

# EXPLORATORY MODEL OF INTERNET USE IN THE COVID-19 ERA

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## ABSTRACT

*In the framework of the pandemic caused by the new coronavirus SARS-CoV-2 and the COVID-19 disease, the containment and mitigation policies of the pandemic consist of confinement and social distancing. In this strategy, the use of the Internet has been fundamental for remote work, although the measurement of Internet user activity is just in the study stage. The objective of this work was to establish the reliability and validity of the Internet Use Scale, an instrument that measures eight dimensions of Internet use. For this, a cross-sectional, correlational and psychometric study was carried out with a selection of 253 students from the Autonomous University of the State of Mexico where eight factors were established: selectivity, compatibility, computability, accessibility, extensionality, cumulativeness, anxiety and addiction, which explained the 59% of the total variance exposed. These eight factors were correlated with each other with their indicators to form a reflective structure of intensive Internet use. The adjustment and residual parameters suggested the non-rejection of the hypothesis about the significant differences between the structure of the dimensions reported in the literature with respect to the structure of the factors observed in the present work. Although these findings only apply to the sample, they recommend extension and contrast in other settings and with other study samples. The instrument is recommended for the empirical test of the proposed structural equation model with the eight reflective dimensions of Internet use.*

**Keywords:** Covid-19, Digital Accessibility, Internet Usage, Risk Communication.

## INTRODUCTION

Until the time of writing this work, the *SARS-CoV-2 pandemic* and the *COVID-19 disease* had left two million fatalities in the world (WHO, 2021). The ministers of health, as part of a quality control in counting and self-correction of symptoms, have recognized deaths classified as atypical pneumonia (Cayla, 2009). In this process of management, control and management of the health crisis through bulletins, conferences, interviews or communications, they have highlighted the political and propagandistic meaning of the issue, avoiding scientific and technological advances.

It is about the dissemination of government strategies and programs that delegate the responsibility of contagion to the individual by inducing their confinement and isolation without considering their occupations or lifestyles, or their effects on levels of stress, anxiety and depression (Ozamis et al., 2020). While science advances in decoding the transmission and

impact of the virus on the immune system, governments insist on solving a dilemma that consists of the economic crisis self-induced by restrictions on the mobility of people versus community immunity as a result of allowing the transit of people and their economic activities, hoping that, once infected and sick, they will develop antibodies to limit the spread of the coronavirus, since the hospital system will be overwhelmed.

In this way, the communication of the health crisis, disseminated in the traditional and electronic media, has led to the polarization of the audiences by generating discomfort due to the dissemination of infected, sick and deaths in the face of the defensive posture of the authorities who have diverted in criticism of his approach to the problem: there are more cases because the media misinform, confusing their audiences about the State's strategies in the face of the health and economic crisis.

In this context, the Internet has been a medium and a transmitter of data that confronts or confirms the State's propaganda. In the context of the pandemic, information precedes decisions about consumption, use and appropriation of spaces. Consequently, the study of Internet use has had an increasingly growing interest in data science. This is so because the analysis of the use of the web reveals the differences between tangible and intangible processes, as is the case of the asymmetries between bank customers and users of electronic banking (Nyoman, Putu & Gde, 2014).

The use of technologies, devices and electronic networks not only generates differences between users, but also even between those who use technologies that improve over time and that implies continuous learning and the processing of knowledge and the dissemination of information. As part of the information society, the intensive use of technology and electronic devices has exacerbated the differences between digital networks and the users who have access. The digital gap between generations and even between users makes it necessary to reconcile interests, needs and expectations, as well as skills and knowledge in accordance with the opportunities and capacities, demands and local resources available for the requirements of the international market. The system in which these differences are resolved is governance, and the instrument by which asymmetries and similarities are weighted is known as the public agenda, although in the technological field it is known as the digital ecosystem. It is about the exclusion and inclusion of users based on the contradictions with respect to a digital system (Gard, 2018). This is the case of those who do not adopt digital devices and prefer analog ones.

Therefore, if a country has an agenda focused on networks, technologies and electronics like the Republic of Estonia, a small gap between generations is to be expected, but very contrary to cases like that of the Republic of Ethiopia. If the digital agenda is almost non-existent, availability, access and connectivity are almost non-existent, then it is possible to expect a digital divide between its generations and even among the few Internet users, even when its use has spread to a greater extent. for marketing aimed at the retail customer (Sevim, Yuncu & Eroglu, 2017).

