Soft skills prevailing in managers of Peruvian organizations during strategies' design of post pandemic management

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Abstract: The objective of this study was to establish which soft skills prevail in managing directors of organizations from Lima and Callao, Peru, during the design of strategic management oriented toward the post pandemic stage of SARS Cov-2. Study of non-experimental, joint and descriptive design. The research technique was the survey and the instrument a questionnaire adapted following the Big Five Soft Skills dimensions. The sample corresponds to 97 medium companies' managers who voluntarily participated in the study and are in exercise as administrative managers as of April 2021. Data were analyzed using Exploratory Factor Analysis (EFA). The results indicate that of the Big Five soft skills dimensions three are prevailing in administrative managers performance during the strategic management's design oriented to the post pandemic stage of SARS Cov-2: Extraversion, consciousness and openness to experience.

Keywords: extraversion, openness, innovation, management, competencies

1. Introduction

1.1 Soft Skills

The World Health Organization (1994) defined the life skills concept as a group of essential socio-affective skills to the establishment of interaction with others and the environment. These skills correspond to competence that enable facing complex situations that demand decisions-making, solution of conflicts, critical thinking, creativity, communicational efficiency, empathy and interaction with others under respect principles. In this order, emerge the definition of soft skills which contains in addition to life skills other competencies called non-cognitive to the employability in the 21st century (Guerra, 2019). Researches in soft skills field goes back to the late 19th century with the post of Galton's studies referred to individual capacities in matters of intelligence and character (Gallegos, 2013), after the psychological studies are oriented to establish distinctions in the personality of persons, finding in the language expression of individual differences (Baugarten, 1933); which detach multiplicity of categories that hindered the build of referents will enable the build of measure scale of the personality. Within these referents, in the second half of 20th century studies referring to skills included groups of skills: Interpersonal, cognitive and managing emotions. Within interpersonal skills are assertive communication and innovation, management and negotiation, self-confidence and interpersonal confidence, cooperation, empathy among others (Vera, 2016). To Bar-On (1997), assertive communication corresponds to the skill of express feelings and emotions in verbal or non-verbal way, without this have a negative impact in others nor that enable the infringement rights of the issuer. The management or negotiation are connected to assertive communication that enable the design of efficient and effective strategies to approach conflicts mediated by the dialogic. The self-confidence is based on the appreciation of strengths and weaknesses, assuming the vulnerability as a social fact inherent to the gregarious condition of being human, that demand provides and receives trust of the others, whereas the search of common objectives establishes bidirectionality in the exercise of trust. The cooperation corresponds to the performance of collaborative actions based on shared teleologies that call for group participation to reach the proposed objective, the person admitting the necessity of collective action to achieve mutual benefit.

In the field of cognitive soft skills required by the administrative manager are the self-learning, critical thinking, decisions-making, self-assessment and proposition of solutions (Ortega, 2016). The self-learning corresponds to the capacity to learn and learn in situations where the person should reshape the learned to find alternative responses in front of conjunctures that have no evidence the essence of

the problem or spike potential solutions. Critical thinking attends to the skill of responding to critical conjuncture using the methodical, systematical and diverse approach of the issue based on information and adscription management to one or many non-traditional solutions approaches (Chaves, 2016). In addition to this is the skill to make assertive decisions based on the experience and the verified information. The self-assessment refers to the capacity to measure the own performance in front of tasks or specific conjunctures, in function of proposed and reached objectives, establishing traceability and scales mechanisms that measure the person's efficiency during the performance of specific tasks. This enables the identification of tasks in which the person performs in a more efficient way. The proposition of alternative solutions is a skill derived from self-learning, critical thinking, decisions-making and self-assessment, does not constitute a summatory of all the skills, corresponds to disruptive responses based on the knowledge of the problem and the weighting of alternative solutions. Soft skills of emotional management correspond to the capacity to recognize emotions by regulating its physiological manifestation and conscious responses in front of environmental stimulation.

A linguistic approach led by Allport (1961), is based on the denominated lexical hypothesis, that was based on considering that to all character's traits is inherent a linguistic codification, indicating personality's traits are susceptible of classification in function of the conduct expressed by the individual. Registered in this same trend, Tupes and Christal (1961) identified 5 categories of personality's traits that in recurrent ways appeared in studies of personality. During the two last decades of 20th century Goldberg (1995) continued with the development of researches about the traits of personality having as pabulum the lexical hypothesis, in consequence, oriented his studies toward the identification of terms, concepts or categories that allow to describe the personality of an individual. Digman (1997) assessed 14 studies referring to the so-called big five of personality traits organization, finding the ones he called higher order factors: the first referred to affability, consciousness and emotional stability dimensions; the second to the extraversion and intellect dimensions. Further studies found that mentioned dimensions are connected with job success (Kuntze, J. van der Molen & Born, 2016; Judge *et al.*, 1999, Tokar and Swanson, 1995). The big five personality dimensions systematize the emergent categories'

multiplicity of personality studies that preceded the progresses of Goldberg (1995) and Digman (1997), reaching the so-called big five soft skills dimensions. In this study used as referents the called Big Five.

1. Openness to experience: Openness to experience: Corresponds to the person's capacity to experience new forms to approach life's situations. This includes the disposal to learn, develop creative solutions based on science or in traditions, deploying a receptive attitude in front of esthetics, values and different ideas. Emotionally the person opens to the experience of new feelings. According to the literature during the pandemic the openness to experience has been key in organizational adaptation processes, challenging administrative managers to flexibilize the strategic planification adapting to new techniques and productive modes, learned during the same process of adaptation. It includes ICTs, collaborative work, virtuality, marketing, productive adequacy and disruptive advances in the production branch of the organization (Margherita & Heikkil, 2021; Suárez, 2020)

2. Consciousness: Includes the acquisition of competencies oriented toward the self-control and strategists' design to reach in an efficient and effective way the objectives previously proposed. This skill is connected to reflexive, disciplined, planned, coherent and self-assessment attitudes. During the pandemic, the self-assessment constituted one of challenges at great scale to the administrative management, whereas strategies and modes of plan and execution were challenged in consequence of interruptions in production, distribution and consumption lines. Which previously enabled the progressive identification of tasks, which the manager and the HHRR performed in an efficient way, changed. So, the self-assessment of the administrative manager demands a continuing exercise and in temporalities and very short periods including the yield assessment of the HHRR as extension of administrative manager's self-evaluation (Martin & Reyes, 2020).

