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### GUÍA PARA AUTORES

# THE ASSOCIATIONS OF BOARD OF DIRECTORS' CHARACTERISTICS WITH MODIFIED AUDIT OPINION

LAS CARACTERÍSTICAS DE LAS ASOCIACIONES DE LA JUNTA DIRECTIVA CON LA OPINIÓN DE AUDITORÍA MODIFICADA

## ABSTRACT

This study aims to find a relationship between board of directors' characteristics and the likelihood that a company receives a modified audit opinion (as a measure of the external reporting of companies) in Malaysia. To test our hypotheses, we use the pooled cross-sectional logistic regression analysis for 136 firm-year observations listed on Bursa Malaysia over the period 2009-2011. The evidence we uncover is consistent with the hypotheses that companies with large board size and greater financial expertise of the board of directors are less likely to receive a modified audit opinion. The results obtained in this study are consistent with the listing rules of the Malaysian-Corporate-Governance Code and the requirements of the Bursa Malaysia Corporate-Governance-Guide, which consider and the requirements of the Bursa Malaysia Corporate-Governance-Guide, which consider the significance of the board of directors as an aspect of good corporate governance and its critical role in the Malaysian financial reporting process.

## KEYWORDS

Modified audit opinion, financial reporting quality, board of directors' characteristics, Malaysia.

## RESUMEN

El objetivo de este estudio es investigar, para el caso de Malasia, la relación entre las características de las juntas directivas y la probabilidad de que una compañía reciba una opinión de auditoría modificada (como una medida de la calidad de la información financiera externa de las compañías). Para probar nuestras hipótesis utilizamos 136 observaciones de empresas por año, las cuales están registradas en Bursa Malasia para el período 2009-2011, e hicimos un análisis de regresión logística transversal agrupada. La evidencia que obtuvimos es consistente con la hipótesis de que las empresas con una junta directiva de gran tamaño y mayor capacidad financiera tienen una probabilidad menor de recibir una opinión de auditoría modificada. Los resultados hallados en este estudio son consistentes con las reglas del registro del Código de Gobierno Corporativo de Malasia y los requisitos de la Guía de Gobierno Corporativo de Bursa Malasia, los cuales consideran la importancia de las juntas directivas como uno de los aspectos del buen gobierno corporativo, así como su papel fundamental en el reporte de información financiera en Malasia.

## PALABRAS CLAVE

Opinión de auditoría modificada, calidad de la información financiera, características de la junta directiva, Malasia.

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## INTRODUCTION

In recent times, a series of giant companies from around the world collapsed, including such firms as Enron and WorldCom in the US, Parmalat, Ahold, Gescartera and BBVA in Europe (to name a few). It has been shown that most corporate failures can be caused by the lack of internal monitoring of management in the financial reporting process, arising from poor corporate governance of companies (Agrawal & Chadha, 2005; Deng & Wang, 2006; Charitou et al., 2007; Che Haat et al., 2008; Lin & Hwang, 2010; Darus & Mohamad, 2011). Malaysia is not an exception, albeit the Malaysian Code on Corporate Governance (MCCG) and Bursa Malaysian corporate governance Guide strengthens, incrementally, the efforts towards enhancing corporate governance. There are still many questionable marks on the financial reporting quality since pervasive cases of fraudulent financial reporting and failures (e.g., Megan Media Hodlings Berhad, NasionCom Hodlings Berhad, United U-LI Corporation Berhad and Transmile Group Berhad) have emerged in the marketplace. Under such circumstances, several of these cases were given a modified audit opinion, as the result of lower financial reporting quality. Therefore, these cases of corporate financial reporting failures have raised questionable marks on the financial reporting quality, and the effectiveness of the board of directors, as one of vital internal corporate monitoring mechanisms on management in Malaysian setting. As such, this can enhance the financial reporting quality (Johari et al., 2008; Darus & Mohamad, 2011). Thereby, this study attempts to answer the following question: Does the board of directors' characteristics in individual and aggregated tests (i.e., independence, size, meetings and financial expertise) decrease the probability of Malaysian publicly listed companies in receiving a modified audit opinion?

There are several studies that have examined board of directors' characteristics and the possibility of a company receiving a modified audit opinion (Sanchez-Ballesta & Garcia-Meca, 2005; Firth et al., 2007; Rusmin et al., 2009; Farinha & Viana, 2009). These studies have uncovered mixed and inconclusive results, due to the omission of important determinants (Vafeas & Theodorou, 1998). Notably, it is well documented by the extant research in other disciplines that board of directors' financial expertise is considered one of the crucial factors in increasing the board of directors' effectiveness and monitoring the role that it plays. Consequently, a positive impact of the financial expertise of those sitting on the board may enhance reporting quality (Carcello et al., 2002; George, 2003; Lin et al., 2003; Park & Shin, 2004; Bedard et al., 2004; Cohen et al., 2008). In this regard, board members with financial expertise would be able to rectify potential financial problems before they become bigger. As such, the directors who have sufficient expertise in financial matters, greater understanding in accounting principles, and are able to ask the right questions and understand the answers, will have a positive influence on the quality of the financial reporting. Ultimately, the probability of obtaining an unmodified audit opinion is increased.

To the best of the researchers' knowledge, there are several studies that have examined the relationship between the board of directors' characteristics and the possibility of a company receiving a modified audit opinion. The Malaysian context is not an exceptional one, due to the fact that most Malaysian publicly listed companies that have received modified audit opinions, correspond with a lower financial reporting quality during our period of study. This circumstance raises a questionable mark on the role of the board of directors on the probability of Malaysian publicly listed companies receiving a modified audit opinion. A study investigating the association of the characteristics of the board of directors with a modified audit opinion in the Malaysian setting does not exist.

In this aspect, the current study is motivated by an effort to fill the gap left by the previous audit opinion literature (e.g., Sanchez-Ballesta & Garcia-Meca, 2005; Firth et al., 2007; Rusmin et al., 2009; Farinha & Viana, 2009). As to the best of the researchers' knowledge, previous research in the field of audit opinion ignored the influence of financial expertise of the board of directors on the probability of receiving a modified audit opinion. Therefore, this study seeks to extend the work of Farinha and Viana (2009) by empirically investigating how the effectiveness of the board of directors' influence on the probability of receiving a modified audit opinion. This is the ultimate measure of financial reporting quality in the economies of Asian countries, especially in the Malaysian context.

In the particular case of the Malaysian context there are few studies that have examined the relationship between the board of directors' characteristics and the modified audit opinion (e.g., Alkilani et al., 2019a; 2019b). Therefore, a significant aspect of the present study is that of contributing to the understanding of the effect of key characteristics of the board of directors on a modified audit opinion in Malaysian publicly listed companies. As such, this should fill a gap in the existing literature of Asian economies, especially in the Malaysian context, by highlighting a specific dimension, namely the quality of financial reports. Additionally, the presence of a modified audit opinion can be observed as a direct measure of financial reporting quality. Using such a dimension of financial reporting quality, we document that, in accordance with our monitoring hypothesis, the financial expertise of the board of directors contributes towards improving the effectiveness of its monitoring role. Further, by enhancing the quality of financial reporting, we uncover that the board of directors with the greatest degree of financial expertise is significantly related to companies being able to avoid obtaining a modified audit opinion. Moreover, we also find that companies are less likely to receive a modified audit opinion when they increase the number of the board members. However, we fail to report significant evidence regarding the association of the independent non-executive directors and the frequency of board meetings with the modified audit opinion. Overall, our results confirm that the financial expertise of the board of directors, and the size of the board of directors contribute to increases of the

effectiveness of the board of directors in its monitoring role, related to enhancing the quality of the financial reporting which, consequently, leads to a decrease in the probability of receiving a modified audit opinion.

The data used in this study are drawn from the annual reports of a sample of non-financial Malaysian publicly listed companies which received a modified audit opinion from the period 2009 to 2011, as a test sample, with companies receiving unmodified audit opinions for the same period such as a matched-pair sample. The results of this study should be of interest in providing for a basis for regulatory actions, namely those aiming to influence the structure of the board of directors.

## LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

### Modified Audit Opinion and the Quality of Financial Reporting

The quality of financial reporting indicates the extent to which the financial information disseminated through the financial statements gives a true and fair view of the financial position, the results of its operations and its cash flows for the reporting period (Watkins et al., 2004). Arguably, it is the quality of financial reports that is critical to the users of financial reports in so much as they can make the right decisions related to investment and finance, as they base their decisions on such reports. However, the absence of such quality will eventually lead to the inefficient allocation of economic resources, and in turn, poor economic growth, as a result of incorrect decisions being made based on misleading financial statements (Gwilliam & Macve, 1982; Elliot, 1995; Wallman, 1995, 1996; Sridharan et al., 2002).

In this aspect, financial reporting quality can be judged through the type of audit opinion issued by the external auditor (Cohen et al., 2004). The auditor report is the final product of the audit examination that auditors use to communicate to users of the company's financial statements (Porter et al., 2003). Thereby, it has a major role to play in informing financial statement users of the impending problems with the company's financial reporting or controls of internal processes (Hope & Langli, 2010; Bennouri et al., 2015; Chen, 2020). The auditor's report may be classified into two types: unmodified and modified audit opinions (including qualified, disclaimed, and adverse opinions), as mentioned in the International Standards on Auditing (ISA, 700).

As a measure of financial reporting quality (Pucheta-Martínez & de Fuentes, 2007; Farinha & Viana, 2009), the type of audit opinion can enhance or decrease the reliability of financial information and the integrity of the financial reporting process (Watts & Zimmerman, 1986; Adiloğlu & Vuran, 2011). This is because the audit opinion is designed to report the detection of material misstatements in audited financial statements (Elfouzi & Zarai, 2009; Stanley et al., 2009; Adiloğlu & Vuran, 2011). Thereby, the audit opinion appears through agency theory in providing indicators about the company's quality of financial reports to users of the financial statements (e.g., Carcello & Neal, 2000; Hope & Langli, 2010). Specifically,



the decision to receive or avoid a modified audit opinion is considered as prima-facie evidence of the quality of the financial statements (Chen et al., 2001; Pucheta-Martínez & de Fuentes, 2007; Farinha & Viana, 2009). Whereby, “the modified audit report includes a remark related to the quality and presentation of financial statements” (Sundgren, 2009). Thus, it can be argued that the modified audit opinion can be interpreted as a signal of lower financial reporting quality (Farinha & Viana, 2009), and may indicate the presence of an agency problem, because the presence of a modification; a concern that is central to the user of the financial statements (Sanchez-Ballesta & Garcia-Meca, 2005).

### **Board of Directors Characteristics**

The main corporate governance mechanism responsible for monitoring the management, is the board of directors (Fama & Jensen, 1983). As a result of several corporate failures, boards have become a subject of attention for regulators (Adams et al., 2010), for governance reform, and a center of concern for the attention of many researchers (Omer & Al-Qadasi, 2020; Puni & Anlesinya, 2020). The board of directors acts as one of the important internal control mechanisms used in increasing public confidence in the credibility and the objectivity of financial reports, and protecting shareholder rights (Almutairi & Quttainah, 2020; Almujaed & Alfraih, 2020) by enhancing the quality of monitoring process while decreasing the probability of receiving a modified audit opinion. The following part discusses the development of four hypotheses which meet the objectives of the study, and are related to the impact of the effectiveness of the board of directors on the probability of receiving a modified audit opinion.

### **Board Independent Non-Executive Directors**

A common contractual means for the mitigating of agency problems and reducing its cost is the presence of an independent party to the board for monitoring the management and control of company activities (Fama, 1980; Fama & Jensen, 1983; Cohen et al., 2008; Zainal Abidin et al., 2009; Fernández-Temprano & Tejerina-Gaite, 2020). This is because boards are less likely to exert control over management when they lack independence from the management (Carpenter & Westphal, 2001). According to Farinha and Viana (2009) and Zhang et al. (2007), the presence of independent, non-executive directors on the board is required to enhance its effectiveness in overseeing and reviewing the financial reporting process, and to introduce better corporate governance practices. (Lagos-Cortés et al., 2017; Thenmozhi & Sasidharan, 2020). In line with these arguments, The Malaysian Code on Corporate Governance (MCCG, 2007) requirement mandates that one third of the board members must be independent non-executive directors. In tandem, Bursa Malaysia listing requirements stipulate that at least two directors or one third of the board, whichever is higher, must be independent (paragraph 15.02 listing requirements).

Empirically, previous studies on audit opinion provide some support for the notion that independent, non-executive directors will do a better job of oversight of financial reporting processes and thus reduce the probability of a company receiving a modified audit report. For example: Firth et al. (2007) uncover that the existence of independent non-executive directors of the board in a Chinese setting have a negative association with a modified audit opinion. Likewise, Farinha and Viana (2009) argue that a larger percentage of independent, non-executive directors of board members increases the quality of financial reporting, whereby, they uncover that the percentage of Portuguese, independent non-executive directors is a negative significantly related to a modified audit opinion. Conversely, Rusmin et al. (2009) report a negative but insignificant association between the independent, non-executive directors and a modified audit opinion in an Australian context. The possible explanation of this contradictory finding may be due to the differing sample design and the time period of the study test.