The expectations of economic, technological and commercial growth allow us to predict the close relationship between the population growth trend and electronic consumption. As the population increases, the expectations of the use of information and communication technologies will be more oriented to the purchase and sale of products and the contracting of services on the Internet. For these countries, a growth in the use of electronic technologies is expected. However, the population's work involves consuming the Internet to a greater extent. In terms of working age, India will continue to have the largest labor force with about 998 million; Mexico, in sixth place, with 73 million; and Iceland will rank last with around 215,000

workers. However, one consequence of the dynamics of population growth is old age, which, in the case of the countries mentioned, will have the same trend. In India there will be around 222 million elderly, in Mexico 29 million and Iceland will have 108,000 people over 65 years of age (Mecinas, 2016). If the forecast on the trend of population growth, educational supply and Internet access for Mexico remains constant until 2050, the variables indirectly predict the use of a technology through intentions, attitudes and perceptions. This multidisciplinary sense allows the systematic observation of the Internet (Garduño, 2004). Regarding the efficiency of Internet use, sex and age are considered external factors that influence electronic consumption through perceptions, attitudes and indirect intentions (Arribas & Islas, 2009). Psychological studies of the Internet have developed models to predict the structural efficiency around its use from sociodemographic variables.

The general trend of the population to use the Internet can be explained prospectively from the current trend and the local base. In the case of Mexico, localities with more than 2,500 inhabitants show a significant increase in relation to localities with more than 15,000 inhabitants (INEGI, 2020). While in small cities the growth rate increases, in large ones it tends to decrease. These data, combined with the educational trend, explain the use of the Internet for commercial rather than educational or employment purposes. In Mexico, coverage decreases, but the offer increases in private institutions, mainly in cities with more than one million inhabitants, expanding educational coverage in their localities, where the highest level registered a spurious growth. However, Internet access is of significant importance in small and medium-sized cities. This is so because users, although they have less experience in the use of the Internet, know other cities through the Internet and electronic networks, generating more positive experiences until they reach satisfaction, which predicts the ease and perceived usefulness of the technology. (Colesca & Dobrica, 2008).

The rates of life expectancy, education, literacy, gross domestic product (GDP), educational enrollment and human development are growth parameters, with Mexico City being the entity with the highest life expectancy up to 77 years, followed by Nuevo León (Peláez, 2009). In contrast, Chiapas and Oaxaca are in last place with 72 years. Five years of difference can be observed between the entities. There is a relationship between the level of life expectancy, illiteracy and schooling in each of the 32 states if the percentages of illiteracy and schooling among the entities are considered. Only in the case of Chiapas, Guerrero and Oaxaca are the percentages less than 80 percent for the cases of people over 15 years of age. However, these differences in the percentages of schooling vary three percentage points. On the other hand, if the GDP per capita is considered, the Federal District reaches 18,000 US dollars. The data used support the levels of human development, where Chiapas, Guerrero and Oaxaca once again share the last place, with a difference of 18 percentage points with respect to the Federal District. An increase in each variable corresponds to a growth in the others, even in the case of illiteracy, which should decrease with the increase in schooling, GDP or human development. In this sense, consumption could also be a variable correlated with the exposed indices. In the specific case of electronics consumption, Mexico is among the countries with the most limited broadband and Internet access. In the case of the Federal District, its growth levels could be related to those of electronic consumption.

These demographic data show a feature of the Active Economic Population (PEA) without taking into account its relationship with technology and the Internet. In each of the sectors: educational or business, technology increases the productivity of the organization, and

with it increases the work performance of workers. However, Information and Communication Technologies (ICT), mainly the Internet, are related to the tertiary sector. In this sense, psychological studies of the acceptance of ICTs have established variables and intentions that determine the use of the Internet. The data presented shows growth trends in population, education and the Internet. These figures support the hypothesis about training in information and communication technology, especially Internet service, specifically electronic commerce. However, since most users are under 19 years of age, electronic consumption seems to be exclusively focused on social networks (Eddine, 2015). In this sense, psychological studies have used two theoretical models to demonstrate the attitude hypothesis towards drug use.