3. Extraversion: Includes the disposal of the person to openly socialize and communicate

with the environment, in recurrent interaction processes with others, disposed to develop collaborative work oriented to the achievement of proposed goals. This skill promotes the development of assertive leadership and the accurate recognizing and interpreting of the other's emotions. In the pandemic context, assertiveness is based on organization flexibility and capacity of the management organization to give responses in front of an unknown scenario that claims continuing innovation and adaptation. In addition to this, the capacity to propose alternative solutions of clear and open way constitutes one of the most demanded skills in the pandemic conjuncture, whereas includes other soft skills and while not constitutes a summary of all the cognitive soft skills, corresponds to the competency of generate disruptive responses based on the knowledge of the organization, the product and market, and the weighting of feasible alternative solutions in the pandemic scenario (Margherita & Heikkil, 2021).

4. Agreeableness: Express levels of tolerance in front of the diversity, evidencing respect by the other and deploying integrity in interaction processes. This skill promotes trust among the actors who interrelate, based on the honesty, generosity, loyalty and respect for feelings of the other. In the pandemic scenario the administrative manager has the responsibility of urging the internal and external customers to express reciprocity with the organization and its objectives. This reciprocal action comes to the empathic response of the management to with the before, during and in post pandemic prospective customers (Dellinger, 2021; Łączek-Ciećwierz, 2021).

5. Neuroticism: Includes the skill of managing the emotions in situations of diverse nature promoting the resilience included in adverse situations. In the interaction with the other this skill promotes the dialogic based on the positioning of the person since the emotional stability, which enables conflict management. Before the uncertainty and deployed in pandemic scenarios, the leadership based on serenity and objectivity of the achieved administrative manager promotes in internal and external customers the necessary resilience, to find discursive

community oriented to the achievement of common objectives (Firth, 2020; Briones, 2020).

The mentioned dimensions are not necessarily concurrent in an individual's personality, presenting dissimilar characteristics connected to cultural, ecologic, social, economic, familiar and psychologic factors inherent to the singularity of each person. Nevertheless, the big five, allow identifying patterns of personality in functional research where study groups of pairs in specific conditions. This condition allows the exercise of predictability under conditions where persons share environment, objectives, performance and equivalent challenges: Administrative managers-administrative managers, university educators-university educators, endocrinologist doctors-endocrinologists doctors. Notice that the connection of the person with the pair is very specific to the study shows results that allow to express trends with a minimum of bias. In this order, the trans-contextual and the trans-situational are discarded in studies of five dimensions.

Soft skills are considered as factors that significantly affect employment and personal success. According to Wheeler (2016), in the field of organizations, people who dispose of soft skills as self-management, self-motivation, self-conscious, empathy and social skills have most possibilities to keep the employment, still when the contractor defines the position profile based on competencies or hard skills, the term of office is connected more to soft skills. The worker with developed soft skills has the necessary tools to respond in proactive and innovator way to challenges concerning to the position, using the exercise of emotional intelligence that promote the self-motivation and self-management providing to organizations new and innovative proposals in the solution of simple or complex problem and calling using empathy performance to the work equipment join to the optimization processes (Whetten & Cameron, 2014).

1.2 Management in pandemic

The performance of the administrative manager in organizations includes the exercise of hard skills relevant to the specialization and essentially of soft skills that strengthen the leadership (Grimard & Pellerin, 2018). The management of high-level business is responsible to establish necessary strategies to the achievement of organization's objectives, designing and planning strategies that

optimize the results. In this order, the administrative manager should respond to demands in matters of decisions-making, information management and HHRR management. The manager before the challenges of the market and the critic and unpredictable conjuncture as the pandemic, requires the deploy of soft skills that enable the sum of internal and external customers' wishes (Armstrong, 2020), who are identified with the organization and clearly distinguish in the manager the corporative image that build trust to assume calculated risks and transformations that resize critic conjunctures from threats category toward growing opportunity category during and after the pandemic (Martin & Reyes, 2020). All of this involves the development of managerial skills by part of the manager, which refers to the continuing development of necessary competencies to the strategic planification be executed. It is then during the execution stage that the administrative manager requires to deploy the big five dimensions of soft skills: Openness to experience, consciousness, extraversion, agreeableness and neuroticism, under the approach that these perform a fundamental role in the management of successful organizations. The responsibility of administrative management to the execution of strategic plans implies the deployment of emotional intelligence that allows it to understand the dynamic of middle management and of personnel in different productive areas in matters of identification with the proposed objective. The administrative manager then introduced the effective communication to internal customers based on the empathy that enable the process adaptation and the affable management of HHRR enabling the movement of personnel to areas where their productivity be major in which they feel recognized, which impact in the vocation to the achievement of workers.