In Malaysia, there is only one study (Iskandar et al., 2011) that links the role of the board independent, non-executive directors and going concern problems, using data from 2004. This study reports a positive insignificant association. It does not seem sensible to develop the hypothesis of the present study dependent upon one study that has used somewhat old data because of the fact that after 2004, many changes have been put in place in the MCCG (MCCG, 2007 and Revised MCCG, 2007) and, Bursa Malaysia listing requirements, have focused on showing greater clarity of the role of the board of directors in the monitoring processes, (among others). This study, however, uses recent data from 2009-2011 to examine the impact of the percentage of independent, non-executive directors on the board on the modified audit opinion. Therefore, this study develops its hypothesis based of the conjuncture of the agency theory and the direction of the studies that are consistent with the theory to add one more debate to the proposed association. Thus, the following hypothesis is proposed:

*H<sub>1</sub>: There is a negative association between board independent non-executive directors and the probability that a company receives a modified audit opinion, all else constant.*

### **Board Size**

The revised MCCG states that “every board should examine its size, with a view to determining the impact of the number upon its effectiveness” (revised MCCG, P, 12, 2007). In this regard, based on the conjuncture of the agency theory, Kiel and Nicholson (2003) argue that a larger board is more likely to be vigilant in addressing agency problems. This is because increased board size may increase the monitoring strength of the board of directors, due to greater oversight over the company's management (Pearce & Zahra, 1992; Borokhovich et al., 2005; Miller, 2009; Marlin & Geiger, 2011). In this regard, Al-Najjar (2011) suggests that a large board provides for better internal monitoring activities. Hence, board of directors' size is viewed as

another important element in board characteristics that may affect board of directors' effectiveness in monitoring activities, oversighting financial reporting process and internal control, which in turn enhances the quality of financial reports (Bradbury et al., 2006; Abdul Rahman & Mohamed Ali, 2006; Zhang et al., 2007; Firth et al., 2007; Rusmin et al., 2009). It also reduces the probability of receiving a modified audit opinion (Sanchez-Ballesta & Garcia-Meca, 2005; Firth et al., 2007; Rusmin et al., 2009).

In the audit opinion context, empirical evidence on the impact of the board of directors' size on a modified audit opinion is conflicting and inconclusive. Rusmin et al. (2009) uncover a negative and significant association between board of directors' size and modified audit opinion. Implicit in this result is that a large number of members on the board enables the board to function effectively and leads to high quality of financial reporting, and consequently less likelihood of receiving a modified audit opinion. However, this result is in the opposite line with Farina and Viana (2009); Sanchez-Ballesta and Garcia-Meca (2005) and Firth et al. (2007) whereby they find that board directors size is unrelated to the probability that a company receives a modified audit opinion. One possible explanation for the conflicting results reported is the that listed companies in environments of Spanish, Chinese and Portuguese settings have high ownership concentration where a single shareholder often has effective control of the company (e.g., Sanchez-Ballesta & Garcia-Meca, 2005; Firth et al., 2007; Farinha & Viana, 2009), compared those with companies listed in an Australian setting (Rusmin et al., 2009). This may lead to the impact of the effectiveness of board of directors' size as a monitoring device on the corporate financial reporting process, and its capacity to monitor management.

Due to the above arguments and the limited evidence, this study attempts to examine the impact of the board size on the modified audit opinion in Malaysian context. Therefore, the study develops it hypothesis based on the suggestion of the agency theory and the direction of the studies that are consistent with the theory to add one more debate to the proposed relationship. Thus the following hypothesis is proposed:

*H<sub>2</sub>: There is a negative association between board of directors' size and the probability that a company receives a modified audit opinion, all else constant.*

### **Board Meetings**

The board of directors' meetings is considered as a resource that leads to board diligence and in turn enhances board effectiveness (Conger et al., 1998; Vafeas, 1999; Xie et al., 2003; Garcí ´a Lara et al., 2009). Overall, the intensity of board activities is likely to contribute to the effectiveness of its oversighting function particularly in matters concerning the financial reporting process, resulting in improved financial reporting quality (Xie et al., 2003; Yatim et al., 2006; Firth et al., 2007; Alshirah et al., 2020). In turn, there is a decrease in the probability of receiving a modified audit opinion (Farinha & Viana, 2009). Hence, the meetings of the board of directors

appears to have the capability to minimize agency problems and reduce agency cost, as a result from lower information asymmetry (Foo & Mat Zain, 2010; Lorca et al., 2011). Consistent with these perspectives, the latest Guide on Corporate Governance by Bursa Malaysia highlights that a typical board of directors would hold a minimum of 6 to 8 board meetings annually.

Regarding the influences of the board of directors' meetings on a modified audit opinion, prior empirical studies are still small in number and provide an unclear result to support theoretical arguments. For example, Farinha and Viana (2009) report that the increase of the board of directors' meetings increases the quality of financial reporting and reduces the probability of receiving a modified audit opinion. However, this result is contrary with Firth et al. (2007) whereby they suggest that the relationship between board diligence (proxy by the board of directors' meetings) and the issuance of a modified audit opinion is not statistically significant. The potential justification of these paradoxical results might be due to the different corporate governance structure. Chinese listed companies have a two-tier internal corporate governance structure made up of a supervisory board and a board of directors (e.g., Firth et al., 2007). The supervisory board oversees the board of directors and this governance structure differs from the Portuguese corporate governance structure (e.g., Farinha & Viana, 2009).

Thus, based on the standpoint of the agency theory, it can be argued that the increase of the board of directors' meetings will likely improve the monitoring process of corporate financial reporting and internal control; thereby, an increase in the probability of an unmodified audit opinion (Farinha & Viana, 2009). Therefore, the hypothesis is developed based on the proposition of the agency theory and the direction of the studies that are in line with the theory to add one more related debate. Thus the following hypothesis is proposed:

*H<sub>3</sub>: There is a negative association between board of directors' meetings and the probability that a company receives a modified audit opinion, all else constant.*

### **Board of Directors' Financial Expertise**

Cohen et al. (2008) suggest that the primary characteristic for a board member in the agency perspective is expertise in monitoring and control. In this regard, previous studies argue that board of directors' financial expertise has an important impact on its effectiveness in its monitoring role and how this, consequently, can influence the quality of financial reporting (Lin et al., 2003; George, 2003; Xie et al., 2003; Bedard et al., 2004; Park & Shin, 2004; Agrawal & Chadha, 2005). Therefore, the board of directors, which has more experts is more likely to discharge its oversight responsibility effectively in the internal control and financial reporting process, thus sustaining the quality of financial reporting, and eventually increasing the probability of receiving an unmodified audit opinion.

To the best of the researchers' knowledge, there is no empirical study that has linked board of directors' financial expertise and modified audit opinion. Prior literature highlights the importance of addressing different board of directors' characteristics as the crucial factors in increasing board of directors' effectiveness and the monitoring role it plays (Xie et al., 2003; Lin et al., 2003; Agrawal & Chadha, 2005; Goh, 2009). It is therefore logical to think that the increase in expertise of the board of directors on financial matters leads to an increase its understanding of the accounting numbers. This enables them to ask the right questions and to be able to understand the answers, thus increasing the board's ability to monitor management while enhancing internal control and financial report quality. This, consequently, reduces the probability of receiving a modified audit opinion, and thereby contributes to protecting the interest of all shareholders.

This study develops its hypothesis based on the suggestion of the agency theory and the direction of the studies that are consistent with the theory to add one more debate to the proposed association. Thus the following hypothesis is proposed:

*H<sub>4</sub>: There is a negative association between board of director expertise and the probability that a company receives a modified audit opinion, all else constant.*

## METHODOLOGY

### Data Collection and Sample Description

Data used in this study are collected from two separate sources: annual reports and Datastream. Any missing financial figures from Datastream were acquired from the annual reports. The annual reports were retrieved from the Bursa Malaysia website at [www.bursamalaysia.com.my](http://www.bursamalaysia.com.my). All relevant data was collected from 2009 to 2011. The sample companies were extracted from the population of publicly-available information mainly annual reports of publicly listed companies on the Bursa Malaysia, which received a modified audit opinion in the period of 2009-2011, as a test sample. Each firm year of the test sample is matched with a company which received an unmodified audit opinion as a control test (matched-pair sample) in the event year. In this study, the matched-pair sample is identified using the following criteria: fiscal year, industry, same market and nearest total asset amount. The matched-pair sample method has been used in prior studies of audit opinion such as Sanchez-Ballesta and Garcia-Meca (2005). In this study, the financial companies were excluded because they possess unique characteristics, and since they are not required to adopt some of the corporate governance requirements imposed on public companies, and most are regulated by different regulations and standards they would thus require a separate study, (Sanchez-Ballesta & Garcia-Meca, 2005; Chu & Cheah, 2006; Yatim et al., 2006; Farinha & Viana, 2009). Given the above, our sample is composed of 136 company-years observations relating to 96 companies from 7 different industries sectors. This can be more pronounced as will show later.

### Model Specification and Measurement

To examine the relationship between independent variables and modified audit opinion, we test our hypothesis by using the following cross-sectional logistic regression model which is proposed as:

$$MAO = \beta_0 + \beta_1 BINEDR + \beta_2 BSIZE + \beta_3 BMEET + \beta_4 BEXPERT + \beta_5 AUDSIZE + \beta_6 \log AUDLAG + \beta_7 LOSS + \beta_8 NCFGOAR + \beta_9 \log EAF + e$$

Where:

Modified audit opinion (*MAO*) will take the value of "1" if the opinion is a modified one, i.e., when a qualified, disclaimed, and adverse opinions has been issued by the auditor, and "0" otherwise.

The independent variables are defined as follows:

<i>BINEDR</i>	=	percentage of independent non-executive directors on the board;
<i>BSIZE</i>	=	number of board members at fiscal year-end;
<i>BMEET</i>	=	number of board meetings during the fiscal year-end;
<i>BEXPERT</i>	=	percentage of the board of directors with accounting and financial expertise;
<i>AUDSIZE</i>	=	dummy variable will take the value of 1 if company was audited by a Big 4 audit firm, 0 otherwise;
<i>logAUDLAG</i>	=	the natural logarithm represents the number of days elapsing between the end of the fiscal year of the company to the completion of the audit for the current year for each individual firm (the audit report date);
<i>LOSS</i>	=	dummy variable will take the value of 1 if the company reported a negative net income in either or both of the two previous years; 0 otherwise;
<i>NCFGOAR</i>	=	percentage of net cash flow generated from operating activities (net cash flow generated from operating activities divided by total assets);
<i>LogEAF</i>	=	Log of external audit fees.

### **Control variables**

There are many factors that affect a modified audit opinion. In our model we have introduced several of these factors as controlling variables, among others, which have been reported in the literature, which can impact the probability that a company receives a modified audit opinion. Hence, this study seeks to analyze the relationship between a modified audit opinion and a comprehensive set of control variables. The discussions of other controlled variables are offered in the following:

Most prior archival studies have documented that the audit firm size (AUDSIZE), audit report lag (AUDLAG), the losses (LOSS), the operating cash flow (NCFGOAR) and the statutory external audit fees (EAF) are significantly associated with modified audit opinion. Hence, these variables are included as control because this is uncovered to exert a significant influence on modified audit opinion. In this study, with regard to the audit firm size and the operating cash flow it is expected to have a negative association with a modified audit opinion (Pucheta-Martínez & de Fuentes, 2007; Firth, et al., 2007; Goh, 2009; Farinha & Viana, 2009; Rahmat et al., 2009; Kaplan & Williams, 2013; Tsipouridou & Spathis, 2014; Moalla & Baili 2019). In respect to the audit report lag (AUDLAG), the losses (LOSS), and the statutory external audit fees (EAF) are expected to have a positive relationship, with a modified audit opinion (Francis, 1984; Chen & Church, 1992; Bell et al., 2001; Behn et al., 2001; DeFond et al., 2002; Geiger & Rama, 2003; Pucheta-Martínez & de Fuentes, 2007; Firth et al., 2007; Johl et al., 2007; Basioudis et al., 2008; Farinha & Viana, 2009; Malek & Che Ahmad, 2011; Johl et al., 2012; Kaplan & Williams, 2013; Tsipouridou & Spathis, 2014; Moalla, 2017; Sultanoglu et al.2018; Alkilani et al., 2019a; Alkilani et al., 2019b; Moalla and Baili 2019). Therefore, the companies are expected to be received an unmodified audit opinion when the companies have high quality auditors, shorter audit report lag, strong financial health, appropriate net cash flow generated from operating activities, and suitable audit services fee paid by the company to its statutory external auditor on audit engagement.

### **Sample Descriptive**

After the screening process, 68 company-years observations relating to 48 companies that have received a modified audit opinion were eligible to be included in the analysis as a test sample group. The test sample group companies were matched with the same number of companies that have received an unmodified audit opinion, resulting in a final sample of 136 company-years observations relating to 96 companies.

## RESULTS AND DISCUSSIONS

### Descriptive Statistics and Univariate Analyses

Table 1: provides descriptive statistics and univariate test results for variables measured as continuous metrics. In this table, summary statistics for the total groups of sample, modified audit opinion (test sample) and unmodified audit opinion (the matched-pair sample) as a control test sample are tabled in separate columns.

Regarding the independent, non-executive directors on the board, the mean (median) of *BINEDR* is .464 (.43); with a minimum of .29 and a maximum of .80, suggesting that independent non-executive directors on the board are very much closer to half of the board of directors' members in total groups of the sample. This composition follows the suggestion made by the MCCG which requires at least one-third (1/3) of the board members to be independent non-executive. In audit opinion studies, these results are similar to the mean (median) of .36 (.40) reported in Portuguese for 2002-2005 by Farinha and Viana (2009). Comparing the mean (median) of *BINEDR* in modified audit opinion sample is .492 (.50); which is significantly higher when compared with the mean (median) .435 (.43) of an unmodified audit opinion (the matched-pair sample).

In contrast, we can observe that the mean (median) board of directors' size *BSIZE* is 6.856 (7) members; with a minimum of 3 and maximum of 13, in total groups of the sample. In comparing terms with audit opinion studies, Farinha and Viana (2009) uncover that the mean (median) of board of directors' size *BSIZE* in their study is 7.51 (7). In the comparative, the mean (median) of *BSIZE* in a modified audit opinion sample is 6.33 (6); which is significantly lower when compared with the mean (median) 7.38 (7) of an unmodified audit opinion (the matched-pair sample).

Concerning the frequency of meetings of the board of directors, we can observe that the mean (median) number of board of directors' meetings *BMEET* is 6.053 (5) (minimum of 3 and maximum of 25), in total groups of the sample. These values contrast to those obtained from Farinha and Viana (2009), as they uncover that the mean (median) number of boards of director meetings is 13.78 (12) with a minimum of 3 and maximum of 58 meetings. One can observe that the mean (median) of *BMEET* in a modified audit opinion sample is 7.27 (6); which is significantly higher when compared with the mean (median) 4.83 (5) of an unmodified audit opinion (the matched-pair sample).