The state of knowledge has positioned and developed three models to explain the impact of socioeconomic technology on cognitive variables and organizational behavior. Predominantly cognitive models are those that explain and predict the decisions and actions of acceptance or rejection of ICTs, although they coexist with normative and evaluative approaches (Jiang & Lai, 2010).

The first model explains the deliberate psychological processes that lead individuals to execute a reasoned action. The Theory of Reasoned Action (TRA) includes eight variables that causally predict a specific and premeditated action (Lai, 2017). The socioecological variables impact beliefs, evaluations and motivations to the extent that they increase their degree of promotion of innovation and expectations of the results of its systematic use. In this sense, users form beliefs about the uses of technology and the impact on their daily lifestyle. The technology, with a positive evaluation, increases the expectations of durability and the motivations of use among users. The interrelationship between these factors has an impact on its provisions for those who use the technology and the principles that govern its use. Both variables will transfer their effects to decisions about the use of technology. This is a special point of the deliberate process as the decisions will increase its systematic use.

Precisely, regarding the systematization of deliberate behavior, TRA includes variables exogenous to beliefs and regulations that give rise to control of the model. Unlike this, the Theory of Planned Behavior (TPB) only considers beliefs as transmitters of socioecological effects on cognition and human behavior (Muh & Samopa, 2017). This difference is important because the TRA only explains the rational system and the premeditated individuals at a generalized level of abstraction in which it is assumed that there are causal relationships between myths and customs about behaviors. On the contrary, the TPB poses the prediction of a specific action of systematization, beliefs and expectations in limited situations. Since deliberate rationality is a requirement of planning, TRA is an antecedent of TPB. Taking into account the systematic use of ICT, he would then have to put his degree of deliberation and, especially, planning first. These two models explain the rational processes and the systematic predictive beliefs of delimited behaviors, perceptions, attitudes and intentions. The TRA and the TPB exclude indirect demographic variables as behavioral determinants. However, the TPB includes variable control perceptions to convey people's opinion about the ease or difficulty of carrying out a planned action in a designated area. Control of perceived behavior is related to the variable perception efficiency and the variable perception of ease of use of technology.

The TPB also includes the perception of control of the behavior to be predicted. In specific situations, individuals tend to repeat their actions and internalize them. as part of their daily life. The TPB attempts to explain this internalization process by proposing behavioral control expectations (Zahid & Haji, 2019). To the extent that behaviors can be repeated and

their results favorable, individuals will carry out an action if it is within their possibilities of control and their expectations of achievement. The TPB includes the causal and linear relationships between the variables. Relationship paths can be observed that start from beliefs and end in behavior. In this process, the attitude towards the behavior, the standard control variables and the subjective perception is the mediation of the effects of the beliefs related to the behavior and control norms. Only in the case of actual control expectations is the relationship direct with respect to behavior. In the case of ICT use, if users have positive beliefs about the use of technology, then their evaluations, expectations and principles will determine their technology consumption decisions.

The Theory of Self- Efficacy (TSE) includes the self-assessment of the operative capacities that determine the behavior of people, their patterns of thought and emotions that impose experienced situations. That is, the perceived ability, unlike the perception of control, is related to the intentions and emotions excluded in the TRA and the TPB, and included in the TSE (Hamit, 2012). The TPB explains the expected behavior of systems that create specific postures oriented to their evaluations, principles and expectations to later finish their decisions and therefore their planned action, but excludes the influence of the variables of socioeconomic-technological systems on beliefs. Therefore, the Technology Acceptance Theory (TAM) is a model based on the TRA and TPB assumptions. The TAM, whose dispositional variables derive from the cognitive variables of the TPB and the TRA incorporate exogenous variables such as the organizational climate that explain the acceptance or rejection of an ICT more quickly.

In the TAM, the perception of control, usefulness and ease of use of technology are defined as the degree to which individuals discover that the use of a technology not only reduces their physical and mental effort, but also improves their performance. Both conceptions are intermediaries of the indirect relationship between the uses of technology. Even the perception of usefulness and ease of use affect the differential use of the Internet according to the sex and age of the user. The TAM has been widely used to explain the ease and benefits of Internet use (Youl, 2009). In this process, attitudes and intentions mediate the perceptual effect on behavior. The TAM is more specific than the TRA or the TPB, but it is also more suitable to explain the individual-technology relationship, since it opens the possibility of a more detailed explanation including factors external to human cognition that are related to the use of the Internet.