Inevitably the administrative manager has the responsibility to optimize the production and lower costs, however, this performance of monitoring and control currently include time management and conflict management using the dialogic, openness to new experiences and the proposition of innovators solutions in front of the challenges that potentially could derive in conflicts. Internal customers whether they were workers, partners or suppliers do not respond positively before the uncertainty (Carnevale & Kattan, 2020), which is characteristic during the pandemic, however the administrative management characterized by the neuroticism of the manager, has the potentiality to call toward the necessary reflexivity and calm to assume challenges from

innovative approaches where each actor voluntarily assume adaptation responsibility to new circumstances and contribute the best of itself to reach common goals. The administrative manager requires a proper management of emotions preserving the serenity before pressures of organizational ecosystem and the anxiety that pandemic crisis caused in internal and external customers, who from various perspectives perceived the threat of the pandemic, prevailing the hopelessness and skepticism (Dellinger, 2021; Casco, 2020; Ma, Yang & Yoo, 2020). The leadership based on the exercise of empathy and the active listening enable harmonious and transcendent interactions, internal customers find that their voices are heard by the organization and the deep knowledge of the management about human resource competencies (Sharma, 2017). Levels of leadership are evidenced in proportion to the manager's capacity of disclose how occur adaptation processes to pandemic challenges, expressed in the incorporation of ideas and proceedings raising from internal customers, promoting the equipment formation of high performance that shape them as drivers of the changed oriented toward the quality improvement and productivity of good and service offered, despite the restrictions that imposed health crisis. Before demands of external customers, strategies of administrative manager necessarily claim the marketing impulse inscribed within the post pandemic strategic plans, which refers the adaptation in fields of virtuality, that enable the approaching at the customer in real time using verbal and non-verbal language based on the responsible, coherent, ethic and innovator corporative image build during the pandemic (Mehta, Saxena & Purohit, 2020).

During the pandemic time the performance of soft skills have constituted the foundation of the resilience, whereas the leadership of administrative managers express in the trust that external and internal customers have placed in their capacities to adapt processes and minimize the pandemic impact about the organization. The sustainability in managerial leadership time is connected to ratification of confidence based on the effective interaction (Reece & Reece, 2016), evidencing through the extraversion, agreeableness and consciousness. Soft skills singularity of administrative managers is that their performance is continually observed by internal and external customers, including competencies and attitudes in which the manager should continually work, which in, he rests a high percentage of organization's

image. In Peru, it was evident during the pandemic meanwhile the image of managers spreading actions of organizational adaptability oriented toward the survival of organizations, it was connected to actions of social responsibilities in support of localities using diverse activities, donations, campaigns etc. (El Comercio, 2020). Administrative managers in an assertive way expressed and disseminated empathic images to internal and external customers and with the society, which contribute toward the potential expansion of market to the organization in function of social perception of their performance in the pandemic stage. The performance of extraversion and empathy by administrative managers in function of own well-being, organization and society, is the result of the self-perception of the existing link among the sense of the achievement of own objectives, physic health, and the reach of personal goals (Naci & Ioannidis, 2015), toward the own social welfare and of the environment.

The development and execution of soft skills and of emotional intelligence during the managerial performance involve the motivation of internal and external customers to improve their performance, commitment and loyalty with the organization, under the teleology of the reach of organizational objectives include the reach of individual objectives who participate in organization's ecosystem (Whetten & Cameron, 2014). In consequence the administrative manager in pandemic and post pandemic stage demands of skills as hierarchy of priorities, strategic planning, time management, adaptability and transformation, HHRR management, optimization and efficacy, all this inscribed in functions of organization's mission and develop promotion of those same competencies by the environment.

In this context, the objective of this study was to establish which soft skills prevail in organizations' administrative managers of Lima and Callao, Peru, during the strategic management's design oriented to the post pandemic stage of SARS Cov-2.

2 Methodology:

Non-experimental, mixed and descriptive design. The technique of research was the survey and the instrument an adapted questionnaire following the dimensions of the Big Five Soft Skills (Goldberg, 1995 & Digman (1197). The applied scale was of Likert type: It describes me a little (1) to It describes me a lot (5). The sample corresponds to 97 managers of medium-size companies who voluntarily participated in the study and are in exercise as administrative managers of companies located in Lima and Constitutional Province of Callao, Peru; that did not interrupt their economic activities during the pandemic and until April 2021. The surveys were carried out during days 5 to 9 of April 2021 using the platform of Google Workspace. After the survey was applied to the sample of 97 managers, they proceeded to check each survey to verify that they were valid regarding responses, quantity of responses and that they had no errors regarding its formal filling.

The results were analyzed using Exploratory Factor Analysis (EFA), as strategy to study the relationship among variables, based on that these relationships are susceptible of explaining through hidden or latent factors, where its quantity is inferior to the observed variables and whose participation is combined, variable and measurable in each one of factors. The EFA is useful to evaluate scales dimensionality of questionnaires that measure underlying latent variables. The essential of this analysis is the identification of a reduced number of factors, compounds by variables that are highly related. It includes the exploration of a given dimension of a particular scale with which it is proposed to measure a latent variable. The execution of Factor Analysis used the software of open code and free distribution developed by the Tarragona University (Fernando & Lorenzo, 2017), that enabled the execution of Exploratory Analyses, in two phases: 1. Initial Phase allows us to get Exploratory Factor Analysis. 2. Data Analysis, modifying the parameters and values suggested by the same software, among them the number of factors and from the analysis of correlation matrix, it gets a complete result, expressed in necessary values to interpret the results and the phenomenon as such (Fernando & Lorenzo, 2017). It carried out two executions, the first of them allowed a first analysis to determine the adaptation and reliability of the method, provide useful information about variables or items that do not participate in the formation of factor and that can be not included in the EFA and establish a number of factors suggested by the software based on the preliminary results without define the number of factors to study and analyze. The second analysis was executed and is considered definitive and provides results that are not discussed and analyzed in the present study.

