

Management of Social Networks in the Recruitment of Intellectual Capital in SMEs

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Abstract—For your paper to be published in the conference proceedings, you must use this document as both an instruction set and as a template into which you can type your own text. If your paper does not conform to the required format, you will be asked to fix it.

I. INTRODUCTION

Due to the constant change in current business activities, small and medium enterprises (SMEs) are increasingly focused on how to efficiently and effectively use existing resources [1]. Although large companies have more options to generate performance by having more resources, all have in common the human resources, which has a significant impact on performance and improving competitiveness when proper management of it is done [2].

The human resource is made up of the individual employees of the company, each of whom has skills and knowledge [3]. In turn, it is part of the intellectual capital (IC), which makes it a resource based on knowledge, as an important factor of production [4]. According to [5] knowledge, in its forms and processes, is the main asset for all types of organizations, directly affecting the importance of IC.

The IC is the sum of all the knowledge of an organization that can generate profits and competitive advantage in the business process [6]. Because of its importance, it is necessary to establish management activities, which cover the formulation and implementation of strategies used for the exploitation of resources in the organization [5]. Within these activities are the identification and recruitment of IC, reflected in the acquisition of human resources with the skills and abilities for the benefit of the company [4].

To carry out these management activities effectively, like the recruitment of IC for example, strategies must be implemented to strengthen this area, such as the use of new technologies as a mediator in both internal and external communication processes, improving organizational processes in the company [7]. On the other hand, both knowledge and technology are considered a strategic asset of the company and a main source to create a competitive advantage [8].

Given the importance of new technologies in the business world, social networks are one of those technological means that facilitate communicative processes [9]. Consequently, they are used in some areas of the business process, mainly in marketing [10]. However, there is little use in the process of recruitment and training of skilled staff, as currently the number of organizations using social networks as a means of recruitment is growing [11].

Taking into account the previous situation, it is proposed to perform an analysis of the management process of social networks for the recruitment of IC in SMEs. This allows organizations to improve their recruitment processes and find highly competitive human resources through new technologies.

II. METHODOLOGY

This research was defined as quantitative because a collection of numerical data was made to answer hypotheses or questions [12]. Likewise, the design used was non-experimental, cross-sectional and descriptive. Not experimental because the variables Social Networks and CI Recruitment were not intentionally manipulated; descriptive cross-sectional because its purpose was to investigate the incidence, the behavior of the variables in a given time [13].

The aspects related to the variables under study, their dimensions and indicators, are represented in the Table 1.

TABLE I. Dimensions and indicators of the study variables

VARIABLES	DIMENSIONS	INDICATORS
Social networks	Professional tools	Companies pages
		Professional pages
		Groups
	Types of social networks	Facebook
		LinkedIn
		Twitter
		Google+
	Social media management process	Objectives
		Strategies
		Resources
		Activities
Evaluation		
IC recruitment	Stages of IC recruitment	Attraction
		Selection
		Reception
	IC components	Human capital
		Relational Capital
		Communicative Capital
		Research Capital
	IC indicators	Financial capital
		Process Capital
		Market Capital

A. Population and sample

The population studied was comprised of 40,800 SMEs in Venezuela, according to the Venezuelan Chamber of Commerce [14], represent 60% of small and medium enterprises that use social networks. From there, a non-probabilistic sample of intentional type was obtained based on criteria considered relevant and consistent with the objective of the research.

In this sense, selection criteria were defined as present in at least two (2) social networks, use of electronic mail as a means of contact, more than three (3) years of commercial activity, at least five (5) employees, and Voluntary participation of administrators in the delivery of information for research. In this way, ten (10) companies that fulfil these criteria were chosen for the research study sample.

B. Techniques and instruments for gathering information

To obtain information, the survey was used as an information gathering technique [15]. Likewise, the questionnaire was used as an instrument, which consisted of defined and validated questions [16]. This questionnaire was composed of 66 items, each with five (5) response alternatives, with a quantitative score of 1 to 5 for each alternative: Never (1), Almost Never (2), Sometimes (3), Almost Always (4), and Always (5).

C. Validation and reliability of the instrument

For the validity of the information collection instrument, the opinion of five (5) experts in the area was consulted, who used a special form to evaluate the items of the questionnaire and to qualify the adjustment thereof to measure the variables under study.

Once the validity of the instrument was established, reliability was determined using the Cronbach's alpha coefficient, which describes the reliability of a sum or average of measurements [17], applying the Formula 1.

$$r = \frac{k}{k - 1} \left[\frac{\sum S_i^2}{S_t^2} \right] \tag{1}$$

Whereas:

r = Coefficient

k = Number of items

S_i^2 = Variance of instrument items, and

S_t^2 = Variance of the total scores.

