeckel, R., Tsui, A. & Shuai, B. (2020). “A work-life conflict perspective on telework”. *Transportation Research Part A*, Vol. 141(September), pp. 51–68. <https://doi.org/10.1016/j.tra.2020.09.007>

ACKNOWLEDGEMENT

The authors thank Consejo de Ciencia y Tecnología State of Tabasco and Universidad Juárez Autónoma de Tabasco for the support provided for the use of the survey data and the support during the design stage.

BIOGRAPHY

Deneb Elí Magaña Medina is a Doctor of Administration from the Universidad del Mayab. She is a full-time research professor. She develops research in Organizational Behavior. She can be contacted at the Academic Division of Economic-Administrative Sciences of the Autonomous University of Tabasco Juárez Av. Universidad S / N Magisterial Culture Zone, Villahermosa, Tabasco.

Román Alberto Quijano García is a Doctor in Strategic Management and Development Policies from the Universidad del Mayab. Full-time research professor assigned to the Finance area. He can be contacted at the Faculty of Accounting and Administration of the Autonomous University of Campeche Av. Agustín Melgar S / N Col. Buenavista CP. 24039 Campeche, Campeche.

Norma Aguilar Morales is a Doctor in Strategic Management and Development Policies from the Universidad del Mayab. Full-time research professor. She develops research in Organizational Behavior. She can be contacted at the Academic Division of Economic-Administrative Sciences of the Autonomous University of Tabasco Juárez Av. Universidad S / N Magisterial Culture Zone, Villahermosa, Tabasco.

Fernando Medina Blum is a Master in Senior Management from the Universidad del Mayab. Professor attached to the Marketing area. He can be contacted at the Faculty of Accounting and Administration of the Autonomous University of Campeche Av. Agustín Melgar S / N Col. Buenavista CP. 24039 Campeche, Campeche.