In terms of the board of directors' financial expertise, we find that the mean (median) of the board of directors' financial expertise *BEXPERT* is .303 (.29)



(minimum of 0 and maximum of .80), in the total groups of the sample. The mean (median) of *BEXPERT* in modified audit opinion sample is .304 (.29) which is quite similar when compared with the mean (median) of an unmodified audit opinion (the matched-pair sample) .302 (.29) and the total groups of samples .303 (.29). Comparing the *BEXPERT* in the two groups of audit opinion (modified audit opinion with that of unmodified audit opinion) it shows a statistically insignificant difference between the mean of the board of directors' financial expertise *BEXPERT* in the two groups ( $t = .096$   $p = .924$ ). This preliminary result does not provide directional support for the association of the board of directors' financial expertise with a modified audit opinion.

Table 2 presents the descriptive statistics and univariate test results for (dummy) variables by audit opinion. Like the previous t-test, the analysis in this table is related to the relationship between modified audit opinion and unmodified audit opinion in order to be consistent with the multivariate model. The results of the Mann-Whitney U-test for the distribution differences between modified audit opinion and unmodified audit opinion reveals that audit firm size *AUDSIZE*, is statistically insignificant. In this case, we can argue that these variables are statistically independent from the type of opinion being granted by the auditor (at the 10% level of significance). This result indicates that no evidence of significant differences exists between the two groups of audit opinion samples for audit firm size *AUDSIZE*, (modified audit opinion group: .43; an unmodified audit opinion group: .57).

Based on our observation, a majority of our sample was audited by the Non-BIG 4 audit firms (63%), which reported that the modified audit opinion group audited by (BIG 4: .32; Non-BIG 4: .68) and an unmodified audit opinion group audited by (BIG 4: .42; Non-BIG 4: .58). This is inconsistent with previous studies such as Farinha and Viana (2009) who reported that the Big 4 auditors are responsible, directly or through subsidiaries, for about 70% of the audit reports in Portugal.

Meanwhile, the differences in loss in previous years *LOSS* samples was found to be highly significant at  $p < .000$ . This result is consistent with prior audit reporting research (Johl et al., 2007; Firth et al., 2007; Pucheta-Martínez & de Fuentes, 2007; Farinha & Viana, 2009), the modified audit opinion group were more likely to have a loss and more likely to have received a modified audit opinion than the unmodified audit opinion group.

**Waddah Kamal Hassan Omer · Khaled Salmen Aljaaidi · Mohd 'Atef Md Yusof · Mohamad Hisyam Selamat**  
The associations of board of directors' characteristics with modified audit opinion

Table 1. Descriptive statistics and univariate test results of continuous variables classified by modified audit opinion/unmodified audit opinion

Variables	Total Groups of Sample					Test sample (the recipients of modified. A.O)			Control test sample (the recipients of Unmodified. A.O)			Modified. A.O Vs Unmodified. A.O t-test	
	Mean	Median	Min	Max.	Std. Deviation	Mean	Media n	Std. Deviation	Mean	Media n	Std. Deviation	t-stat	P value Sig. (2-tailed) <sup>x</sup>
BINEDR	.464	.43	.29	.80	12773	.492	.50	.130	.435	.43	.11959	2.619	.010
BSIZE	6.856	7	3	13	1.722	6.33	6	1.439	7.38	7	1.829	-3.649	.000
BMEET	6.053	5	3	25	3.092	7.27	6	3.801	4.83	5	1.343	4.916	.000
BEXPERT	.303	.29	0	.80	.145	.304	.29	.150	.302	.29	.141	.096	.924
logAUDLAG	4.655	4.754	3.912	4.942	.211	4.762	4.779	.069	4.547	4.635	.248	6.805	.000
NCFGAR	.578	.036	-1.73	36.696	4.404	-.030	.003	.234	1.185	.084	6.187	-1.594	.113
LogEAF	4.989	4.963	3.90	6.42	.401	4.975	4.977	.391	5.002	4.937	.413	-.399	.690

Table 2. Descriptive statistics (percentage) and univariate test results for dummy variables for modified audit opinion /unmodified audit opinion

Variables Modified	Type of audit opinion		Mann-Whitney U-test
	Unmodified	Modified	
AUDSIZE	BIG 4	21 (43%)	28 (57%)
	Non-BIG 4	45 (54%)	38 (46%)
LOSS	Loss	48 (76%)	18 (24%)
	UnLoss	9 (16%)	57 (84%)

Regarding the existence of multicollinearity problems among the independent variables, several examinations have been identified to check for the possible existence of multicollinearity. These include: the correlation matrix, variance inflation factor (VIF) and tolerance (1/VIF).

In terms of the correlation matrix, in this study, the correlation matrixes confirm that no multicollinearity exists among the variables in the study model, the modified audit opinion model as none of the variables correlates equal or above 0.80, which is the first indication to absence of a substantial collinearity problem between the independent variables (Hair et al., 1995; Greene, 1999; Cooper & Schindler, 2003). Among independent variables, the highest correlation is equal to -0.501, that found for *BSIZE* and *BINEDR* in modified audit opinion; All the variables have a correlation that are below the critical limits of 0.80. As shown in Table 3. This provides for indications that multicollinearity is not a problem in the study model estimations.

Table 3. Correlation matrix of independent variables for study Model

Variables	BINEDR	BSIZE	BMEET	BEXPERT	AUDSIZE	logAUDLAG	LOSS	NCFGUAR	LogEAF
BINEDR	1								
BSIZE	-0.501	1							
BMEET	0.115	-0.102	1						
BEXPERT	0.148	-0.175	0.069	1					
AUDSIZE	-0.118	0.220	-0.095	0.001	1				
logAUDLAG	0.228	-0.242	0.222	-0.039	-0.294	1			
LOSS	0.179	-0.207	0.323	0.055	-0.122	0.371	1		
NCFGUAR	-0.1163	0.342	-0.051	-0.006	0.169	-0.382	-0.026	1	
LogEAF	-0.173	0.286	0.062	0.001	0.251	-0.093	0.019	0.439	1

With regard to the (VIF) and the tolerance ( $1/VIF$ ), in general, the existence of multicollinearity problems is detected if the variance inflation factors (VIF) is more than 10 and tolerance value is less than 0.10 (Hair et al., 2006; Pallant, 2007). Based on the analyses, variance inflation factors (VIF) and the tolerance ( $1/VIF$ ) for the study model report in this study do not exceed (10) and (0.10), respectively. As shown in Table 4. This indicates that multicollinearity is not a problem to model the explanation in this study.

Table 4. Multicollinearity statistics of assessing VIF and Tolerance values for the study Model

Variable	Collinearity statistics	
	Variance Inflation Factor (VIF)	Tolerance Value (1/VIF)
BSIZE	1.60	0.625037
NCFGUAR	1.57	0.635029
logAUDLAG	1.54	0.648776
BINEDR	1.40	0.713934
LogEAF	1.38	0.726451
LOSS	1.31	0.765711
AUDSIZE	1.18	0.847022
BMEET	1.15	0.870852
BEXPERT	1.05	0.948456
Mean VIF	1.35	

### MULTIVARIATE LOGISTIC REGRESSION RESULTS

The results of multivariate logistic regression for testing the hypotheses are illustrated in Table 5. We uncover that the model correctly classifies approximately 86.4 of the observations. In this respect, the Hosmer-Lemeshow test statistics is greater than 0.05 for the study model (0.948) indicating that study model fit is acceptable. Moreover, the relationship between dependent and independent variables is significant ( $X^2 = 106.40$ ,  $p < 0.000$ ). The pseudo  $X^2 = (0.5815)$  implies a relatively strong association between the dependent and independent variables. In terms of the Cox and Snell  $R^2$  value for the study model is (0.553) indicating that the model fit. The Nagelkerke  $R^2$  values for the study model is (0.738). This is indicating that the independent variables in the model explain 73.8% of the change in the dependent variable, implying a reasonably explanatory model.

The presence some of outliers in the dataset amongst independent variables may mislead the results significantly obtained through the logistic regression and thus must be considered for treatment (Menard, 2002). In this respect, there are several ways to identify outliers. In this study, to ascertain whether the results are driven by unusual sample observations, outliers were identified using the standardized residual values greater than +/- about 3.3 (Tabachnick & Fidell, 2013; Pallant, 2007). Accordingly, in this study, there is some outliers, only a few (two) of them. Thus, such observations had been excluded from the main analysis. Eliminating this observation

together with its unmodified audit opinion matched group enhances the regression results as presented in the following Table 5.

This is demonstrated even though The Malaysian Code of Corporate Governance (2000, 2007) emphasized the importance of independent, non-executive directors on the board to bring an independent judgment to the board and enhance its effectiveness (Ponnu & Karthigeyan, 2010). The results show that the relationship between the independent, non-executive directors and modified audit opinion is a negative, but not statistically significant even at the 10% level. The result implies that the Malaysian independent non-executive directors may not be enough to act as an effective monitoring mechanism (Darus & Mohamad, 2011), in order to avoid companies from obtaining a modified audit opinion. Hence, it can be inferred that hypothesis H1 is rejected. This result is consistent with the finding of Rusmin et al. (2009) who report a negative insignificant association between the independent non-executive directors and a modified audit opinion. Likewise, in a local context, Iskandar et al. (2011) suggest that the association between the Malaysian independent, non-executive directors and going concern problems is a positive insignificant.

A plausible explanation for this result, perhaps, is that these independent non-executive directors as a part of the board of directors, might have a lack of time and insufficient efforts to carry out their duties to monitor financial reporting quality. This is because the board members may be holding more directorships; consequently, they are associated with ineffective monitoring of management (e.g., Fich & Shivdasani 2006). Specifically, directors with multiple directorships may have limited dedicated time to one company, thus directors with multiple directorships become so busy, and may have less time to closely scrutinize the internal control system, which leads to less effectiveness in monitoring of management (Yatim, 2011; Kamardin et al., 2012).

Regarding the influence of the board of directors' size on the likelihood of receiving a modified audit opinion, our results show a significant negative relationship between the large directors on the board and a modified audit opinion at the 5% level. Implicit in this result suggests that a large number of members on the board of directors enable them to function effectively and provide better internal monitoring activities; and consequently, decrease the probability of Malaysian publicly listed companies in obtaining a modified audit opinion. We can therefore conclude that our evidence expected H2. This result is consistent with Rusmin et al. (2009) who find that the board of directors' size is a negative and is related to the probability that a company is receiving a modified audit opinion.

Contrary to the stated hypothesis, the study finds a statistically significant relationship at the 1% level, but with the positively associated direction between board of director meetings with a modified audit opinion. This result indicates that the frequent meetings of board of directors do not help reduce the likelihood of Malaysian publicly listed companies receiving a modified audit opinion. Hence,

it can be inferred that hypothesis H3 is unsupported. This result is opposing with the suggestion of empirically indicated research for a modified audit opinion; for example, Farinha and Viana (2009) report that the board of director meetings has a negative impact on a modified audit opinion.

Thus, a plausible interpretation from this result may be based on the fact that the increase in the board of directors meetings meant that holding additional meetings and spending more time with dealing with the company problems, discussing strategy and legal issues, does not mean spending more time towards discussing the financial reporting issues or provide for a better monitoring role for the financial reporting processes. In addition, as a result of a lower quality of financial reporting there is therefore an increase in the propensity of Malaysian publicly listed companies in receiving a modified audit opinion. Therefore, the company needs to ensure that board of directors' members raised and resolved issues with management during these meetings, and as a result improve the quality of reporting (Hashim & Abdul Rahman, 2011).

In terms of the board of directors' financial expertise, the results show that the board of directors' financial expertise has a negative statistically significant relationship at the 10% level with the probability that companies receive a modified audit opinion. This result indicates that the increase of financial expertise on the board of directors leads to an increase in its understanding of accounting matters, which enables them to contribute towards improving its effective monitoring role, and in turn, enhance the quality of financial reporting and thereby, increase the probability of Malaysian publicly listed companies receiving an unmodified audit opinion. This is consistent with the theoretical model and the stated hypothesis. Hence, it can be inferred that hypothesis H4 is supported.

In regard to control variables, as expected in the study model all the control variables are significant in the predicted directions except for audit firm size AUDSIZE and external audit fees LogEAF, which are insignificant with the modified audit opinion. More specifically, there is an insignificant positive relationship between audit firm size AUDSIZE and the modified audit opinion even at the 10% level. As unpredicted, this finding reveals that the audit firm size does not bring any sort improvement in the monitoring processes, towards enhancing the quality of financial reporting, and in turn impact the likelihood of Malaysian publicly listed companies receiving an unmodified audit opinion. This result is consistent with numerous empirical previous studies on modified audit opinion; for instance, Firth et al. (2007), Pucheta-Martínez and de Fuentes (2007) and Farinha and Viana (2009) which uncover a positive insignificant association between the audit firm size and the modified audit opinion. Likewise, in the local context, Malek and Che Ahmad (2011) find that the size of an audit firm is negatively but not significantly related to an unqualified audit opinion.

The same applies as well to the external audit fees, as unexpected; there is an insignificant positive relationship between external audit fees *LogEAF* and the modified audit opinion even at the 10% level. This result reveals that the external audit fees do not bring any sort improvement in the monitoring processes, towards enhancing the quality of financial reporting, and in turn impact the probability of Malaysian publicly listed companies receiving an unmodified audit opinion. This result reinforces the findings of prior local studies; for illustration, Juhl et al. (2012) uncover that the qualified audit report is a negative unrelated to natural logarithm of audit fees. Likewise, Malek and Che Ahmad (2011) find that the external audit fee is a positively but insignificant related to an unqualified audit opinion.

Nevertheless, we uncover a positive and highly significant (at  $p < 0.01$ ) association between both audit report lag *logAUDLAG* and the losses *LOSS* and the likelihood probability of receiving a modified audit opinion. Also, in accordance with expectations of the influence operating cash flow, our evidence finds that the percentage of net cash flow generated from operating activities *NCFGOAR* has a negative significantly impact on the probability of receiving a modified audit opinion (In the study Model:  $p < 0.01$ ).