After the calculations, it was found that the designed instrument obtained a Cronbach's alpha of 0.85 which indicates that the designed instrument reached a very high degree of reliability.

D. Data analysis

For the categorization by intervals of the answer alternatives and the average of the variables, a scale was designed calculating the intervals by means of the Formula 2.

$$IB = (V - v)/N \tag{2}$$

Whereas:

IB = Scale interval.

V = Higher value.

v = Minor value

N = Number of categories.

Because the highest value was five (5) and the lowest one (1), the result obtained was 0.8 for the intervals of the scale. In the Table 2 the range, interval and category assigned for the designed scale were registered.

TABLE II. Weighted scale for the categorization of the average of the variable

Range	Interval	Category
1	1,00 – 1,80	Very High
2	1,81 – 2,60	high
3	2,61 – 3,40	Moderate
4	3,41 – 4,20	Low
5	4,21 – 5,00	Very Low

In terms of mode, another measure of central tendency, the Likert scale was used corresponding to the classification of the scores for the alternative answers.

Regarding the measure of variability, the standard deviation indicates the degree of average dispersion of the responses selected for their level of reliability. The scale that was designed presents the highest and lowest scores obtained according to the measurement scale used, that is, four (4) and zero (0) respectively, as well as the interval and category, which are shown in Table 3.

TABLE III. Weighted scale for the standard deviation categorization

Range	Interval	Category
5	3,21 – 4,00	Very High Dispersion, Very low reliability of the answers
4	2,41 – 3,20	High Dispersion, Low Reliability of the answers
3	1,61 – 2,40	Moderate Dispersion, Moderate Reliability of the answers
2	0,81 – 1,60	Low Dispersion, High Reliability of the answers
1	0,00 – 0,80	Very low Dispersion, Very High Reliability of the answers

III.RESULTS

This section presents the results of the application of the instrument on the selected sample, and an analysis of the values obtained for the variables under study according to their dimensions and indicators. Taking into account the above, the analysis performed for the variable Social networks is shown, as exposed in Table 4.

TABLE IV. Weighted scale for the standard deviation categorization

Total indicators	Σ	M_0	x	σ	S^2
Companies Pages	35,33	3	3,533	1,287	1,130
Professional pages	38,67	5	3,867	1,233	1,101
Groups	30,67	3	3,067	1,367	1,166
Total Dimension Professional tools	34,89	3Sometimes	3,489 high	1,296	1,132 Low Dispersion
Facebook	34,33	4	3,433	1,310	1,131
LinkedIn	34,33	5	3,433	1,837	1,345
Twitter	33,00	3	3,300	1,363	1,162
Google+	37,67	5	3,767	1,477	1,207
Total Dimension Types of social networks	34,83	5Always	3,483 high	1,497	1,211 Low Dispersion
Objectives	30,00	3	3,000	0,907	0,942
Strategies	28,67	3	2,867	0,967	0,977
Resources	35,33	4	3,533	1,447	1,203
Activities	32,33	3	3,233	1,150	1,063
Evaluation	28,67	3	2,867	0,953	0,974
Total Dimension Social media management process	31,00	3Sometimes	3,100 Moderate	1,085	1,032 Low Dispersion
Total Variable Social networks	32,52	3Sometimes	3,357 Moderate	1,292	1,125 Low Dispersion, High Reliability

It can be seen that the total score summation (Σ) reached a value of 32.52 of which, the dimension Professional Tools obtained a summation of the scores of 34.89 being the highest value, followed by the dimension Types of social network with an average value very close to 34.83; found a lower value of 31.00 for the dimension Social network management process.

In terms of mode (M_0), the average value for the Social Networks variable is 3, which means that sometimes SMEs managers execute management processes in which social networks are available. In the case of the Types of social networks dimension, it has the maximum value of 5 for mode, followed by Professional tools and Social network management processes with an equal value for mode of 3, from which it can be inferred that SMEs managers know and use the most notorious social networks, however, they use professional tools or management mechanisms sometimes.

With respect to the average (x), the results show that SMEs managers use social networks and the professional tools they offer, but their use of management processes is moderate. This implies that SMEs do not take advantage of the benefits of an adequate management process through social networks.

This contradicts the theoretical statements of [18], in relation to how to have a good presence in social networks, companies must previously establish a defined strategy, which allows them to develop their objectives effectively, avoiding wasting time and money.