This section includes the axes, trajectories and relationships between the variables that explain the intensive use of the Internet. From the theoretical and conceptual framework, the empirical evidence is established. Socioeconomic or educational variables are considered exogenous to human cognition and indirectly affect the use of ICTs. That is, the densest trend population, investment in research, and inventiveness coefficient are considered variables that, in interaction with sex, age, educational level, and economic situation, could put an end to Internet use (Villa, Ramírez & Tavera, 2015). In this sense, psychological studies of interaction affinity technology specified indirect relationships between external variables and ICT use through cognitions such as perceptions, attitudes, and intentions.

are four levels of interaction in which skills and knowledge are related to information technologies (Kiss, 2006). At the first level, the interaction is at home; in the second, that of humans with information technologies; in the third, the ICT components are not the basis for work, the objective is only to reduce costs; in the fourth there is a dynamic approach in which

skills and knowledge are essential to implement a new system of production, distribution and consumption. This last level is related to the acceptance, implementation, training and production of competitive advantages and certification standards.

Psychological studies of ICT growth consider the one that determines the cognitive and behavioral endogenous variables as an economic and technological exogenous. That is, to access ICTs, organizations implement education and training programs among employees to enhance their performance through their perceptions, attitudes and intentions. Therefore, the literature shows the prevalence of eight factors: 1) selectivity (Cassany & Hernández, 2012) , 2) compatibility (García, 2007) , 3) computability (Morales, 2011) , 4) accessibility (Peraza et al., 2017) , 5) extension (Pifarré, 2013) , 6) accumulation (Colle, 2013) , 7) anxiety (Cañón et al., 2016) and 8) addiction (Sánchez et al., 2008) , which have been confirmed in studies , updated and specified in the matter, although the latter seems to show more of a externalization than an internalization of pathologies ( King, 2016) . The review and discussion of this state of the art allowed modeling its relationships as a central contribution to the discipline (see Table 1).

<b>Table 1</b>				
<b>STATE OF KNOWLEDGE</b>				
	<b>Author</b>	<b>Concept</b>	<b>Indicators</b>	<b>Modeling</b>
<b>2006</b>	juarros	Selectivity	restriction and opening	Selectivity çInternet use
<b>2009</b>	Highlander	Accessibility	Ease, fairness and representativeness	Usability èInternet use çAccessibility
<b>2011</b>	Yulihassri et al.	Compatibility	acceptance and rejection	Utility èInnovation çCompatibility
<b>2011</b>	Akin & Iskender	Anxiety	one dimensional	Anxiety èAddiction çStress
<b>2012</b>	Of the cave	Extensionality	freedom and expression	Extensionality çInternet use
<b>2015</b>	Carreon et al.,	Computability	Utility and ease	Internet use èComputability
<b>2016</b>	King	Addiction	Negative and positive risk	Use of Internet èAction
<b>2018</b>	garg	Accumulatively	Storage and transmission	Cumulative èInternet Use
<i><b>Source:</b> elaborated with data from the study</i>				

It is possible to observe reflexive relationships rather than determinants of Internet use with respect to the eight dimensions shown in Table 1. This is so because insufficient empirical evidence is assumed between the trajectories of the dimensions, although correlations between them with a common factor are detailed: the use of the Internet.

Extensionality modeling predicts device use as an external variable to the technology adoption system. Extensionality was associated with seven other variables in order to observe the emergence of a common factor that the literature identifies as intensive use (Almenara, Barroso & Llorente, 2016). Future lines of research on technological advances in the search for data, as well as its processing, will anticipate scenarios of intensive use of electronic information technologies, devices and networks.

The relationship is formative in the case of the use of technology based on accessibility (ease of use). Although this relationship was direct, it was also negative and significant (Juwita, Aryanti & Rahayu, 2017). The use of technology is reflected in the ease

of accessing it, considered as a continuous and systematic learning of successes and errors. In Latin cultures like Mexico, this practice is hegemonic compared to the formation and education of post-industrial cultures. The lines of research that allude to the significant differences between cultures based on the systematization of technological learning versus cultures focused on transfer will allow anticipating training and job performance through technology.

Accessibility to technology negatively affected its use and was correlated with extensionality factors (Koul & Eydahi, 2018). Consequently, a line of research related to the observation of experience with technology will establish a model according to the formation of human capital and technological uses to intensify the search for updated and specialized information as required by the health crisis caused by SARS-CoV-2 and COVID-19 disease.