Table 5. Results of the multivariate logistic regression Modified audit opinion Model

Variables	Expected Sign	Coefficient (p-value)
Constant	?	-63.239 (0.001)
BINEDR	-	-1.964 (0.445)
BSIZE	-	-.463 (0.054)**
BMEET	-	.458 (0.013)***
BEXPERT	-	-3.317 (0.132)*
AUDSIZE	+	.218 (0.755)
logAUDLAG	+	(13.368) (0.001)***
LOSS	+	2.199 (0.000)***

Variables	Expected Sign	Coefficient (p-value)
NCFGOAR	-	-7.575 (0.023)**
LogEAF	+	.347 (0.668)
Log Likelihood		-38.295
Hosmer-Lemeshow		0.948
LR chi <sup>2</sup> (9; 6)		106.40
Prob > Chi <sup>2</sup>		0.0000
Coxsnell R <sup>2</sup>		0.553
Nagelkerke R <sup>2</sup>		0.738
Pseudo R <sup>2</sup>		0.5815
Correctly Classified (%)		86.4
No. of Observations		132

All p-values are one-tailed significance. \*\*\* are significant at  $p < 0.01$ , \*\* are significant at  $p < 0.05$  and \* at  $p < 0.10$ .

## DISCUSSION AND CONCLUSION

We draw on the argument that board of directors' acts are one of the important internal control mechanisms used in increasing public confidence in the credibility and the objectivity of financial reports through its effectiveness in overseeing of the corporate financial reporting process, and contribute to the protection of the interests of all shareholders. This study seeks to investigate the association between the effect of the characteristics of the board of directors and the probability that a company receives a modified audit opinion, as a measure of the quality of companies external financial reporting. Using a logistic regression with a matched pair sample design, we analyze the data of the sample of 136 observations relating to 96 non-financial companies listed on Bursa Malaysia over the period 2009-2011.

In this study several important findings emerge. Firstly, based on the study Model relating to an individual test for independent variables, our results provide evidence that Malaysian directors on the board with large size and greater expertise in financial matters are more effective in monitoring the financial accounting process, and ensuring the reliability of financial reports that, in turn, decrease the probability of Malaysian public listed companies receiving a modified audit opinion. In so doing, this contributes to protecting the interests of all shareholders. Therefore, the results indicate that board of directors' size and financial expertise are two of the most important determinants of a modified audit opinion, and reflect good internal control practices in a Malaysian setting.



However, the insignificant relationship between the percentage of the independent, non-executive directors and the probability of Malaysian publicly listed companies obtaining a modified audit opinion indicates that the independence of the Malaysian directors may not be sufficient to protect the interest of all shareholders. This is because of the fact that the independent, non-executive directors as a part of the board of directors, might have a lack of time and insufficient efforts to carry out their duties to monitor financial reporting quality, due to the board members being busier. Arguably, directors' busyness reduces their effectiveness in their monitoring duties as they relate to executive duties and the monitoring of financial reporting quality (Song & Windram, 2004; Fich & Shivdasani, 2006; Chang, 2009; Yatim, 2011; Kamardin et al., 2012).

Moreover, while it is expected that board of directors' meetings will be able to reduce the likelihood that a company receives a modified audit opinion as documented in Farinha and Viana (2009), this study uncovers a controversial and positive direction between the frequency of meetings of board of directors with the modified audit opinion. As such, this may reflect some concerns that more frequent meetings of board of directors as an internal corporate governance mechanism may not be able to necessarily provide a better monitoring role to the financial reporting processes in companies. Thus, the company needs to ensure board of directors' members raise and resolve issues with management during such meetings, and as a result, improve the quality of reporting (Hashim & Abdul Rahman, 2011).

The results of this study provide comprehensive evidence to support the agency theory. In this aspect, it can be argued that the significantly negative associations reported between that the board of directors' financial expertise and board of directors' size with a modified audit opinion are proportionate to the suggestion of the agency theory. Because of a significant negative association between the size and financial expertise of the board of directors with a modified audit opinion, it indicates that an increase in the effectiveness of the board of directors enhances the quality of companies external financial reporting. In turn, this mitigates the agency problems between the financial statement users and safeguards the shareholders' interests by decreasing the prospect of Malaysian public listed companies receiving a modified audit opinion.

The results of this study could be valuable to management, shareholders, auditors, creditors and investors who are concerned about improving the practices of corporate governance, and the quality of financial reporting in the Malaysian market. This is because they have a better understanding of how the board of directors' characteristics impact the modified audit opinion.

Likewise, as with other studies, this study is subject to a number of limitations. Foremost, the results obtained in this study based on the data collected from annual reports of the sample of 136 observations relating to 96 non-financial companies

listed on Bursa Malaysia, which only covers a three-year period from 2009 until 2011. Thereby, our study limits the ability to generalize the results across companies (i.e., in other sectors), years (a longer year data period would show the trend on a modified audit opinion) and other countries (due to a different structure of ownership and regulations). In addition, providing a strong statistical power in explaining the test results depends on the sample size in which a small sample size may fail to provide such power. Secondly, we focused on a few aspects of the board of directors' characteristics. Clearly there may be other characteristics of the board of directors that could affect the results, such as the legal expertise, ethnicity (indigenous vs non-indigenous) and business knowledge (industry expertise), which may have an influence on a modified audit opinion. Thirdly, there might be other variables that impact the probability of receiving a modified audit opinion that are not included in this study, such as the characteristics of the audit committee and the ownership structure. Future studies possibly will address these issues. Additionally, currently, as a result of the prevailing global conditions resulting from the pandemic (Covid-19), which has had a major impact on the global economy, extending this study by using data on companies in these exceptional circumstances in future studies is important to determine if there are any differences in the results.

Despite these limitations, the results uncovered in this study provides some preliminary evidence that a modified audit opinion is associated with the financial expertise of the board of directors and the size of the board of directors. This study confirms that the board of directors' characteristics are considered as a good internal monitoring mechanism in mitigating the agency conflicts, and in protecting the interests of shareholders among Malaysian companies. In doing so, the results of this study provide strong evidence to support the current debate on the effectiveness of the board of directors' characteristics as one of an internal corporate governance mechanism in the context of Malaysia, and constitute a further contribution to modified audit opinion studies while narrowing the gap in respect to the accountancy literature.

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# EL SECTOR PRIVADO EN LA CONSTRUCCIÓN DE LA PAZ EN EL POSCONFLICTO COLOMBIANO: UN ESTUDIO TEÓRICO

THE PRIVATE SECTOR AND PEACEBUILDING IN POSTCONFLICT COLOMBIA: A THEORETICAL STUDY

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## RESUMEN

Con la firma del Acuerdo de Paz entre el Gobierno nacional de Colombia y las entonces Fuerzas Armadas Revolucionarias de Colombia - Ejército del Pueblo (FARC-EP) en el 2016, se inicia en Colombia un escenario de postconflicto, caracterizado por una serie de desafíos y la necesidad del aporte de diversos actores, entre ellos el del sector empresarial. El objetivo del presente artículo es explorar y analizar las prácticas y acciones que pueden realizar las empresas para contribuir a la construcción de paz. Para ello se realizó una investigación exploratoria con un diseño documental dividido en dos fases. Por una parte, una revisión de la literatura sobre prácticas empresariales de construcción de paz y, por otra parte, un análisis documental sobre guías y propuestas de construcción de paz propuestas por organismos nacionales e internacionales. Los resultados sugieren que las empresas contribuyen a la construcción de paz principalmente desde prácticas de RSE y valor compartido orientadas al desarrollo económico. Ello se corresponde con las guías de organismos nacionales e internacionales que se orientan a la generación de empleos y proyectos de emprendimiento.

## PALABRAS CLAVE

Sector privado, empresas, construcción de paz, postconflicto, RSE

## ABSTRACT

In 2016, with the signing of the Peace Agreement between the Colombian national government and the Revolutionary Armed Forces of Colombia - People's Army (FARC-EP) in, a post-conflict scenario began in Colombia. It is characterized by a series of challenges and the need for input from various actors, including the business sector. The objective of this article is to explore and analyze which are the practices and actions that companies can carry out to contribute to the construction of peace. To this end, an exploratory research was carried out with a documentary design divided in two phases: on the one hand, a review of the literature on peacebuilding business practices, and on the other, a documentary analysis of guides and peacebuilding proposals from national and international organizations. The results suggest that the companies contribute to the construction of peace mainly from CSR practices and shared value oriented to economic development. This corresponds with the guidelines of national and international organizations that are geared towards generating jobs and entrepreneurship projects.

## KEYWORDS

Private sector, business, peacebuilding, post-conflict, RSE.

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## 1. INTRODUCCIÓN

Con la firma del Acuerdo Final para la Terminación del Conflicto y la Construcción de una Paz Estable y Duradera (Gobierno Nacional de Colombia y FARC-EP, 2016), inicia un escenario de postconflicto en Colombia. Este supone el fin de un conflicto armado de más de cincuenta años que ha vinculado, además de las FARC-EP y el Gobierno nacional, a diversos actores de la población civil a lo largo y ancho del territorio nacional, y que dejó como consecuencia sangre, dolor, víctimas, y efectos negativos en la economía. El Acuerdo de Paz reconoce a los actores que han sido víctimas del conflicto armado, y también hace un llamado a estos para construir una “Paz estable y duradera”. Este es el caso de las organizaciones empresariales, las cuales fueron reconocidas como víctimas, y promotoras de la paz (Bedoya-Dorado y Charfuelán-Aguirre, 2019; Gobierno Nacional de Colombia y FARC-EP, 2016).

Ya desde el Plan Nacional de Desarrollo 2014-2018, se reconocía la importancia de este tipo de organizaciones para la construcción de la paz: “[...] el sector empresarial está llamado a participar de manera proactiva y sostenida como un agente destacado para una paz estable y duradera en Colombia” (DNP, 2015, p. 45). Para el Departamento Nacional de Planeación, las organizaciones empresariales contribuyen a transformar las condiciones sociales y económicas que permiten romper con los ciclos de violencia, la desigualdad, la violación de derechos humanos, y la exclusión, y de este modo promover el desarrollo y la paz del país. Si bien este reconocimiento sitúa el actuar de las empresas en el marco de conflicto interno, orientado a los procesos de establecimiento de paz y las alternativas pacíficas (*peacemaking*), el escenario de postconflicto implica una noción de construcción de paz centrada en el mantenimiento de la paz (*peacekeeping*) (ONU, 1992).

Bajo este contexto, se busca la prevención en la recaída del conflicto y actuar sobre los desafíos derivados de este: las violencias postconflicto, los procesos de justicia transicional, la reparación de víctimas, la reintegración de excombatientes, la dejación de armas, los procesos de justicia transicional, la reconciliación, etc. (Barnett *et al.*, 2007; Bedoya-Dorado y Charfuelán-Aguirre, 2019; Flavin, 2003; Ugarriza, 2013; Wielandt, 2005). Adicional a ello, la definición empleada desde 1995 por el Banco Mundial señala que en el postconflicto las prácticas se orientan a reconstruir un marco socioeconómico para la sociedad y a las condiciones necesarias para un funcionamiento de una sociedad en paz, que se fundamenta en cuatro pilares: seguridad, justicia y reconciliación; bienestar social y económico; gobernanza, y participación (Hamre & Sullivan, 2002).

Al ser el escenario de postconflicto en Colombia de corta trayectoria, teniendo en cuenta que este se configura a partir de la firma del Acuerdo de Paz en el 2016, no existe total claridad ni suficientes lineamientos sobre el modo en el que las empresas pueden emprender acciones encaminadas a la construcción de paz, aunque se reconoce que existen algunos esfuerzos por aportar en esta línea de investigación (Andonova & García, 2018; Barrios, 2016; Bedoya-Dorado y Charfuelán-Aguirre,

2019; Cortés-Sánchez, 2018; González-Mendoza *et al.*, 2019; Jiménez-Peña, 2014; Miklian & Medina, 2018; Rettberg, 2016; Ruiz *et al.*, 2017; Salas-Salazar, 2016; Thoene & Turriago-Hoyos, 2019). La investigación de González-Mendoza *et al.* (2019), por su parte, concluye que los empresarios colombianos están dispuestos a participar en el escenario de postconflicto; sin embargo, se presenta desconocimiento en la mayoría de estos sobre los diferentes mecanismos para participar en él.

Lo anterior suscita preguntas tales como: ¿qué hacen las organizaciones empresariales para construir paz? y ¿cómo aportar desde el sector privado al escenario de postconflicto en Colombia? Responder a estos interrogantes implica reconocer las experiencias de otros contextos de postconflicto y el papel de las empresas en ellos. La literatura académica especializada ha explorado las conexiones entre las acciones empresariales y la construcción de paz en diferentes contextos del mundo (Forrer & Katsos, 2015), evidenciando una serie de estrategias e iniciativas que responden a los problemas singulares que se derivan de los escenarios de postconflicto, así como los actores que se ven favorecidos por ellas. Esto a su vez supone un campo emergente del conocimiento para comprender el modo en que los negocios tienen un rol para el mantenimiento y promoción de la paz, y el consiguiente desarrollo de las sociedades de países afectados por el conflicto (Miklian, 2019; Miklian & Schouten, 2019). Así mismo, existen algunos lineamientos y guías de organismos nacionales e internacionales, que si bien son escasos, pueden brindar luces sobre el modo en el que las empresas pueden contribuir a la construcción de paz y, además, articularse con organizaciones públicas y del tercer sector.

En este orden de ideas, el objetivo de este artículo es analizar las prácticas y acciones que pueden llevar a cabo las empresas para contribuir a la construcción de paz en el escenario del postconflicto colombiano. Para ello, se propuso una investigación documental que incorpora algunas prácticas e iniciativas registradas en la literatura académica especializada, así como guías de organismos internacionales y nacionales. El artículo se estructura en tres apartados: primero se presenta el método empleado para el análisis; luego se discuten los resultados a la luz de la revisión de la literatura y del análisis documental de las guías para la construcción de paz y, por último, se presentan las conclusiones y sugerencias para futuras investigaciones.