3 Results

To the study was identify 5 dimensions or components that are distributed in 15 theoretical factors, this data is observed in Table 1:

Table 1: Self-perception of sample's Soft Skills

	Components and Items					
	Openness to Experience	1	2	3	4	5
1	Consider that you recognize and understand the necessary incorporation of innovative and transdisciplinary methods in the design of your strategy management oriented to the post pandemic stage.	1	3	30	45	18
2	Consider that you recognize and understand potentialities and risks of your strategy in matters to management oriented toward the post pandemic stage.	1	4	35	39	18
3	Consider that you have the disposition to incorporate new technologies and alternative means as tools oriented toward the achievement of significant and relevant objectives to the organization in the post pandemic stage.	1	7	38	30	21
	Extraversion					
4	Consider that you communicate your proposals in an open way and advocate with solid arguments fundamentals and values of your strategy of post pandemic management.	1	2	37	37	20
5	Consider that you communicate in a clear and concise way verbally or nonverbally, your strategy of post pandemic management.	2	2	34	33	26
6	Consider that you could perform your post pandemic management based on collaborative work.	2	1	43	31	20
	Agreeableness					
7	Consider that you have promoted the implication of Interest groups in the design of the strategy of post pandemic management.	1	6	36	31	23
8	Consider that you hear, recognize, understand and appreciate the contribution that can carry out your internal customers to the improvement of your strategy of post pandemic management.	0	3	27	20	47
9	Consider that you have developed a leadership that motivates and inspires the internal customers and favors the acceptance of your strategy of post pandemic management.	0	1	27	25	44
	Consciousness					
10	Consider that you have the competence to find solutions to problems of the organization in situations that imply emotions, understanding that this affects decisions-making, in the post pandemic stage.	1	1	25	27	43
11	Consider that you have the capacity to preserve the objectivity and that the emotions do not disturb the perception about the management strategy by internal and external customers in the post pandemic stage.	0	0	21	21	55
12	Consider that you have the aptitude to resist or delay an impulse or the temptation to act, avoiding hurried decisions or behaviors during the exercise of your management in the post pandemic stage.	0	0	15	28	54
	Neuroticism					
13	Consider that you could adapt your emotions, thoughts and behaviors before uncertain circumstances of the post pandemic stage.	0	0	20	23	54
14	Consider that you could calmly face complex or conflictive situations proposing solutions to challenges that confront during the exercise of your management strategy in the post pandemic stage.	0	0	17	33	47
15	Consider that you could keep an attitude and resilient perspective, conserving the hope in the objectives' achievement of your strategy of post pandemic management.	0	1	24	28	44

Source: Own elaboration using Factor Analysis software (Fernando & Lorenzo, 2017)

In first term is presented a first Exploratory Factor Analysis preliminary with the total sample of surveys using Factor Analysis software from Tarragona University defining the model of analysis to take into account a scattering matrix through polychoric correlations (considering that is used and instrument of measure that includes Likert scale from 1 to 5 as items valuations), and taking into account all variables, the description of Factor Analysis is presented below in Table 2

Table 2. Preliminary Exploratory Factor Analysis.

DETAILS OF ANALYSIS
Participants' scores data file : K:\USB\habilidades\datos4.dat
Variable labels file : K:\USB\habilidades\var04.txt
Method to handle missing values : Hot-Deck Multiple Imputation in Exploratory Factor Analysis (Lorenzo-Seva & Van Ginkel, 2016)
Missing code value : 999
Number of participants : 97
Number of variables : 35
Variables included in the analysis : V1, V2, V3, V4, V5, V6, V7, V8, V9, V10, V11, V12, V13, V14, V15,
Variables excluded in the analysis
Number of factors : 0
Number of second order factors : 0
Procedure for determining the number of dimensions : Optimal implementation of Parallel Analysis (PA) (Timmerman, & Lorenzo-Seva, 2011)
Dispersion matrix : Polychoric Correlations
Robust analyses : Bias-corrected and accelerated (BCa; Lambert, Wildt & Durand, 1991)
Number of bootstrap samples : 500
Asymptotic Covariance/Variance matrix : estimated using bootstrap sampling
Bootstrap confidence intervals : 95%
Method for factor extraction : Robust Unweighted Least Squares (RULS)
Correction for robust Chi square : Robust Mean and Variance-scaled (Asparouhov & Muthen, 2010)
Rotation to achieve factor simplicity : Normalized Orthomax
Value of parameter gamma : 0.0000
Clever rotation start : Weighted Orthomax
Number of random starts : 10
Maximum mumber of iterations : 100
Convergence value : 0.00001000
Factor scores estimates : Estimates based on linear model

Source: Own elaboration using Analysis Factor software (Fernando & Lorenzo, 2017)

Preliminary results indicated the necessity to exclude some variables of the analysis, to guarantee that correlation matrix was positively defined.

Below are the results of this preliminary analysis indicating details of the Multivariate Analysis Table 3

Table 3. Values of Exploratory Factor Analysis, Multivariate Descriptive and adaptation of Polychoric Matrix, preliminary analysis.

MULTIVARIATE DESCRIPTIVES
Analysis of the Mardia's (1970) multivariate asymmetry skewness and kurtosis.

Coefficient	Statistic	df		P
Skewness	52.356	846.419	364	1.0000
SKewness corrected for small sample	52.356	876.726	364	1.0000
Kurtosis	194.344	7.077		0.0000**

Smoothing algorithm applied: Sweet Smoothing as proposed by Lorenzo-Seva & Ferrando (2020)

Number of negative eigenvalues	= 2
Value of the largest negative eigenvalue	= -0.060
Variables smoothered during the process	= V7;V9;V10;V12;V13;
Number of smoothed elements in the correlation matrix	= 60 (out of 105)

Percentage of covariance destroyed	= 7.0% (good)
Determinant of the matrix	< 0.000001
Bartlett's statistic	= 1049.6 (df = 66; P = 0.000010)
Kaiser-Meyer-Olkin (KMO) test	= 0.63697 (mediocre)
BC Bootstrap 95% confidence interval of KMO	= (0.143 0.799)

Source: Own Elaboration using Analysis Factor software (Fernando &Lorenzo, 2017)

Values obtained in Bartlett's test of sphericity (p<0.00001, 3651.5) indicate that the factor analysis is satisfactory and applicable indicating that does not exist correlation each other of the item and the KMO coefficient (0.0.63697) is slightly low, however was consider that this value has its origin in item's values that will be excluded from the Definitive Analysis, and that will allow to improve values of the eigenvalues of correlation matrix as well as improve this factor.