Accessibility (ease, equity and representativeness) and extensionality (freedom, expression) are factors that the literature has modeled as formative of the intensive use of technology. Since both factors are reflective dimensions, the lines of research around the confirmation of the model will predict the relationship between the traditional classroom and the work classroom. The study of the intensive use of technology is of vital importance to explain the failure or success of academic and professional capital in the workplace.

Following the theory of structural equation models in its formation or reflection, and assuming that the use of the Internet is made up of several indicators that the literature identifies as selectivity, usefulness, accessibility, usability, compatibility, extensionality, computability, accumulateness, anxiety and addiction. , it is proposed modeling of the use of the Internet from these eight manifest variables because they configure manifest variables (Simonetto, 2012).

The theoretical foundation for the use of the Internet intensively reflects the eight dimensions subtracted from the literature published between 2006 and 2020. It is a latent phenomenon, where its reflexive mode can exclude some factor and not alter its structure of relationships; that is, it would not change its revelation from latent to observable. In other words, the consequences of Internet use, when reflected in each of the eight dimensions raised in the state of knowledge, can be interpreted as concomitant parts of a latent phenomenon. On the other hand, if these factors were established as determinants of Internet use, there would be changes in the interpretation of the model, which could be considered as a phenomenon that has been determined by eight factors in which these variables are expected to increase. This is not the case with the reflexive model, because the more a structure of factors that reflects Internet use is consolidated, the more valid the instrument that measures these relationships between variables will have.

The objective of this research was to establish an instrument to measure the use of the Internet, considering dimensions alluding to the intention to find information, taking into account the process of selection and exchange of academic content available online. For this, the literature was reviewed and, based on the state of knowledge scale, the intention information search was constructed for academic purposes.

The premise that guides this research refers to the fact that the use of the Internet can be observed in different factors related to its effect on the public agenda, such as the case of the pandemic and mitigation and containment policies (Liao et al., 2018). In this sense, the dimensions of Internet use would explain the spread of the pandemic from the establishment of a volatile agenda in terms of health promotion and risk prevention through social

distancing and confinement. It would even predict the mitigation and containment of the health crisis based on dimensions that precede contagion, illness and death, such as self-care disseminated in the media. This is how it is expected to observe significant differences between the components of Internet use reported in the literature and observed in the present study, since each nation, region and locality faces the pandemic according to their lifestyle and available resources, being different in each entity.

## **METHODOLOGY**

### **Design**

#### **A Quantitative, Cross-Sectional and Psychometric Study**

#### ***Sample***

Intentional selection of 253 students from a public university in Mexico. The inclusion criterion was having been enrolled in the computer lab, belonging to a social network and seeking information for the preparation of tasks, jobs, internships, exhibitions, dynamics, theses or research reports. There were 130 women (Average age of 19.5 years and *Standard Deviation with respect to the average of 3.15 years*) and 123 men (Mean Age of 22.5 years and *Standard Deviation with respect to the average of 4.26 years*).

#### ***Instrument***

The scale was built Internet use, which includes 32 items, which are answered with five options ranging from 0 = "not at all likely" to 5 = "quite likely". The eight dimensions reported in the literature were measured: selectivity ("I use the Internet to learn about Covid-19"), compatibility ("Use the Internet to prevent Covid-19"), computability ("Use the Internet for Covid-19 case records"). 19"), accessibility (I use the Internet to review experiences with Covid-19"), extensionality ("I use the Internet to anticipate Covid-19 outbreaks"), cumulative ("I use the Internet because I store data on Covid-19", anxiety ("I use the Internet due to the Covid-19 update") and addiction ("I use the Internet due to fear of Covid-19").

#### ***Process***

A Delphi analysis was carried out for the validity of the content or coding of the items based on the operational definitions of the variables, which were carried out in three phases. In the first, expert judges on the subject of Internet use qualified the proposals of the reagents; in the second phase, the qualifications were compared to, in the third and last phase, establish agreements and reconsiderations. Respondents filled out an informed consent form when accessing the survey page. Data were captured in the Statistics for the Social Sciences (SPSS, version 20.0) package.



## Analysis

The distribution, reliability and validity parameters were estimated in order to be able to observe the internal consistency of the instrument and the convergence of the answers in factors. The structure of trajectories and relationships was observed through correlation and covariance matrices, as well as through a structural equation model.