Regarding the dimensions and indicators of the dimension Social Networks, the observed results show that SMEs always use professional pages and sometimes use the pages of companies and groups, for management on the web. In addition, SMEs always use Google+ and LinkedIn as referral networks, they almost always use Facebook and sometimes Twitter in this process. Finally, the responses of the respondents show that they always consider the resources necessary for the management process, but sometimes they establish the objectives and strategies that facilitate the activities and evaluations.

On the other hand, for the IC Recruitment Variable, the results were grouped and the statistical procedure was performed, which is evidenced in Table 5.

TABLE V. Results for the IC Recruitment variable

Total indicators	Σ	M_0	x	σ	s^2
Attraction	34,67	3	3,467	1,033	1,012
Selection	38,67	4	3,833	0,918	0,918
Reception	35,67	4	3,567	0,963	0,953
Total Dimension: Recruitment process	36,22	4Sometimes	3,622 High	0,961	0,947 Low Dispersion, High Reliability
Human capital	35,00	3	3,500	0,670	0,818
Relational Capital	39,67	3	3,967	0,630	0,793
Communicative Capital	35,00	5	3,500	0,843	0,916
Research Capital	36,67	3	3,667	0,593	0,768
Total Dimension: IC components	36,58	3Sometimes	3,658 High	0,684	0,824 Low Dispersion, High Reliability
Financial capital	33,33	3	3,333	0,620	0,787
Process Capital	36,00	4	3,600	0,493	0,68
Market Capital	34,00	3	3,400	0,573	0,735
Total Dimension IC indicators	34,44	3Sometimes	3,444 Alta	0,562	0,734
Total Variable Recruitment of IC	35,75	3Sometimes	3,357 Moderate	0,731	0,840 Low Dispersion, High Reliability

According to the obtained results, it is observed that the summation for the studied variable reached a value of 35.75, the mode 3 and the reliability 0.84, which shows that the managers of the PYMES sometimes develop recruitment stages, in order to constitute the required IC and carry out the objectives of the organization. In addition, it is evident that they almost always accomplish with the recruitment stages and sometimes take into account the components and indicators to reach an optimal IC.

Specifically, in the results of the division of stages of recruitment of IC, it is evident that SMEs devote more time and effort to the selection of personnel, but neglect fundamental aspects such as attraction and reception, which are relevant to the process of recruitment. Likewise, these almost always comply with the process of selection and reception of new employees, however, almost never perform the activities required to attract candidates with the requested profile.

Concerning the dimension IC Components, SMEs consider the relational capital of the organization as the main factor, while to a lesser extent research, communicational and human capital. Likewise, they always promote communications as a component of the intellectual capital of the organization, but almost never promote human, relational and research capital.

Regarding the dimension IC Indicators, SMEs first determine the indicators related to the processes and market, and then measure the indicators of financial capital. Likewise, they almost always worry about executing their processes, but almost never consider the market and financial aspects as constituents of intellectual capital.

IV. CONCLUSION

From the results it can be concluded that when establishing the IC indicators in the SMEs, it was evident that the managers mainly identify the indicators related to the processes and the market, and use little financial capital. This implies that they manage to determine expected results and impact generated by the organizational activities, however, they do not know the accounting expenses of the profit and loss account, the ratios on liquidity, indebtedness, profitability and productivity, which are decisive for the achievement of the objectives of the organization.

This leads to the proposal of theoretical guidelines for the management of social networks in the recruitment of IC in SMEs, where they are: the optimization of resources for the recruitment of candidates, get higher quality in the candidatures received through of professional networks, allowing the generation of spontaneous candidacies by improving the image as an employer and by forming an operational talent network of the organization.

Regarding the dimensions and indicators, it was evidenced that SMEs sometimes apply management processes with professional tools that provide social networks and develop recruitment stages that allow to collect the IC required to achieve the objectives of the organization, and do not attach as much importance to the determination of IC components and indicators. Therefore, they are limited in the hiring of trained personnel to reach the goals of the organization.

The social networks used by SMEs for the management processes are Google+ and LinkedIn, due to advantages such as: showing the location of the company through web maps, business contacts, opening hours, among other aspects. In addition, they do not satisfactorily employ groups which allow the definition of communication and technological use policies in these networks.

SME managers are more concerned with resources and activities than with the creation of objectives, strategies and evaluation of management. Likewise, they allocate more time and effort to the selection of personnel than to the attraction and reception as fundamental stages of recruitment, which does not allow to develop a suitable reception process and the contracted candidates may not be adequately integrated into the organizational culture and values of the SMEs.

When characterizing the components of the IC in SMEs, it was observed that relational capital is the aspect that they consider most relevant, while they consider research, communicational and human capital to a lesser extent. This implies that although good relations are maintained with external public, they risk not motivating employees enough, for which they miss out on the ability to innovate and show commitment to the success of the organization.

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