## 2. MÉTODO

La investigación corresponde a un diseño documental con una revisión sistemática de la literatura como método para identificar la existencia de conocimientos y trabajos empíricos sobre la construcción de paz desde las empresas o el sector privado. Para autores como Fink (2005) este tipo de métodos se caracteriza por ser sistemático, explícito y reproducible en la identificación, evaluación y síntesis de literatura académica de un campo particular del conocimiento. Este método permite actualizar o identificar el estado del arte de investigaciones homogéneas de un campo del conocimiento, a partir de tendencias, contenidos teóricos y hallazgos (Meredith, 1993).

La revisión de la literatura tuvo dos fases. La primera se orientó a la búsqueda de la literatura y las guías o lineamientos para implementar prácticas de construcción de paz. La segunda consistió en el análisis y síntesis de la literatura identificada mediante un análisis de contenido para agrupar las prácticas más frecuentes, de acuerdo con su naturaleza y objetivos, lo que implicó la revisión descriptiva de la literatura, la selección de categorías de análisis y la evaluación de las categorías (Meredith, 1993).

### 2.1 Búsqueda de la literatura y material bibliográfico

La búsqueda de la literatura existente sobre prácticas de construcción de paz en las empresas se realizó en las bases de datos ISI Web of Science de Thomson Reuters, Scopus de Elsevier y los catálogos de libre acceso Redalyc y SciELO. La búsqueda se restringió a publicaciones desde 1992, fecha en la que se oficializa la noción de construcción de paz o *peacebuilding*, hasta el 2020. Para la construcción de la base de datos de la literatura solo se seleccionaron artículos revisados por pares de revistas académicas indexadas, excluyendo notas editoriales, capítulos de libro, libros y publicaciones procedentes de congresos. Se seleccionaron artículos empíricos, de reflexión y revisión, publicados tanto en inglés como en español.

De un total de 161 publicaciones encontradas se excluyeron 38 artículos que estaban repetidos y que no contenían información específica para ser analizada. De acuerdo con lo anterior, la revisión de la literatura se analizó con un total de 123 artículos publicados desde 1995 hasta el 2020, como se presenta en la figura 1. Las publicaciones sobre este tema se han incrementado a partir del 2014 hasta el 2020, representando aproximadamente un 67 % del total de ellas.

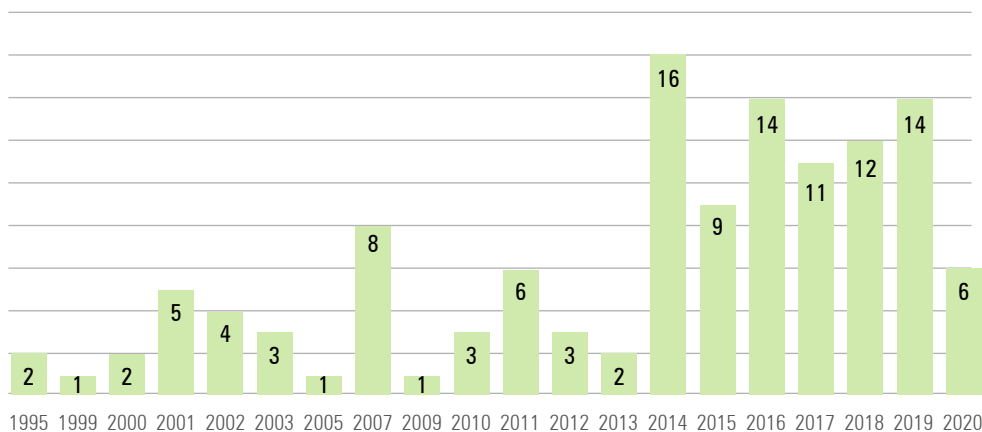


Figura 1. Publicaciones sobre construcción de paz desde las empresas por año (1995-2020).

Fuente: Elaboración propia.

Complementario a las publicaciones registradas en la figura 1, se encontraron 6 guías de organismos nacionales e internacionales que orientan las prácticas discutidas en la literatura, pero que no son contabilizadas en dicha figura. Estas guías son discutidas en los resultados y se examinan a la luz de las orientaciones de las prácticas de construcción de paz empresariales registradas en la literatura.

## 2.2 Análisis de la literatura seleccionada

Los resultados de los artículos revisados fueron categorizados de acuerdo con prácticas específicas de construcción de paz desde las empresas, según las experiencias de países reportadas en artículos empíricos, pero también, de acuerdo con la revisión y reflexiones registradas en otro tipo de publicaciones. A su vez, esta categorización de los resultados fue agrupada de acuerdo con la orientación de las prácticas, como se presenta en la tabla 1. La tabla muestra, además, las tendencias de las prácticas (subcategorías) más frecuentes en los artículos seleccionados y en las guías de los organismos nacionales e internacionales para la construcción de paz.

Tabla 1. Categorías y subcategorías de análisis según la revisión de la literatura y las guías

Categoría*	Subcategorías**	Revisión de la literatura	Guías
Fomento al desarrollo económico N = 81 (47)	-Generación de empleo	24 (30)	3 (4)
	-Proyectos de emprendimiento	36 (44)	2 (3)
	-Proyectos pedagógicos	15 (18)	1 (1)
Adopción de principios de evaluación externa N = 34 (20)	-Adopción de estándares internacionales	11 (32)	3 (9)
	-Modelos de ética empresarial	20 (59)	
Contribución de un sentido de comunidad N = 58 (33)	-Creación de cultura de paz	4 (7)	
	-Responsabilidad social corporativa y valor compartido	42 (72)	1 (9)
	-Proyectos pedagógicos	10 (3)	1 (9)

### Notas.

\* Los valores representan el total de prácticas registradas en los artículos y guías que se agrupan en la categoría; valores en paréntesis = % de la categoría en el total de las prácticas registradas en los artículos y guías.

\*\* Los valores representan el total de la práctica registrada en los artículos y guías que hacen parte de la categoría; valores en paréntesis = % de la subcategoría en el total de la categoría.

Fuente: Elaboración propia.

### 3. ANÁLISIS DE LOS RESULTADOS

A partir del año 1995 se registran las primeras publicaciones en la literatura especializada que dan cuenta de la preocupación de la paz desde el punto de vista empresarial y de los negocios (Luna, 1995). El contexto bélico en diversas regiones del mundo ha motivado la investigación sobre el modo en el que las organizaciones empresariales pueden articularse en la construcción de paz, desde su misión y por medio de una serie de prácticas e iniciativas. Es así como la literatura señala casos principalmente en *África* (Anugwom, 2011; Billon, 2001; Boudreaux, 2007; Gerson, 2001; Idemudia, 2017; Maconachie, 2016; Tobias & Boudreaux, 2011); *Medio Oriente* (De-San-Eugenio *et al.*, 2017; Desai, 2011; Golan-Nadir & Cohen, 2016; Khan & Ahmed, 2014; Ledbetter, 2016; Webb & Richelieu, 2016), y *Centroamérica y Suramérica* (Bennett, 2002; Buitrago *et al.*, 2015; González, 2016; Jiménez-Peña, 2014; Melin, 2020; Rettberg, 2002, 2016; Rodríguez y Gamboa Suárez, 2017).

Las prácticas de construcción de paz desde las empresas registradas en la literatura fueron agrupadas en tres categorías: fomento al desarrollo económico (47 %); adopción de principios de evaluación externa (20 %), y contribución de un sentido de comunidad (33 %), siendo la primera la más discutida en la literatura, de acuerdo con las prácticas que se orientan hacia dicho objetivo. A continuación, se amplían los resultados obtenidos para cada una.

#### 3.1 Fomento al desarrollo económico

Esta dimensión tiene como fundamento el vínculo entre el crecimiento económico y la reducción de condiciones de pobreza y vulnerabilidad (Desai, 2011; Ghimire & Upreti, 2014; Hönke, 2014; Maconachie, 2016; Penh, 2009; Rolandsen, 2019). Algunos autores sugieren que los aspectos económicos han sido una de las principales causas de los conflictos en el mundo (Ghime & Upreti, 2012; Katsos & Forrer, 2014; Oetzel, *et al.*, 2010) y, por lo tanto, la recuperación económica es fundamental para la transformación hacia la equidad y la paz (Ghime & Upreti, 2012; Medina & Miklian, 2020; Ravina-Ripoll *et al.*, 2020).

En la literatura se evidencian diversas prácticas que promueven la paz por medio del desarrollo económico, entre ellas la creación de empleo (Ghimire & Upreti, 2014; Jiménez-Peña, 2014; Ledbetter, 2016; Penh, 2009; Maconachie, 2016; Ravina-Ripoll *et al.*, 2020; Sepúlveda *et al.*, 2015; Tobías & Boudreaux, 2011). Cifras de Naciones Unidas y el Banco Mundial señalan que los territorios con altas tasas de desempleo son más propensos a la violencia porque en ocasiones es la única alternativa de los individuos para acceder a los recursos básicos de subsistencia; además, los desempleados son más susceptibles de integrarse a grupos al margen de la Ley (Oetzel *et al.*, 2010).

La literatura señala que la creación de empleo constituye una estrategia para la integración laboral de individuos víctimas o excombatientes del conflicto, y que a su vez posibilita procesos de reparación y reintegración a la vida civil. Entre los proyectos de creación de empleo sobresalen aquellos que promueven empleo incluyente, fundamentado en el liderazgo participativo y ético (Ghimire & Upreti,



2014; González-Mendoza *et al.*, 2019; Katsos & Forrer, 2014; Ledbetter, 2016; Ravina-Ripoll *et al.*, 2020); programas laborales para reinsertados (Sepúlveda *et al.*, 2015) y personas marginadas por el conflicto (Jiménez-Peña, 2014; Rubio-Rodríguez *et al.*, 2018). Cabe señalar que este tipo de estrategias son posibles en el escenario de postconflicto, pues de acuerdo con Katsos y Forrer (2014) el empleo no puede garantizar la paz en territorios con alta intensidad de conflicto.

Otras formas de intervención corporativa dentro de la esfera de desarrollo económico son los proyectos de emprendimiento y los programas de formación para el empleo o programas pedagógicos. El emprendimiento empodera a las comunidades en regiones de postconflicto (Bedoya-Dorado *et al.*, 2020; Bull & Aguilar-Støen, 2019; Ravina-Ripoll *et al.*, 2020; Yoosuf & Premaratne, 2017) y origina ganancias a partir de las actividades productivas y oportunidades laborales que mejoran el nivel de vida tanto de gestores como de comunidades (Pitre-Redondo *et al.*, 2017; Sanders & Weitzel, 2013). Además, les permite fortalecer los vínculos sociales entre socios comerciales, gobiernos y ONG mediante redes de negocios y la creación de alianzas para desarrollar nuevas habilidades (Hayward & Magennis, 2014; Menchero, 2018; Medina & Miklian, 2020; Miklian & Medina, 2018; Rettberg, 2016; Yoosuf & Premaratne, 2017).

Cabe señalar que si bien la consolidación de los emprendimientos es incluso más riesgosa e incierta en escenarios posbélicos, los recursos iniciales, el apoyo institucional, los microcréditos y el talento emprendedor pueden aminorar las posibilidades de fracaso del ejercicio emprendedor (Desai, 2011; Rodríguez y Gamboa, 2017; Sanders & Weitzel, 2013). La mayor parte de los proyectos de emprendimiento pueden categorizarse como acciones de construcción de paz indirectas. Sin embargo, algunas iniciativas surgen con el propósito de hacer frente a coyunturas propias del conflicto, como los proyectos de apoyo a la producción y comercialización de productos fabricados por reinsertados (Bull & Aguilar-Støen, 2019; Rettberg, 2016), el empoderamiento de mujeres jóvenes en contextos de discriminación (Anugwom, 2011; Banks, 2016), y redes de colaboración emprendedora entre actores del conflicto, las cuales inciden positivamente en la actitud de los individuos frente a su adversario (Ledbetter, 2016; Tobias & Boudreaux, 2011).

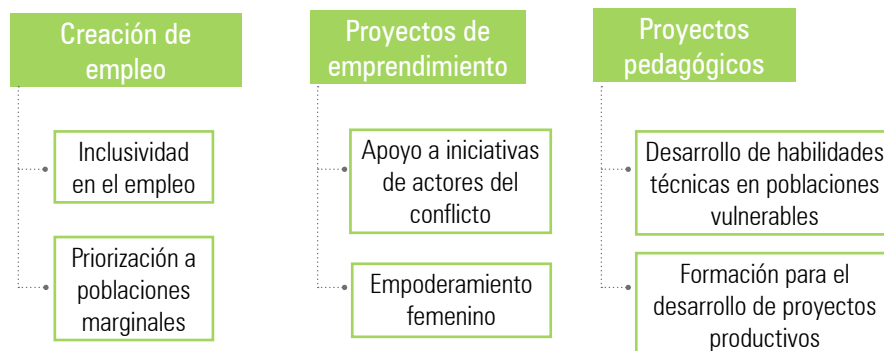
Finalmente, los proyectos pedagógicos en el contexto de desarrollo económico hacen alusión a estrategias de formación y capacitación que buscan crear habilidades de empoderamiento económico para que los individuos accedan a un empleo o incursionen en iniciativas de emprendimiento. Dentro de este tipo de programas se encuentran cursos de entrenamiento en habilidades técnicas administrativas y gerenciales dirigidos a mujeres y personas jóvenes (Banks, 2016; Hernández *et al.*, 2017; Jiménez-Peña, 2014), capacitaciones en proyectos productivos para reinsertados (Jiménez-Peña, 2014), y aptitudes para la vida laboral como el trabajo en equipo, la autoconfianza, etc. (Banks, 2016).

La figura 2 sintetiza las principales características de las prácticas orientadas al fomento del desarrollo económico por cada una de las subcategorías.

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Figura 2. Principales características de las prácticas orientadas al desarrollo económico.

Fuente: Elaboración propia.



### 3.2 Adopción de principios de evaluación externa

Este tipo de acciones reconocen la relación directa entre la corrupción y la violencia (Fort & Schipani, 2001, 2007). Por lo tanto, desde este enfoque la paz se construye reduciendo la corrupción y aumentando la transparencia, requisito indispensable para desarrollar escenarios de confianza entre las partes y así promover el crecimiento en una economía de mercado (Fort & Schipani, 2001, 2007; Katsos, 2020; Oetzel *et al.*, 2010).