## Interpretation

The values of the parameters were interpreted considering the data distribution threshold represented by a Gaussian curve and whose intervals range between -1 and 1. In this way, the reliability parameter was assumed as evidence of internal consistency if it ranged between 0, 60 and 0.90 since lower values were considered unreliable, and higher values as collinear. In the case of validity, the correlation between the item and the factor, known as factorial weight, was assumed as evidence of construct validity if it ranged between 0.300 and 0.900, since lower values implied the incidence of other factors in the item and the items. values above the threshold were identified as collinear. In the case of correlations, values close to zero were assumed as evidence of a null relationship and those close to unity, both negative and positive, were counted as evidence of collinearity. Regarding the covariances, values close to zero were assumed as evidence of a common factor and those close to unity as unilateral influence of a common factor. Regarding the adjustment parameters, the level of significance of chi squared it was assumed as influence of the number of surveys. The indices with values greater than 0.90 and the residual less than 0.09 as evidence of adjustment.

## RESULTS

Table 2 shows the parameter values that measured the relationships between the indicators with respect to the factors. It can be seen that they are within the expected threshold, corroborating the reliability hypothesis, which indicates that the items will converge on a subscale if they measure features of a concept that the respondents assimilate as such and do not confuse it with another feature of another concept. Therefore, the instrument can be used in other contexts, settings and samples, measuring traits in a consistent way. In the case of measuring Internet use, these values suggest that the surveyed sample distinguishes at least eight factors that would explain the reasons and the need to obtain information related to the pandemic.

Table 2 DESCRIPTION OF THE INSTRUMENT											
R	M	SD	A	F1	F2	F3	F4	F5	F6	F7	F8
r1	1.03	0.49	0.782	0.381							
r2	1.06	0.39	0.761	0.382							
r3	1.07	0.29	0.703	0.392							
r4	1.19	0.31	0.741	0.391							

r5	3.1	0.52	0.742		0.39						
r6	3.04	0.39	0.732		0.491						
r7	3.17	0.69	0.79		0.33						
r8	3.47	0.25	0.762		0.41						
r9	1.06	0.51	0.721			0.482					
r10	1.01	0.83	0.752			0.482					
r11	1.83	0.93	0.743			0.41					
r12	1.27	0.62	0.761			0.441					
r13	1.2	0.63	0.703				0.518				
r14	1.17	0.84	0.762				0.529				
r15	1.28	0.85	0.793				0.502				
r16	1.62	0.19	0.751				0.481				
r17	1.69	0.29	0.703					0.518			
r18	1.3	0.38	0.751					0.382			
r19	1.64	0.41	0.703					0.493			
r20	1.02	0.62	0.762					0.513			
r21	1.29	0.47	0.703						0.391		
r22	1.63	0.35	0.761						0.495		
r23	1.03	0.25	0.703						0.405		
r24	1.83	0.38	0.704						0.506		
r25	0.38	0.05	0.761							0.381	
r26	0.49	0.07	0.703							0.406	
r27	0.16	0.08	0.703							0.591	
r28	0.39	0.04	0.762							0.471	
r29	0.82	0.04	0.775								0.595
r30	0.95	0.05	0.783								0.405
r31	0.71	0.08	0.792								0.591
r32	0.39	0.05	0.761								0.606

**Note:** elaborated with the data of the study; R = Reactive, M = Mean or Average, SD = Standard Deviation, A = Cronbach's Alpha minus the item value. Overall kurtosis = 2.47; Bootstrap = 0.000; KMO=0.601;  $X^2 = 12.35$  (24 g)  $p = 0.000$ ; F1 = Selectivity (18 % variance explained); F2 = Compatibility (13 % of the explained variance); F3 = Computability (10% explained variance); F4 = Accessibility (7%for explained variance); F5 = Extensionality (5% of the explained variance); F6 = Accumulatively (3 % of the explained variance); F7 = Anxiety (2 % of the explained variance) and F8 = Addiction (1 % of the explained variance).

All items include five response options: 0 = not at all likely, 1 = very unlikely, 2 = slightly unlikely, 3 = unlikely, 4 = very likely, 5 = quite likely.