In addition, this first Analysis allowed defining the number of factors or probable hidden variables to the phenomenon explanation as well as adjusting the type of rotation used (factors: 3, rotation type: Orthomax).

For that purpose, carried out the definitive Exploratory Factor Analysis, whose results are indicated below:

Table 4. Definitive Exploratory Factor Analysis. Details of Analysis.

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DETAILS OF ANALYSIS

   Participants' scores data file          : K:\USB\mila\habilidades\datos4.dat
   Variable labels file            : K:\USB\mila\habilidades\var04.txt
   Method to handle missing values           : Hot-Deck Multiple Imputation in Exploratory Factor Analysis
(Lorenzo-Seva & Van Ginkel, 2016)
   Missing code value            : 999
   Number of participants         : 97
   Number of variables           : 35
   Variables included in the analysis        : V1, V2, V3, V4, V5, V6, V7, V8, V9, V10, V12, V13
   Variables excluded in the analysis        : V11, V14, V15
   Number of factors           : 3
   Number of second order factors          : 0
   Procedure for determining the number of dimensions   : Optimal implementation of Parallel Analysis (PA)
(Timmerman, & Lorenzo-Seva, 2011)
   Dispersion matrix            : Polychoric Correlations
   Robust analyses          : Bias-corrected and accelerated  (BCa; Lambert, Wildt & Durand, 1991)
   Number of bootstrap samples          : 500
   Asymptotic Covariance/Variance matrix          : estimated using bootstrap sampling
   Bootstrap confidence intervals         : 95%
   Method for factor extraction          : Robust Unweighted Least Squares (RULS)
   Correction for robust Chi square          : Robust Mean and Variance-scaled (Asparouhov & Muthen, 2010)
   Rotation to achieve factor simplicity         : Normalized Orthomax
   Value of parameter gamma          : 0.0000
   Clever rotation start          : Weighted Orthomax
   Number of random starts         : 10
   Maximum mumber of iterations         : 100
   Convergence value          : 0.00001000
   Factor scores estimates          : Estimates based on linear model
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Source: Own elaboration using Factor Analysis Software (Fernando and Lorenzo, 2017)

In this configuration of entry data and parameters of Analysis got the following results:
1.- Goodness of Fit: The results of the Analysis are contained in the Table (Table 5), it summarizes indicators of goodness of fit, which are over the value 0.9, verifying an appropriate adjustment of the model to studied data:

Table 5 Summary of Indicators of Goodness of Fit

Root Mean Square Error of Approximation (RMSEA) = 0.058; BC Bootstrap 95% confidence interval = (0.0635   0.0637) (between 0.050 and 0.080 : fair) Estimated Non-Centrality Parameter (NCP) = 7.920 Degrees of Freedom = 12 est of Approximate Fit H0 : RMSEA < 0.05; P = 0.783 Comparative Fit Index (CFI) = 0.995; BC Bootstrap 95% confidence interval = (0.992   0.992) (larger than 0.990 : excellent). Goodness of Fit Index without diagonal values (GFI) = 0.994; BC Bootstrap 95% confidence interval = (0.977   0.997) Adjusted Goodness of Fit Index without diagonal values(AGFI) = 0.987; BC Bootstrap 95% confidence interval = (0.954   0.994)

Source: Own calculus.

2.-Adequacy of the Method EFA to data: These are index of Bartlett and KMO (Table 6) so that establish the instrument's adaptation:

Table 6 KMO and Bartlett's Test

ADEQUACY OF THE POLYCHORIC CORRELATION MATRIX
Determinant of the matrix   < 0.000001
Bartlett's statistic   = 1015.1 (df =   105; P = 0.000010)
Kaiser-Meyer-Olkin (KMO) test   = 0.85947 (good)
BC Bootstrap 95% confidence interval of KMO = (0.859   0.880)
ADEQUACY OF THE POLYCHORIC CORRELATION MATRIX

Source: Own elaboration.

The results of KMO and Bartlett's Test indicate that the application of the EFA to the sample of data is significant and the model adjusts well to the sample's data.

3.- Total Variance Explained based on the Exploratory Factor Analysis: and indicates factors or latent variables estimated (Table 7): In total of 12 but the EFA allows reducing to consider significative only 3 of them, and that in set achieve to describe 80.79% of the items' variance.

Table 7 Total Variance Explained based on the Exploratory Factor Analysis.

Factor	Eigenvalue Variance	Variance Proportion (%)	Cumulative Proportion of Variance (%)
1	7.36045	**0.61337**	**0.61337**
2	1.27729	**0.10644**	**0.71981**

3	1.05757	**0.08813**	**0.80794**
4	0.72587	0.06049	
5	0.42269	0.03522	
6	0.40497	0.03375	
7	0.25211	0.02101	
8	0.2115	0.01762	
9	0.13949	0.01162	
10	0.08383	0.00699	
11	0.05482	0.00457	
12	0.0094	0.00078	

Source: Own elaboration.

4- Variance explained and communality values associated to each item of the instrument used (Table 8): This communality value represents the participation of each specific item in the explanation of the item's variability in question, it can observe that the item that have more participation in the Factor 1 is the item (6), while to the factor 2 is the item (4) and to the Factor 3 the item (1). The F1 is formed by 6 items and to the Factors F2 and F3 are 3 items each one. It can observe that factor 1 is constituted with a participation superior to 0.3 to consider it by items related to the concept or construct of Emotional Intelligence.

Table 8. Factor loading and Communality of reagents in relation to instrument's reagents.