De acuerdo con Fort y Schipani (2007), aunque las empresas no pueden resolver los problemas de corrupción de todo un país, sí pueden intentar limitar la corrupción endémica y también trabajar por apoyar el cumplimiento de las leyes. En ese sentido, los códigos internacionales de conducta son mecanismos que actúan como lineamientos para delimitar el actuar de la empresa, para evitar así incurrir en actos de corrupción y darle apoyo al Estado en el cumplimiento de las normas que impulsen un cambio social positivo (Fort & Schipani, 2001; Oetzel *et al.*, 2010).

Según Oetzel *et al.* (2010), para que un código de conducta sea aceptado este debe cumplir con tres requisitos: debe ser acogido por un número importante de gobiernos o empresas, su contenido debe ser pertinente, y debe establecer mecanismos de monitoreo y control para su seguimiento. Cabe resaltar que en este punto son imperativos la acción y el compromiso estatales. El gobierno debe garantizar el cumplimiento de la Ley y ejercer controles para evitar el abuso de las corporaciones a fin de propiciar espacios de confianza para inversores, consumidores, el medio ambiente y la comunidad (Fort & Schipani, 2007; Limbs & Fort, 2000).

Como ejemplo de prácticas promotoras de transparencia están las estrategias de adopción de estándares internacionales y los modelos de ética empresarial que promueven códigos de conductas laborales en favor de la tolerancia de otras comunidades (Limbs & Fort, 2000; Miklian, 2019a, 2019b); iniciativas en favor del medio ambiente en zonas de conflicto (Anugwom, 2011; Forrer & Katsos, 2015); adopción de los derechos humanos o iniciativas como las del Pacto Global (Buitrago *et al.*, 2015;

Forrer & Katsos, 2015; Ochoa-Cubillos *et al.*, 2017); rechazo de las economías ilegales (Buitrago *et al.*, 2015), y seguridad y protección de datos (Shackelford *et al.*, 2015).

En esta dimensión la categorización de las acciones como directas o indirectas se debe abordar de forma particular, pues algunas acciones se alejan del ejercicio tradicional corporativo y por tanto pueden considerarse directas, como la adopción de derechos humanos en la normativa empresarial. En cambio, prácticas como la incorporación de estándares para la protección de información y datos contribuyen a la construcción de la paz indirectamente.

En la figura 3 se resumen las principales características de cada subcategoría de acciones dirigidas a la adopción de principios de evaluación externa encontradas en la literatura.

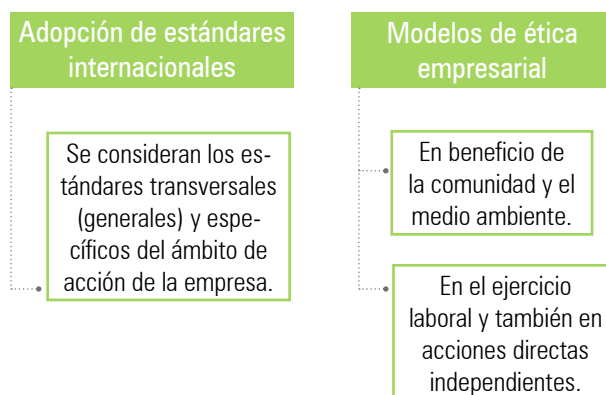


Figura 3. Principales características de las prácticas orientadas a la adopción de principios de evaluación externa.

Fuente: Elaboración propia.

### 3.3 Contribución de un sentido de comunidad

En esta dimensión se agrupan actividades encaminadas a construir confianza entre organizaciones y grupos de interés o *stakeholders* (Andonova & García, 2018; Oetzel *et al.*, 2010) mediante acercamientos que permitan estrechar vínculos y propiciar escenarios de participación de los miembros de la comunidad (Fort & Schipani, 2007; Melin, 2020; Miklian & Schouten, 2019). Comunidades donde los individuos guardan lazos más cercanos tienden a tratar con mayor respeto y a solucionar inconvenientes de manera no violenta con otras comunidades, pues en ellas se socializan conductas que se consideran aceptadas y no aceptadas, reconociendo y reforzando el comportamiento moral (Limbs & Fort, 2000). En suma, en este enfoque se busca que la empresa refleje en su labor los principios de buena convivencia de este tipo de comunidades.

Una alternativa es creando una cultura de paz al interior de la organización, actuando adecuadamente e incluyendo valores morales en sus operaciones (Oetzel *et al.*, 2010). Por ejemplo, el apoyo a la vocería de los trabajadores, por un lado, contribuye a la resolución de conflictos sin violencia, pues las iniciativas democráticas guardan una relación directa con la armonía social (Limbs & Fort, 2000; Spreitzer, 2007), y por otro lado, los alienta a participar en otros escenarios como el político o el social (Fort & Schipani, 2007).

Las políticas organizacionales que promueven la equidad de género, el rechazo a la violencia contra la mujer y su inclusión en puestos de alto nivel dan cuenta del compromiso corporativo con la construcción de paz (Banks, 2016; Katsos, 2020; Oetzel *et al.*, 2010). Las empresas también crean sentido de comunidad mediante acciones en las cuales participan, y que tienen incidencia sobre los miembros de la comunidad. Aquí sobresalen las acciones de Responsabilidad Social Corporativa (RSC) que reconocen a la firma como parte de la comunidad (Oetzel *et al.*, 2010). Estas acciones son las que tienen mayor registro en la literatura seleccionada.

En la literatura se evidencian diversas formas de RSC, sin embargo, en esta dimensión entran principalmente aquellas que se enfocan en compromisos sociales como el apoyo a actividades para el desarrollo de la comunidad y que promueven valores universales (De-San-Eugenio *et al.*, 2017; Hayhurst & Szto, 2016; Web & Richelieu, 2016), así como becas escolares (Wilson, 2015). También prácticas de valor compartido incluidas en el enfoque estratégico de la RSC, el cual, de acuerdo con Haski-Leventhal (2014), debe incorporarse en todo lo que hace la empresa en el plano estratégico y táctico. La autora señala que desde este ángulo una empresa puede pasar de plantar árboles (RSC tradicional) a brindar asesoramiento financiero a comunidades indígenas y microfinanzas a desempleados de larga duración.

Los proyectos pedagógicos en esta dimensión representan un tipo de mecanismo que las estrategias de valor compartido emplean para impulsar el sentido de comunidad, por ejemplo, con la formación sobre derechos humanos y reproductivos, la prevención de la violencia de género, y el reconocimiento de la equidad de género y del papel de la mujer en la sociedad (Andonova & García, 2018; Jiménez-Peña, 2014). Teniendo en cuenta que las prácticas que conforman esta esfera se enfocan en problemáticas específicas que, además, vinculan el quehacer de la organización, puede afirmarse que corresponden a actividades directas.

Finalmente, la figura 4 resume las principales características de las actividades dirigidas a contribuir a un sentido de comunidad.



Figura 4. Principales características de las prácticas dirigidas a contribuir un sentido de comunidad.  
Fuente: Elaboración propia.

En relación con las guías que orientan el quehacer de prácticas de construcción de paz desde el sector privado, en la tabla 2 estas son presentadas a partir de los organismos que las promueven, sus características y su relación con la revisión de la literatura a modo de síntesis:

Tabla 2. Algunas propuestas y guías para la construcción de paz y su relación con la revisión de la literatura

Guías para la construcción de paz			Revisión de la literatura		
Guía/ Propuesta/ Modelo	Organismo	Características	Tipos de acciones	Subcategorías	Características
Proyectos productivos incluyentes: un camino desde la experiencia de Emprender Paz.	Corporación Emprender Paz (2017)	-Gestión de riesgos. -Sensibilidad al conflicto. -Abordar las causas del conflicto. -Negocios inclusivos.	Fomento al desarrollo económico	Creación de empleo	-Empleo incluyente con liderazgo participativo y ético. -Empleo para la población joven, para desmovilizados y personas marginadas o víctimas en el conflicto.

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Guías para la construcción de paz			Revisión de la literatura		
Guía/ Propuesta/ Modelo	Organismo	Características	Tipos de acciones	Subcategorías	Características
Cómo apoyar iniciativas desde de empleabilidad de personas en proceso de reintegración (PPR) en el sector empresarial.	Fundación Ideas para la Paz y Cámara de Comercio de Bogotá (2015)	-Fortalecimiento empresarial.  -Modelo de empleabilidad vinculado con la ruta de reintegración de la Agencia para la Reincorporación y Normalización (ARN).		Proyectos de emprendimiento	-Emprendimiento de empresas familiares.  -Proyectos productivos y comerciales de reinsertados.  -Empoderamiento de mujeres jóvenes en contextos de discriminación.  -Emprendimiento colaborativo entre actores del conflicto.
El aporte empresarial a la paz y al desarrollo sostenible. Desafíos y oportunidades.	Cámara de Comercio de Bogotá, Fundación Ideas para la Paz y Embajada de Suecia (2017)	-Empleabilidad bajo el fundamento de "trabajo decente".  -Cadenas de suministro.		Proyectos pedagógicos	-Formación para el trabajo dirigida a grupos específicos como mujeres y jóvenes.  -Enseñanza de actitudes para la vida laboral.  -Capacitaciones en proyectos productivos para reinsertados o víctimas del conflicto.
El aporte empresarial a la paz y al desarrollo sostenible. Desafíos y oportunidades.	Cámara de Comercio de Bogotá, Fundación Ideas para la Paz y Embajada de Suecia (2017)	-Implementación de los ODS (especialmente el Objetivo 16: Paz, justicia e instituciones sólidas).	Adopción de principios de evaluación externa	Adopción de estándares internacionales	-Códigos de conductas laborales en favor de la tolerancia de otras comunidades.  -Adopción de normas en favor del medio ambiente.  -Adopción de los derechos humanos en los negocios.  -Compromiso con el Pacto Global y alcance de los Objetivos de Desarrollo Sostenible.

Guías para la construcción de paz			Revisión de la literatura		
Guía/ Propuesta/ Modelo	Organismo	Características	Tipos de acciones	Subcategorías	Características
Arquitectos de un mundo mejor. Creando Arquitectura Post 2015 de Compromiso Empresarial.	Pacto Global de las Naciones Unidas, <i>Global Reporting Initiative</i> (GRI), y el Consejo Empresarial Mundial para el Desarrollo Sostenible (WBCSD) (2015)	-Implementación de los ODS (algunos tienen incidencia en la construcción de paz).		Modelos de ética empresarial	-Diseño de modelos de seguridad y protección de datos.  -Rechazo de las economías ilegales.
<i>SDG Compass</i> (Brújula de los ODS)	<i>Business for Peace</i> del Pacto Global (2015).	-Alinear estrategias con los ODS, para medir y gestionar la contribución a su alcance.			
Arquitectos de un mundo mejor. Creando Arquitectura Post 2015 de Compromiso Empresarial.	Pacto Global de las Naciones Unidas, <i>Global Reporting Initiative</i> (GRI), y el Consejo Empresarial Mundial para el Desarrollo Sostenible (WBCSD) (2015)	-Implementación de los ODS (algunos tienen incidencia en la construcción de paz).	Contribución de un sentido de comunidad	Creación de cultura de paz	-Apoyo a la vocería y participación de los trabajadores.  -Implementación de políticas que promueven la equidad de género.

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Guías para la construcción de paz			Revisión de la literatura		
Guía/ Propuesta/ Modelo	Organismo	Características	Tipos de acciones	Subcategorías	Características
<i>SDG Compass</i> (Brújula de los ODS)	<i>Business for Peace</i> del Pacto Global (2015).	-Alinear estrategias con los ODS, para medir y gestionar la contribución a su alcance.		Responsabilidad Social Corporativa y Valor compartido	-Desarrollo social, económico, y ambiental. -Apoyo a actividades deportivas donde participa la comunidad y se promueven valores universales. -Becas escolares. -Establecer como grupos de interés a los actores implicados en los conflictos y derivar prácticas hacia ellos.
Invirtiendo en el futuro: Guía para construir paz desde el sector empresarial en Colombia.	Fundación Paz y Reconciliación (2017)	-Construir iniciativas de paz para grupos de interés.		Proyectos pedagógicos	-Formación en equidad de género y el papel de la mujer en la sociedad. -Formación en derechos humanos, derechos sexuales y prevención de la violencia de género.

Fuente: Elaboración propia.

Como se puede observar en la anterior tabla, cada una de las guías está relacionada con al menos una de las categorías de las acciones para la construcción de la paz identificadas en la revisión de la literatura. La mayoría de los propósitos descritos en las guías se orientan de forma directa hacia la construcción de paz. Cabe señalar que las guías locales tienen una definición más específica y están dirigidas a los actores y víctimas del conflicto, mientras que las internacionales tienen un impacto menos directo y enfatizan en la adopción de principios de evaluación externa.

#### 4. CONCLUSIONES

La revisión de la literatura pone en evidencia que el sector empresarial y productivo es un actor importante en los procesos de construcción y sostenimiento de paz con acciones directas e indirectas. Las primeras, cuando se incorpora a las políticas el objetivo de la construcción de paz y se vinculan grupos de interés del escenario de



postconflicto; en cuanto a las segundas, cuando no se transforman las estructuras de gobierno corporativo ni se crean programas o prácticas específicas para la paz, las organizaciones tienen la capacidad de transformar escenarios para tal fin, favoreciendo al entorno donde operan y del cual se benefician. Las opciones de participación corporativa en la resolución de conflictos y construcción de paz son amplias, por lo cual no se reducen exclusivamente a ciertas organizaciones según su tamaño, actividad económica, afiliación política, procedencia, historia, etc., sino que todas pueden incorporar la construcción de paz a sus estrategias y actividades empresariales.

Las empresas resultan ser actores significativos para el funcionamiento de las agendas de paz, debido a que mediante sus mecanismos, recursos, valores y habilidades contribuyen a la prevención del conflicto y la construcción de paz en las sociedades. Además, este tipo de organizaciones son aliadas para el fortalecimiento de las instituciones que lideran los procesos de paz, pues como agentes de desarrollo económico permiten ampliar las capacidades de los gobiernos relacionadas con procesos de reconciliación, resiliencia y memoria histórica, por medio de prácticas o iniciativas conducentes a dichos propósitos.