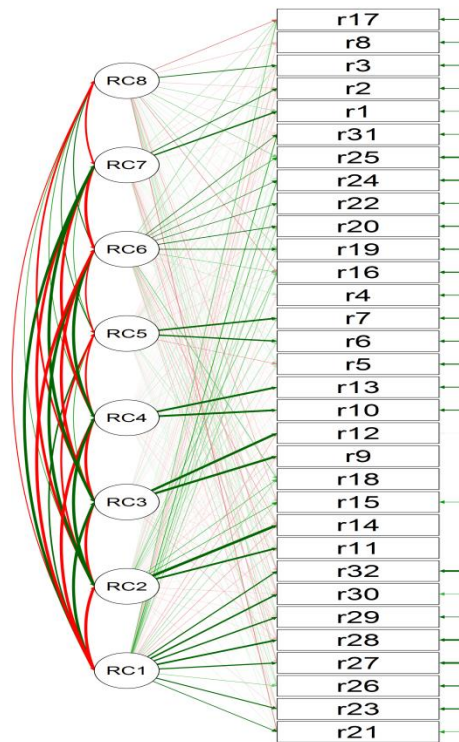
Having established the eight factors that explained 59% of the total variance, their relationships suggest a structure of trajectories that would reflect a common factor identified as Internet use (see Table 3). These are explanatory ramifications of the search, processing and dissemination of information related to the *SARS-CoV-2 pandemic* and the *COVID-19 disease* disseminated in the media by the State. In such a process, the assimilation of conferences, bulletins and interviews with experts is developed in eight preponderant dimensions. In this way, data selectivity explains the highest percentage of Internet use in the face of the health crisis and addiction explains a minimum percentage of that epidemic agenda. In this sense, the surveyed sample, considered as an audience of state propaganda, processes the information by fragmenting its contents and associating them with their expectations or needs.

Table 3 STRUCTURE OF RELATIONSHIPS BETWEEN FACTORS																
	F1	F2	F3	F4	F5	F6	F7	F8	F1	F2	F3	F4	F5	F6	F7	F8
F1	1	.54*	.62*	.40**	.55*	.36***	.51*	0.52	1.09	0.67	0.53	0.48	0.63	0.65	0.68	0.64
F2		1	.48*	.38**	.63*	.49*	.66**	0.6		1.7	0.52	0.52	0.56	0.6	0.64	0.62
F3			1	.52*	.59*	.55**	.55***	0.63			1.6	0.63	0.49	0.53	0.58	0.58
F4				1	.42*	.47*	.48*	0.58				1.8	0.44	0.59	0.55	0.55
F5					1	.36**	.37*	0.57					1.5	0.42	0.63	0.53
F6						1	.52**	0.63						1.3	0.67	0.47
F7							1	0.49							1.9	0.41
F8								1								1.6

**Note:** elaborated with data study; F1 = Selectivity; F2 = Compatibility; F3 = Computability; F4 = Accessibility; F5 = Extensionality; F6 = Cumulatively; F7 = Anxiety; F8 = Addiction: \*  $p < .01$ ; \*\*  $p < .001$ ; \*\*\*  $p < .0001$

In order to be able to appreciate the structure of trajectories of relationships between the factors and indicators, a model of structural equations was estimated from a reflective criterion. That is, relationships between factors and indicators to detect a common factor (see Figure 1). The eight factors linked to their four indicators each can be seen, although the relationships between the factors suggest the inclusion of another factor and their relationships with indicators denote a reflective factorial composition. In other words, the responses of the sample surveyed to the instrument reveal that information about the pandemic, when disseminated, is fragmented into eight dimensions. Each factor explains data that, separately, give an integral sense and, when associated, reveal a propagandistic meaning. It is an explanatory factorial

structure of the convergence of opinions regarding risk communication in the face of the pandemic. As one factor does not predominate over another, a balance of assimilation of content is maintained, although another factor could provide greater meaning and with them unbalance the effect of propaganda on the respondents.



**Figure 1**  
**EXPLORATORY MODEL OF INTERNET USE**

**Note:** elaborated with data study; F1 = Selectivity; F2 = Compatibility; F3 = Computability; F4 = Accessibility; F5 = Extensionality; F6 = Cumulativity; F7 = Anxiety; F8 = Addition:  $e$  = measurement error of the indicator,  $\zeta$  relationship between the measurement error and the indicator,  $\eta$  relationship between the factor and the indicator,  $\xi$  relationship between factors.