#	Items	F1	F2	F3	Commune.
6	Consider that you could perform your post pandemic management based on collaborative work.	**0.936**	-0.15	0.063	**0.903**
5	Consider that you communicate in a clear and concise way verbally or nonverbally, your strategy of post pandemic management.	**0.899**	-0.026	0.182	**0.841**
12	Consider that you have the aptitude to resist or delay an impulse or the temptation to act, avoiding hurried decisions or behaviors during the exercise of your management in the post pandemic stage.	**0.877**	-0.082	-0.01	**0.776**
10	Consider that you have the competence to find solutions to problems of the organization in situations that imply emotions, understanding that this affects decisions-making, in the post pandemic stage.	**0.854**	-0.096	**0.328**	**0.847**
8	Consider that you hear, recognize, understand and appreciate the contribution that can carry out your internal customers to the improvement of your strategy of post pandemic management.	**0.69**	0.02	0.098	**0.486**
3	Consider that you have the disposition to incorporate new technologies and alternative means as tools oriented toward the achievement of significant and relevant objectives to the organization in the post pandemic stage.	**0.536**	**0.526**	-0.106	**0.575**
4	Consider that you communicate your proposals in an open way and advocate with solid arguments fundamentals and values of your strategy of post pandemic management.	-0.075	**0.902**	0.128	**0.836**
13	Consider that you could adapt your emotions, thoughts and behaviors before uncertain circumstances of the post pandemic stage.	0.298	**0.849**	0.032	**1**
2	Consider that you recognize and understand potentialities and risks of your strategy in matters to management oriented toward the post pandemic stage.	-0.135	**0.786**	-0.216	**0.682**
1	Consider that you recognize and understand the necessary incorporation of innovative and transdisciplinary methods in the design of your strategy management oriented to the post pandemic stage.	0.296	-0.136	**0.846**	**0.535**

| 9 | Consider that you have developed a leadership that motive and inspire to the internal customers and favor the acceptance of your strategy of post pandemic management. | 0.071 | -0.052 | **0.843** | **0.965** |
| 7 | Consider that you have promoted the implication of Interest groups in the design of the strategy of post pandemic management. | -0.117 | -0.153 | **0.496** | **0.753** |

Source: Own Elaboration.

From total of items (15), three were disconnected in the exploratory factor analysis, due to generation inconsistency in calculus (negative eigenvalues and non-defining positively correlation matrix). And that contributed to a great destruction of the variance, as well as contributed to the value of KMO index being less than 0.70, but after its exclusion this improved to a value of 0.85947. The excluded items were:

(11) Consider that you have the capacity to preserve the objectivity and that the emotions do not disturb the perception about the management strategy by internal and external customers in the post pandemic stage.

(14) Consider that you could calmly face complex or conflictive situations proposing solutions to challenges that confront during the exercise of your management strategy in the post pandemic stage.

(15) Consider that you could keep an attitude and resilient perspective, conserving the hope in the objectives' achievement of your strategy of post pandemic management.

Important observations in these results are the following:

a) The items are well adjusted to the factors or latent variables, except with item 3 (values 0.536 and 0.526) and item 10 (value 0.328). In the item (3) this criterion is equally distributed in proportion among the Factor 1 and the Factor 2, showing certain ambiguity in its participation, while the item (3), its participation in the Factor 2 is in the value limit that is considered acceptable to be take into account (in the factor 2);

b) The item 13 contributes with all its Communality in the factor 2, which indicates that the criterion (13) is totally contained in the factor (13).

5.- Explained variance's values of rotated factors and the relative information at the analysis reliability (Table 10). All values are superior at the value 0.9, characteristic that EFA Model requires to be suitable for the presented model and that reflects the reliability of the adjust and of its explanation's capacity of the observed variability.

Table 9. Explained Variance of factors in the EFA and Reliability Information of the Values.

EXPLAINED VARIANCE OF ROTATED FACTORS AND RELIABILITY OF PHI-INFORMATION OBLIQUE EAP SCORES
Ferrando & Lorenzo-Seva (2016)

Factor	Variance	ORION	Factor Determinacy Index
1	1.512	0.961	0.980
2	1.836	0.998	0.999
3	5.852	0.962	0.981

The appropriate implementation of EAP score estimation in factor model involves to obtain point estimates that make use of the full prior information (in particular the inter-factor correlation matrix), and to complement the point estimates with measures of the reliability of these estimates. In order to achieve it, FACTOR computes: (1) the EAP score estimation named 'Fully-Informative Prior Oblique EAP scores'; and (2) the reliability estimates named ORION (acronim for 'Overall Reliability of fully-Informative prior Oblique N-EAP scores').
See Ferrando & Lorenzo-Seva (2016) for further details.

Source: Own elaboration.

4 Discussion

The objective of this study was to establish which soft skills prevail in organizations' administrative managers of Lima and Callao, Peru, during the design of the strategic management oriented to the post pandemic stage of SARS Cov-2. Methodologically, this work presents the execution of an EFA to measure and identify latent variables in the study; using the multivariate method. The results evidenced its adaptation and capacity of explanation to the initial unanswered about the prevalence of some of the soft skills contained within the dimensions of the big five, in the perspective of administrative managers' performance toward post pandemic stage of the SARS Cov-2; including values of goodness of fit, and reliability that obey the requirements to its application.

The EFA indicates that 80.79% of phenomenon's variability is successfully explained using three factors or latent variables, which are formed by items of table 9, that indicates the factor loading, this is participation's proportion of each item in the corresponding factor.

The Factor 1, that contributes with 61% of the variance explanation is associated to items (6,5,12,10,8,3), this factor is principally formed with items whose underlying idea is connected to skills for the collaborative work, leadership and innovation and how these can be used by the administrative managers before problems that imply challenges and commitments in its quotidian activity. The factor 2, items (3,4,13,2) are more associated with socio-emotional and communication skills of the administrative managers. The factor 3 (1,9,7), are connected with empathy and problem solving by the mentioned managers.