De acuerdo con lo anterior, las prácticas que señala la literatura académica especializada se concentran en el desarrollo económico, la adopción de principios de evaluación externa y la contribución de un sentido de comunidad, siendo la primera orientación la más frecuente entre las categorías analizadas en la revisión de la literatura; y entre las prácticas más discutidas en la literatura se encuentran los proyectos de emprendimiento, la RSC y el valor compartido, así como la generación de empleo. Esto a su vez se asocia con la existencia de guías y lineamientos para incorporar prácticas de construcción de paz desde el sector privado, que se orientan principalmente a la creación de empleo, la adopción de estándares internacionales y a los proyectos de emprendimiento.

Si bien las empresas privadas o las organizaciones enfocadas a los negocios (*business*) según la literatura académica operan bajo las lógicas del capitalismo, la obtención de lucro y maximización de utilidades, y del neoliberalismo, desde la perspectiva de los modelos éticos y de la RSC se argumenta que este tipo de organizaciones pueden contribuir con prácticas como la creación de empleo y los proyectos de emprendimiento a la recuperación económica de las comunidades afectadas por la violencia, y transformar actividades dentro de las economías ilegales que han dado origen y nutrido los distintos problemas de la violencia. Es por ello por lo que algunas de las guías, como la de la Corporación Emprender Paz (2017), Fundación Ideas para la Paz, Cámara de Comercio de Bogotá (2015), y la Cámara de Comercio de Bogotá *et al.* (2017) establecen el modo en el que las empresas pueden emplear y apoyar con actividades de emprendimientos a personas víctimas del conflicto y a excombatientes y desmovilizados, de modo que también puedan participar en la economía y tener su sustento por vía de la legalidad y de las prácticas no violentas.

Aunque muchas de las prácticas registradas en la literatura no operan directamente sobre las causas del conflicto ni involucran a los actores de los escenarios de postconflicto, sí pueden tener un efecto en este tipo de contextos al contribuir con el desarrollo económico y social de las comunidades, el cual es considerado como un pilar para la construcción de paz. En este sentido, y como lo han demostrado algunos autores, una vez los conflictos han finalizado se deben reparar los daños tanto de las comunidades como del medio ambiente, lo que implica mecanismos de orden político, económico y judicial para evitar la repetición o el regreso al escenario de conflicto.

En el contexto colombiano de postconflicto como producto del Acuerdo de Paz (Gobierno Nacional de Colombia y FARC-EP, 2016), la integración de distintas organizaciones para la construcción de paz se ha visto materializada en agendas de desarrollo unilateral, guías, iniciativas y programas. En este ejercicio, el aporte de las organizaciones del sector empresarial y productivo ha sido puesto de manifiesto en diversos medios de comunicación y mediante reconocimientos como el de la Fundación Emprender Paz, con el premio que lleva su nombre.

Las consecuencias del conflicto armado y de la proliferación de otros conflictos en distintos territorios de Colombia, como los desplazamientos forzados, las masacres, los territorios destruidos, el daño al medio ambiente, los problemas de desigualdad e inequidad, la pobreza, etc., sugieren diversas arenas sobre las cuales las organizaciones empresariales y productivas pueden establecer acciones, iniciativas o programas. Para ello, la literatura analizada brinda algunas opciones a partir de experiencias en contextos de postconflicto o postbélicos de otros países, así como las propuestas y herramientas de organismos nacionales e internacionales que por medio de guías y una serie de pasos permiten dar respuesta a este tipo de requerimientos.

De acuerdo con lo anterior, la implementación de las propuestas hacia la construcción de paz implica responder a los llamados del DNP (2015) sobre la creación de oportunidades económicas para la transformación de condiciones de desarrollo y paz, así como al del Acuerdo de Paz en relación con la contribución para garantizar la productividad, el acceso a mercados y la sostenibilidad de los proyectos contemplados en él, en la Reforma Rural Integral, y en los planes de reincorporación a la vida civil (Gobierno Nacional de Colombia y FARC-EP, 2016).

El escenario de postconflicto en Colombia –también etiquetado como postacuerdo– ha tenido altibajos por los incumplimientos del Acuerdo de Paz, tanto por los actos bélicos como de otro tipo de acciones de las FARC (hoy en día como partido político Fuerza Alternativa Revolucionaria del Común) y de actores que no se desmovilizaron, así como por el compromiso del Gobierno Nacional. No obstante, el papel del sector privado es vertebral para la construcción de paz, y en especial para aquellos actores que transformaron su quehacer una vez se firmó el Acuerdo.

Asumir el llamado a la paz y aportar a su construcción implica para las organizaciones empresariales y productivas un actuar ético-político, en el que se reconoce que además de la actividad económica y lucrativa existen responsabilidades

y situaciones que deben atenderse por ser el contexto en el cual ellas operan, y el cual les permite su sostenibilidad. Así mismo, debe destacarse que los contextos caracterizados por la seguridad y paz pueden ser más beneficiosos y positivos para las organizaciones que aquellos marcados por la guerra, el conflicto y la violencia.

El objetivo de este artículo fue el de analizar las prácticas y acciones que pueden llevar a cabo las empresas para contribuir a la construcción de paz en el escenario del postconflicto colombiano. Si bien el análisis se realizó a partir de una revisión de la literatura académica y algunas propuestas y guías del contexto colombiano e internacional, es importante para futuras investigaciones realizar trabajo empírico para identificar el modo en el que las empresas han respondido al llamado de la paz por medio de la implementación de acciones e iniciativas.

Este tema de investigación constituye una agenda que se ha venido discutiendo desde diversos mandatos presidenciales, pero que en el contexto colombiano tomó auge con la firma del Acuerdo de Paz, y en la actualidad con su implementación, caracterizada por distintas perspectivas hacia el futuro, tensiones, desacuerdos e incumplimientos. Sin embargo, la reflexión de este artículo ofrece algunas luces para las organizaciones empresariales y del sector productivo que deseen emprender acciones para la construcción de paz.

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# CONSUMO SUSTENTABLE EN TURISMO: UNA APROXIMACIÓN A SU ESTADO DEL CONOCIMIENTO

SUSTAINABLE CONSUMPTION IN TOURISM: AN APPROACH TO ITS STATE OF KNOWLEDGE

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## RESUMEN

Las investigaciones sobre prácticas ambientales han recibido una atención creciente en el área de turismo. Sin embargo, hace falta una revisión bibliográfica que explore las prácticas de consumo sustentable en el sector turístico. Con ese fin, a partir del uso del software ATLAS.ti 9, se realizó un análisis temático de 128 artículos cuyo objetivo principal es examinar los propósitos del consumo sustentable –buenas prácticas; hábitos del consumidor; políticas públicas y regulaciones ambientales–, sus ámbitos de aplicación –por tipo de empresa– y su relación con la innovación (por ejemplo, con el uso de ecotecnologías). En los resultados, el análisis indica que las buenas prácticas tienen una asociación positiva con la innovación (0.72), lo que demuestra que la relación está bien establecida.

## PALABRAS CLAVE

Consumo sustentable, innovación, turismo, investigación.

## ABSTRACT

Research on environmental practices has received increasing attention in the tourism's area. However, a bibliographic review is needed to explore sustainable consumption practices in the sector. To this end, based on the use of the ATLAS.ti 9 software, a thematic analysis of 128 articles was carried out, the main objective of which is to examine the analysis of sustainable consumption –good practices, consumer habits, public policies and environmental regulations–, its scope of application –by type of company– and its relationship with innovation (for example, the use of eco-technologies). In the results, the analysis shows that good practices have a positive association with innovation (0.72), which shows that the relationship is well established.

## KEYWORDS

Sustainable consumption, innovation, tourism, research.

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## 1. INTRODUCCIÓN

Abordar los problemas ambientales globales en el entorno glocal requiere una combinación de estrategias; entre ellas, el acatamiento de las políticas y regulaciones ambientales existentes, la aplicación innovadora de la ciencia y la tecnología, y la colaboración entre las partes interesadas (Hecht, Fiksel & Moses, 2014). Desde hace más de tres décadas, diversas instituciones globales comenzaron a reconocer abiertamente estos desafíos, ya sea a partir del análisis de indicadores ambientales o de propuestas de buenas prácticas.

En ese sentido, el Departamento de Asuntos Sociales y Económicos de las Naciones Unidas (DESA, por sus siglas en el inglés) proyecta que si la población mundial alcanza 9700 millones de personas en el año 2050, para mantener el actual estilo de vida será necesario el equivalente a casi tres planetas (DESA, 2015). Existen diversas iniciativas que promueven cambios en los patrones de consumo, como lograr la eficiencia en la utilización de la energía y los recursos naturales, incentivar reformas fiscales que favorezcan la conservación de los recursos y la adopción de prácticas sustentables –por ejemplo, reparto equitativo del agua para el riego, la industria y el consumo doméstico de toda la población–, y aumentar la responsabilidad de las empresas mediante iniciativas públicas (Cole, 2012; Vilches, Gil, Toscano & Macías, 2014a y 2014b). A pesar de los esfuerzos realizados por diversas organizaciones públicas y privadas, la prosperidad económica actual se basa en el uso irracional de recursos. Ejemplo de ello es que las personas en los países industrializados consumen hasta veinte veces más materiales que las personas en los países menos adelantados (Dittrich, Giljum, Lutter & Polzin, 2012; Eco-Innovation Observatory, 2014 y 2016; World Wildlife Fund [WWF], 2016).

En ese contexto, el presente estudio contribuye a la investigación en turismo de distintas maneras. En primer lugar, hasta donde se sabe, este es el primer estudio del conocimiento sobre consumo sustentable en el área turística que proporciona una visión sistemática en este ámbito. En segundo lugar, se establecen vínculos entre los propósitos del consumo sustentable y los ámbitos de aplicación. Y en tercer y último lugar, se demuestra la relación intrínseca entre el consumo sustentable con la innovación. El artículo se organiza de la siguiente manera: primero, tomando en cuenta los objetivos planteados, se presentan los antecedentes teóricos más relevantes. Segundo, se describe la metodología y la técnica de análisis de datos. Tercero, se presentan y analizan los resultados obtenidos. Por último, se exponen las conclusiones en las que se sugieren futuras líneas de investigación.

## 2. APROXIMACIÓN TEÓRICA AL CONSUMO SUSTENTABLE

El consumo es un proceso social colectivo que tiene lugar en el contexto de un sistema económico particular, la denominada sociedad de consumo. Forma parte de la búsqueda de sentido y bienestar de la humanidad ya que se adquieren y usan bienes para satisfacer la curiosidad, expresar la individualidad u obtener la aprobación de los compañeros de trabajo. También, sirve para demostrar sentimientos –amor, generosidad o gratitud– (Roach, Goodwin & Nelson, 2019). El consumo material es un factor importante en el esfuerzo por igualar los estilos de vida de un grupo social al cual se pertenece o aspira. Este consumo ayuda a satisfacer los anhelos humanos de bienestar, respeto y seguridad. Pero en una sociedad pródiga, la publicidad agresiva y la comercialización aprovechan estos instintos para dispersar esos deseos y convertirlos en perpetuamente insatisfechos (Reese, Rosenmann & Cameron, 2019).

En contraposición, los conceptos de producción y consumo sustentable se enmarcan como un aspecto clave de la Agenda 2030 para el Desarrollo Sustentable, la cual argumenta sobre la necesidad de hacer más sustentables las actividades de los productores y consumidores, es decir, mejorar el desempeño económico sin un mayor deterioro ambiental y social (Noticias ONU, 2016) (véase figura 1). Su objetivo es fomentar la actividad sustentable de la cadena de suministro y la demanda. Ello incluye la eficiencia energética y de recursos, la infraestructura, la equidad social, los empleos verdes, las opciones éticas del consumidor y una mejor calidad de vida para la población en general (Balkau, 2005). De manera general, los objetivos del consumo sustentable se sintetizan en (ONU, 2015):

- Buenas prácticas (oferta): Buscar la reducción de la demanda del consumidor, la eficiencia de los recursos y el uso de materias primas alternas.
- Hábitos del consumidor (demanda): Sensibilizar a los consumidores mediante la educación sobre los modos de vida sustentables.
- Políticas públicas y regulaciones ambientales: Para reducir el consumo, centrándose en la modificación de la conducta.

Aunado a estos aspectos, las empresas turísticas tienen que diseñar –e invertir en– estrategias que les permitan alcanzar una gestión sustentable de los recursos que requieren para la prestación del servicio, al igual que considerar la reducción del consumo de agua, optar por las tecnologías que minimicen su gasto en energía eléctrica y reutilizar o reciclar los desechos generados en la mayoría de sus procesos –por ejemplo, en la preparación de alimentos y bebidas, en la limpieza de habitaciones o áreas comunes, en el mantenimiento de las instalaciones o áreas verdes, entre otros– (figura 1).



Figura 1. Definición de consumo sustentable (con base en los resultados de la investigación).

### 3. METODOLOGÍA

Con base en la metodología del Estado de la Cuestión (Molina, 2005), primero se partió de la contextualización del problema. Enseguida, se realizó una revisión sistémica que integra los principales objetivos del consumo sustentable en el turismo en un marco temporal que abarca los años de 2000 a 2020. Después, con ayuda del *software* ATLAS.ti 9, se clasificó y codificó cada artículo para facilitar el análisis temático de la información. El uso de este *software* especializado también permitió conocer el grado de relación entre las variables: consumo sustentable e innovación. La cual, de acuerdo con la tabla de coocurrencias tiene un coeficiente positivo de 0.72 (véase tabla 4).