The fit and residual parameters [ $\chi^2 = 24.36$  (16df)  $p = 0.000$ ; GFI = 1,000; RMR = 0.000] suggest the non-rejection of the null hypothesis about the differences between the factors reported in the literature with respect to the observed dimensions.

## DISCUSSION

The contribution of this study of the reviewed literature is the establishment of reliability and validity of an instrument that measures the search intentions of information networks, technologies and devices connected to the Internet. Regarding the design limits of the study, it is recommended to extend the investigation of the main components in the confirmatory factor analysis.

Because the literature warns that in some countries there is a growth in the digital gap between people aged between 25 and 34 years with respect to other ages (Leal and Porras, 2019: p. 14), the present work showed that this gap extends along eight factors, of which selectivity explains the highest percentage of exposed variance (18%). This is because in this age range information search skills are essential for academic, professional and work performance. Lines of study concerning computational self-efficacy and information search skills will make it possible to anticipate scenarios for the formation of intellectual capital oriented towards the development of its information selection criteria.

In Mexico, cities with more than one million inhabitants grow along with the demand for Internet service, considering socioeconomic, sociodemographic, and socioeducational variables. This study has observed that the use of the Internet as a service demanded by young people is structured around computational skills to search for and process information, and it is advisable to investigate the relationship between these variables with academic, professional or work performance in order to warn local and regional development scenarios based on the use of technologies, devices and information networks.

The consulted literature has established axes, trajectories and relationships between evaluative, dispositional, motivational, utilitarian and risk variables with respect to skills, intentions and Internet use. In this paper, eight factors are noted related to the perception of control proposed by the TPB, the perceived capacity proposed by the TSE, the intention alluded to in the TRA, and the perception of distinctive utility and ease of use of the TAM. In these eight factors, a structure of relationships prevails between them and their indicators that suppose a deliberate, planned and systematic process of technology adoption based on the perceptions of control, usefulness, ease and intention of use.

Accessibility (ease, fairness and representativeness) and extensionality (freedom, expression) are factors reported in the literature as dimensions that reflect the use of the Internet that allude to the search, processing and dissemination of information in limit, contingent and risky situations that are spread before the use of pairs (Amadu et al., 2018: p. 329). In the present investigation, both factors explained percentages of less than 10% of the total variance, suggesting that they are substructures associated with other information reception processes such as the need for cognition or the probability of cognitive elaboration. In other words, the use of the Internet as an informative and disseminating trend in the face of the pandemic is explained by the need for information and the probability of carrying out the reception and dissemination process if the technology, devices, and networks recognize them as part of a community.

In the proposed model for its empirical testing where the reflective trajectories of Internet use stand out, this paper has found a factorial structure that suggests the non-rejection of the null hypothesis about the significant differences between the theoretical and empirical relationships. That is, the empirical test of the proposed model in the surveyed sample suggests the extension of the study. Lines of research concerning the relationship between Internet use and the eight factors will allow: 1) to observe the effect of information related to *COVID-19* in the search, processing and dissemination by Internet users, 2) to predict the establishment of the Internet agenda, its axes, themes and distinctive features of the pandemic, 3) systematize a review of the literature alluding to the use of the Internet in exceptional situations, 4) evaluate health policies oriented from risk communication.

## CONCLUSION

The objective of the present work was to contrast a model of Internet use in the Covid-19 era , but the research design limited the findings, suggesting the establishment of a common factor, but the structure of reflexive relationships is not sufficiently compatible with this. .

The use of the instrument is recommended, but the modeling only indicates that factors around the intensive use of technology and electronic devices prevail, which suggests the investigation of other dispositional factors that the literature identifies as reasons.

The present work has discussed the difference between the formation of a construct or the observation of its factors as a reflection of its multidimensionality; the intensive use of the Internet, which supposes a formative learning in systems of developed economies, but a reflexive phenomenon in systems of emerging economies. This is so because the deliberate, planned and systematic management of production and transfer configures academic, professional and work training. On the other hand, when this training sequence is interrupted or disjointed in its objectives, tasks and goals, then evidence of errors and successes is evident. The first mode of development suggests training-intensive use of technologies, devices, and networks. In contrast, the second mode reflects disjointed self-management. Future studies will be able to verify this assumption of differences between cultures based on process innovation and cultures focused on resource optimization.

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