The results infer the soft skills that prevail in administrative managers in the design of strategic management oriented toward the post pandemic stage of the SARS Cov-2, are skills to collaborative work (extraversion), the leadership (consciousness, extraversion) and the innovation (openness to experience). This indicates administrative managers' attitude of cooperate, delegate and innovate as strategic actions oriented to the objectives' achievement in the organization of the post pandemic stage, overcoming limits inherent at the uncertainty and perverse effects of containment measures imposed and potentially could transcend in the time. They are in agreement with the results of Sadun *et al.* (2020), who found that the management in organizations are in processes of adaptation and collaboration including with their competitors, sharing information that enables them to give transcendence to the ecosystem next to the pandemic. According to these authors the adaptation to the accelerated changes of the demand, are considered growing opportunities based on the innovation (openness to experience), proactivity (extraversion, openness to experience and the effective communication extroversion). In the same order, the results of the research presented in this article are agreement with the studies' results of Nzinga, McGivern and English (2018), who found the distributed leadership constitutes a factor that dynamize the collaborative participation of actors who from different levels of performance participate in processes oriented to the consecution of proposed achievement by an organization. These authors say that the leader does not commit the authority, whereas this action includes the reshaping of roles and interactions of actors, delegating tasks using the exercise of distributed leadership.

The socio-emotional and communication skills of administrative managers participants in the study, involve 10.6%, while empathy and problems solutions register 8.8% of participation in factors to explain the variance, which infer these indicators, still when are considered important, do not prevail as soft skills indispensable in the design of strategic management oriented to the post pandemic stage of SARS Cov-2.

From the study infers to administrative managers of the sample, three of Big Five soft skills are prevalent in the design of strategic management oriented to the post pandemic stage. The results indicated that the neuroticism dimension, in function of the response of the surveyed, is not a dimension that is considered transcendent in the post pandemic conjuncture. The surveyed managers approach their performance in the incorporation of internal and external customers in innovators processes oriented to the shed objectives' achievement, in benefit of the organization and their customers. This is in agreement with the results of the studies of Sharma (2017) referred to the transformational leadership and the role that each actor performs in the processes of change, which considers essential the leader's role as promoter of collaborative work.

5. Conclusion

The objective of this study was to establish which soft skills prevail in organizations' administrative managers of Lima and Callao, Peru, during the design of the strategic management oriented to the post pandemic stage of SARS Cov-2. From the results infer the dimensions of the Big Five soft

skills prevail in administrative managers' performance correspond to the extraversion, consciousness, openness to experience. These dimensions express the proactive attitude of managers to the innovation and the change as tools to strategic management's design oriented to the consolidation and organization's growth in the stage after the pandemic. In addition to this, it is observed the neuroticism dimension is not considered by participants as a fundamental dimension to the post pandemic strategic management's design.

References

[1]. Allport, G.W. (1961). Pattern and Growth in personality. New York: Holt.

[2]. Armstrong, M. (2020). Coronavirus crisis sparks race for inventive solutions, Euronews, 2st March. www.euronews.com/2020/03/21/coronavirus-crisis-sparks-race-for-inventive-solutions, Accessed 19th April 2020.

[3]. Bar-On, R. (1997). *Development of the Baron EQ-I: A measure of emotional and social intelligence.* Presentado en 105th Annual Convention of the American Psychological Association, Chicago.

[4]. Carballo, J. & Volpe, C. (2020). *El comercio en tiempos de pandemia: el impacto del COVID-19 en las firmas de seis países latinoamericanos. Banco Interamericano de Desarrollo (Bid).* https://blogs.iadb.org/integracion-comercio/es/el-comercio-en-tiempos-de-pandemia-el-impacto-del-covid-19-en-las-firmas-de-seis-paises-latinoamericanos/

[5]. Carnevale, J., & Kattan, S. (2020). Employee adjustment and well-being in the era of COVID-19: Implications for human resource management. *Journal of Business Research*, (116), 183-187. https://www.doi.org/10.1016/j.jbusres.2020.05.037

[6]. Casco, A.R. (2020). *Efectos de la pandemia de COVID-19 en el comportamiento del consumidor Innovare Revista de Ciencia y Tecnología,* 9 (2). https://www.lamjol.info/index.php/INNOVARE/article/view/10208/11882

[7]. CEPAL (2020). *Sectores y empresas frente al COVID-19: emergencia y reactivación. Informe Especial Covid-19. Respuesta.* https://www.cepal.org/sites/default/files/publication/files/45734/S2000438_es.pdf

[8]. Chaves, C. A. (2016). Habilidades del siglo XXI. *Revista Conexiones*, *8*(2), 12-18. https://revistas.uam.es/tendenciaspedagogicas/issue/download/489/306

[9]. Davies, A., Fidler, D. and Gorbis, M. (2011). *Future work skills 2020.* Palo Alto, CA: Institute for the Future of the University of Phoenix Research Institute. http://www.iftf.org/futureworkskills/

[10]. Dellinger, S. (2021). Why Business Leaders Should Focus On Care And Empathy During The Pandemic. Forbes.

[11]. Digman J. M. (1997). Higher-order factors of the big five. *J. Pers. Soc. Psychol.* 73, 1246–1256. 10.1037/0022-3514.73.6.1246

[12]. El Comercio. (2020). *Coronavirus en Perú: estas son las empresas que suman más iniciativas solidarias en tiempos de crisis.* https://elcomercio.pe/economia/negocios/coronavirus-peru-estas-son-las-empresas-que-suman-mas-iniciativas-en-tiempos-de-crisis-economia-peruana-familias-peruanas-covid-19-noticia/

[13]. Ferrando, P.J., & Lorenzo-Seva, U. (2017). Program FACTOR at 10: origins, development and future directions. Psicothema, 29(2), 236-241. doi: 10.7334/psicothema2016.304.

[14]. Firth, C (2020). *How to strengthen business resilience during disruptive events.* EY Building a better working wordl. https://www.ey.com/en_bh

[15]. Fontrodona, J., & Muller, P. (2020). *Reforzar la integridad empresarial ante la crisis del Covid-19. IESE Business School Working Paper, (*OP-333) https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3571706

[16]. Goldberg, L.R. (1995). What the hell took so long? Donald W. Fiske and the Big-Five Factor Structure. In: P.E. Shrout and S. T. Fiske: *Personality Research, Methods, and Theory. A Festschrifi honoring Donald W. Fiske.* Hillsdale, NJ: Erlbaum.

[17]. Grimard, C., Pellerin, S. (2018). *Desarrollar el liderazgo a través de experiencias de liderazgo: un enfoque de aprendizaje activo. Desarrollos en simulación empresarial y aprendizaje experiencial,* (45), 69-77.

[18]. Guerra, (2019). *Una revisión panorámica al entrenamiento de las*

habilidades blandas en estudiantes universitarios. Psicol. Esc. Educ., (23), e186464. https://doi.org/10.1590/2175-35392019016464

[19]. Judge, T.A., Higgins, Ch.A., Thoresen, C.J., & Barrick, M.R. (1999). The big five personality traits, general mental ability, and career success across the life span. *Personnel Psychology, (52),* 621-654.

[20]. Kuntze, J., van der Molen, H. T., & Born, M. P. (2016). *Big Five Personality Traits and Assertiveness do not Affect Mastery of Communication Skills. Health Professions Education, 2(1), 33–43.* doi: 10.1016/j.hpe.2016.01.009

[21]. Lazo, M, M. and Véliz, S, A. (2017). *Las habilidades blandas del psicólogo clínico en su intervención en la salud pública. Revista Contribuciones a las Ciencias Sociales.* http://www.eumed.net/rev/cccss/2017/03/psicologo-clinico-ecuador.html

[22]. Łączek-Ciećwierz, P. (2021). Empathetic managers make up only 40% of overall professionals. *Budapest Business Journal. https://bbj.hu/business/people/hr/empathetic-managers-make-up-only-40-of-overall-professionals.*

[23]. Ma J., Yang J., Yoo B. (2020). The moderating role of personal cultural values on consumer ethnocentrism in developing countries: The case of Brazil and Russia. *Journal of Business Research, (*108), 375–389. https://www.sciencedirect.com/science/article/pii/S0148296319307970

[24]. Margherita, A. & Heikkil, M. (2021). Business Continuity in the COVID-19 Emergency: A Framework of Actions Undertaken by World-Leading Business Horizons. https://doi.org/10.1016/j.bushor.2021.02.020.

[25]. Martin V. & Reyes, G. E. (2020). *Desafíos y nuevos escenarios gerenciales como parte de la herencia del Covid-19. Revista Venezolana de Gerencia, 25,* (90), 710-722. https://www.redalyc.org/jatsRepo/290/29063559019/html/index.html

[26]. Mehta, S., Saxena, T., & Purohit, N. (2020). The New Consumer Behavior Paradigm amid COVID-19: *Permanent or Transient,* 22(2), 291-301.

https://www.doi.org/10.1177/0972063420940834

[27]. Naci, H., Ioannidis, JP (2015). Evaluation of Wellness Determinants and Interventions by Citizen Scientists. *JAMA, 314* (2), 121-122. doi:10.1001/jama.2015.6160.

[28]. Nzinga, J., McGivern, G., English, M. (2018). Examining clinical leadership in Kenyan public hospitals through the distributed leadership lens. Health Policy and Planning, 33(2), ii27-ii34. https://pubmed.ncbi.nlm.nih.gov/30053035/

[29]. Ortega, G, T. (2016). *Desenredando la conversación sobre habilidades blandas. Banco de Desarrollo de América Latina (BDAL). Informe de Educación.* en: http://repositorio.minedu.gob.pe/bitstream/handle/123456789/4844/Desenredando%20la%20conversaci%C3%B3n%20sobre%20habilidades%20blandas.pdf?sequence=1&isAllowed=y

[30]. Reece, B., Reece, M. (2016). *Relaciones humanas efectivas: aplicaciones interpersonales y organizacionales.* Boston, MA: Cengage Learning

[31]. Sadun, R, Bertoni, A., Delfino, A., Fassio, G. & Testa, M. (2020). Retsrating Uncertainly Managerial Experiences from Around the World. Harvard Bussines School: Working Knowledge. https://hbswk.hbs.edu/item/restarting-under-uncertainty-managerial-experiences-from-around-the-world

[32]. Salgado, E., Vargas-Trujillo, E., Schmutzler, J. & Wills-Herrera, E. (2016). *Uso del Inventario de los Cinco Grandes en una muestra colombiana. Avances en Psicología Latinoamericana, 34*(2), 365-382. doi: http://doi.org/10.12804/apl34.2.2016.10

[33]. Sharma, M. (2017). *Liderazgo transformacional radical: Acción estratégica para agentes de cambio.* Berkeley, CA: North Atlantic Books.

[34]. Suárez Blanco, María Macarena. (2020). *Impactos económicos y laborales generados por la pandemia del covid-19 en diferentes industrias en Uruguay: casos de estudio. Revista Investigación y Negocios, 13*(22), 6-22.

http://www.scielo.org.bo/scielo.php?script=sci_arttext&pid=S2521-27372020000200002&lng=pt&tlng=es.

[35]. Tokar, D.M., & Swanson, J.L. (1995). Evaluation of the correspondence between Holland's vocational personality typology and the five-factor model of personality. *Journal of Vocational Behavior, (46),* 89-108.

[36]. Tupes, E.C. & Christal, R. E. (1961). *Recurrent personality factors based on trait ratings*. (Technical Report ASD-TR-61-97). Lackland Air Force Base, TX: Personnel Laboratory, Air Force Systems Command

[37]. Vera, M, F. (2016). *Infusión de habilidades blandas en el currículo de la educación superior: clave para el desarrollo de capital humano avanzado. REVISTA AKADEMEIA, 15,* (1). http://revistas.ugm.cl/index.php/rakad/article/view/137

[38]. Whetten, D., Cameron, K. (2014). *Desarrollo de habilidades directivas: edición global.* Boston, MA: Prentice Hall.