#### 3.1 Recopilación de datos

Una búsqueda exhaustiva de literatura relevante en el contexto del turismo, arrojó aproximadamente 277 artículos académicos. La búsqueda se realizó en las siguientes bases de datos electrónicas: revistas científicas de América Latina y el Caribe, España y Portugal (Redalyc); SCImago y Scopus. Las palabras clave incluyeron asociaciones entre actividades-turísticas, prácticas-turísticas, consumo, consumidor, comportamiento, turista, ecológico, verde, ético, responsable, sostenible, y sustentable; todas en los idiomas español, portugués e inglés. Los artículos recuperados fueron publicados principalmente en revistas de hotelería y turismo (*International Journal of Hospitality Management*, *Annals of Tourism Research* y *Journal of Hospitality and Tourism Management*).

#### 4. ANÁLISIS DE RESULTADOS

Posteriormente, se realizó un análisis temático de la información, el cual, de acuerdo con Braun y Clarke (2006), es

[...] un método para el tratamiento de la información en investigación cualitativa que permite identificar, organizar, analizar en detalle y reportar patrones o temas a partir de una cuidadosa lectura y relectura de la información recogida, para inferir resultados que propicien la adecuada comprensión/interpretación del fenómeno en estudio (citado por Mieles, Tonon & Alvarado, 2012, p. 217; traducción nuestra).

Este método resulta ser apropiado para analizar los datos cuando el objetivo de la investigación es extraer información para determinar la relación entre variables y comparar diferentes conjuntos de evidencia (Mohammed, 2012). Se analizó el texto completo de cada artículo para corroborar la relación del tema de consumo sustentable en el contexto del turismo. El período de búsqueda inicial elegido es el año 2000, dado que es un tema parcialmente nuevo y que se ha desarrollado con rapidez en la última década. Los artículos que cumplieron con los criterios de inclusión (objetivos del consumo sustentable y ámbito de implementación) fueron sometidos a un análisis más detallado.

De los 277 artículos encontrados, se excluyeron 149. La muestra final consta de 128 artículos. Cada uno de los estudios identificados se examinó en términos de las siguientes variables relevantes: objetivos del consumo sustentable (buenas prácticas, hábitos del consumidor, políticas públicas y regulaciones ambientales) y ámbito de implementación e innovación.

##### 4.1 Objetivos del consumo sustentable

###### 4.1.1 Buenas prácticas (oferta)

Del total de artículos analizados, 56 % están relacionados con las buenas prácticas del sector turístico, es decir, con las actividades o cambios realizados por los prestadores de servicios (véase figura 2). Este tipo de prácticas busca gestionar de manera eficiente los recursos utilizados en la prestación del servicio –reducción de residuos sólidos, de consumo de energía y agua–; usar materias primas alternas; minimizar costos operativos, y disminuir los impactos ambientales (véase tabla 1).

Algunos de los estudios exploran la creación de valor desde el enfoque de comportamiento ambiental, donde se relacionan –de manera positiva– la preocupación y conciencia ecológica de las organizaciones. Los establecimientos turísticos implementan prácticas ecológicas a partir de la concientización del valor en la adopción de prácticas ecológicas. El conocimiento influye significativamente en esta toma de decisiones y en las actitudes proambientales de los colaboradores de la empresa, lo que redundará en un comportamiento responsable. Otro tema relacionado

con este tópico son las actividades de la cadena de suministro, aunque su análisis resulta más complejo por el total de actividades asociadas a la prestación del servicio turístico –reservaciones, transacciones monetarias, alimentos y bebidas, logística, entre otras-. El alcance de los rangos verdes de la cadena de suministro considera el monitoreo reactivo de los programas de gestión ambiental y las prácticas proactivas implementadas que son diseñadas por los gerentes o tomadores de decisiones. Aquí, los gerentes indagan en los ámbitos interno y externo para identificar las tendencias en regulaciones, segmentos de clientes, estrategias de los competidores, buenas prácticas en el área de recursos humanos –incluido el perfil de sus colaboradores-, o las estrategias de mercadeo.

Como cualquier otra empresa, las organizaciones turísticas formulan e implementan estrategias centrándose en sus necesidades, características y entorno. Aunado a ello, también consideran la calidad del servicio basada en la percepción, satisfacción y necesidades de los clientes. En lo que respecta a la protección del lugar en donde se ubican (especialmente) las empresas, algunas de ellas cuidan el impacto de sus actividades en el entorno natural, en la economía local y en el ámbito sociocultural de las comunidades receptoras. De manera general, este tipo de prácticas son, actualmente, una ventaja competitiva (Singjai, Winata & Kummer, 2018) para minimizar el desperdicio, optimizar la eficiencia ecológica, mejorar la imagen –reputación- y diferenciarse de los competidores al integrar las responsabilidades sociales, ambientales y económicas de la empresa. Se evidencia el interés de los prestadores de servicios turísticos por atraer consumidores y generar ingresos a partir del costo-beneficio de la adopción o adaptación de mejores prácticas, ya sea a partir de estrategias de comunicación para inducir o modificar los comportamientos y acciones de los turistas o con la compra de ecotecnologías.

Tabla 1. Objetivo de buenas prácticas (oferta)

Autores	Objetivo de buenas prácticas (oferta): 56 %
Al-Aomar & Hussain (2017); Camilleri-Fenech, Oliver-Solà, Farreny & Gabarrell (2019); Han, Lee, Trang & Kim (2018); Pace (2016); Rahman, Reynolds & Svaren (2012); Nepal, Indra al Irsyad & Kumar (2019).	Gestión eficiente de recursos.
Gao, Mattila & Lee (2016).	Concientización del valor en la adopción de prácticas ecológicas.
Chan, Hon, Chan & Okumus (2014); Jeong, Jang, Day & Ha (2014); Kim, Kim, Han & Holland (2016); Wang (2016).	Actitudes proambientales de los colaboradores de la empresa.
Wang, Chen, Lee & Tsai (2013); Xu & Gursoy (2015).	Prácticas diseñadas e implementadas por los gerentes o tomadores de decisiones.
Jeong <i>et al.</i> (2014); Kim & Hall (2020); Laing & Frost (2010).	Identificación de tendencias.
Ali Köseoglu, Ross & Okumus (2016).	Estrategias centradas en las necesidades, características y entorno empresarial.
Bastič & Gojčić (2012); Berezan, Raab, Yoo & Love (2013); Gil-Soto, Armas-Cruz, Morini-Marrero & Ramos-Henríquez (2019); Gupta, Dash & Mishra (2019); Lemy, Goh & Ferry (2019); Hanna, Font, Scarles, Weeden & Harrison (2018).	Estrategias centradas en la percepción, satisfacción y necesidades de los clientes.
Araújo (2016); Berzina, Grizane & Jurgelane (2015); Burgos & Mertens (2015); Combariza y Aranda (2009); Couto & Teixeira (2007); Idelhadj, Rivera y Rodríguez (2012); Klein (2011); Lanquar y Rivera (2010); Loureiro (2014); Mottiar, Boluk & Kline (2018); Prud'homme & Raymond (2013); Romão & Neuts (2017); Salvatore, Chiodo & Fantini (2018); Yergeau (2020).	Impacto de las actividades en el entorno natural, en la economía local y en el ámbito sociocultural de las comunidades receptoras.
León & Araña (2020); Tiago, Gil, Stemberger & Borges-Tiago (2020).	Estrategias de comunicación para inducir o modificar los comportamientos y acciones de los turistas.
Song & Li (2019).	Compra de ecotecnologías.

Fuente: Elaboración propia a partir de los resultados de la investigación.

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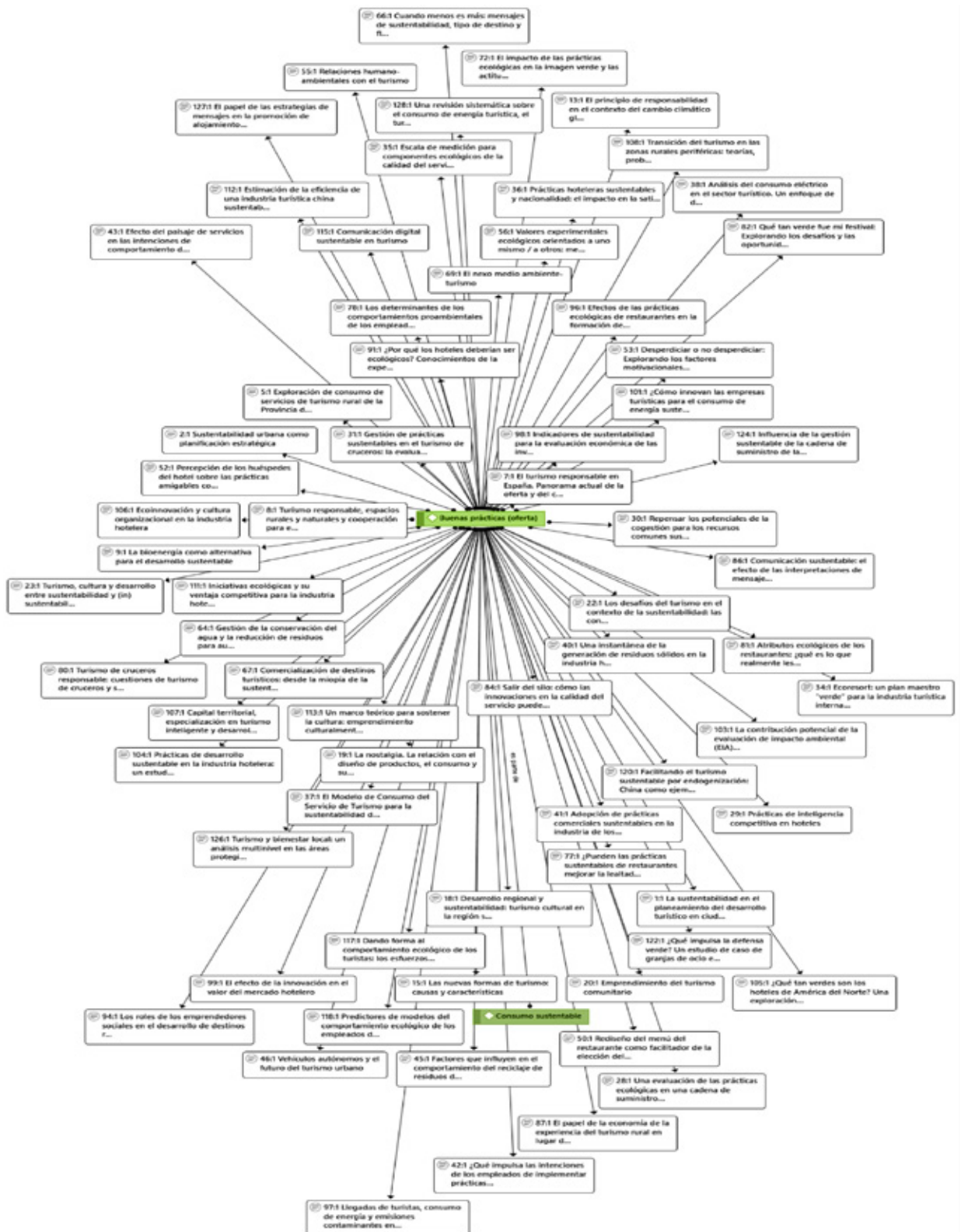


Figura 2. Objetivo de buenas prácticas (oferta). Fuente: Elaboración propia a partir de los resultados de la investigación.



#### 4.1.2 Comportamiento del consumidor (demanda)

Un 38 % de los artículos está relacionado con el comportamiento del consumidor (véase figura 3). Las investigaciones engloban actitudes, hábitos, decisiones y el interés por reconocer el compromiso medioambiental de las empresas turísticas, con una influencia significativa en su satisfacción y lealtad. Hoy por hoy, los turistas buscan experiencias que involucren una participación más activa, la cual inicia con un cambio en su comportamiento (Machado y Hernández, 2008; Veréb & Azevedo, 2019).

El comportamiento del turista se ve influenciado por las campañas publicitarias y los medios de comunicación que utilizan las empresas para dar a conocer este tipo de prácticas que influyen o incitan a las personas a proceder de maneras distintas a lo habitual. Estos cambios repercuten en la sociedad, modificando sus actitudes, hábitos y demanda de bienes. Existe una preocupación creciente por valorar los patrimonios naturales y culturales, los cuales no deben verse afectados por la presencia de turistas o empresas ajenas a las respectivas comunidades locales. Los impactos negativos deben minimizarse o erradicarse; no obstante, diferentes estudios confirman la influencia del turismo en el cambio de hábitos de consumo del turista y de la comunidad anfitriona. La identidad de la población –gastronomía o artesanía, entre otros aspectos– no debe percibirse solo como un producto comercializable. Por ello, las actividades turísticas deben ser organizadas con ética y responsabilidad, y considerar la obligación moral de los consumidores por elegir actividades turísticas éticas y comprometidas con la sustentabilidad.

Las actitudes proambientales de los turistas son el resultado de su identidad, del entorno social, de las tendencias de compra pasadas y de la influencia por adquirir ciertos productos. Los turistas crean expectativas que influyen en su comportamiento y en la predisposición o decisión de elegir o visitar un destino, restaurante u hotel ecológicos. Algunos estudios afirman que los consumidores requieren de información acerca de los bienes o servicios ecológicos que ofrecen las empresas, además, estas últimas deben informar sobre sus compromisos y comportamientos responsables. La responsabilidad social de la organización es crucial para gestionar sus impactos al interior y exterior de la empresa. Sin embargo, la falta de información sobre la calidad, la composición, el rendimiento y los beneficios de los bienes ecológicos que ofrecen influye negativamente en el consumo de los mismos.

Es importante considerar estos aspectos ya que la información que transmite la empresa acerca de su marca, conveniencia u otro tipo de factores relacionados con el precio son una condición importante y necesaria para construir confianza y consolidar una compra. Como tal, los consumidores procesan la información de acuerdo con las variaciones en las interpretaciones del mensaje de sustentabilidad que emite la empresa, por lo que su respuesta y percepción pueden variar de acuerdo al contenido de dicho mensaje; el cual, a menudo se compone de un lugar, tiempo y un grupo de referencia –beneficiario– (Line, Hanks & Zhang, 2016). Las redes sociales y otros medios masivos de comunicación han revolucionado la forma en la que los clientes obtienen y transmiten información de sus experiencias de consumo. Al difundir los esfuerzos en materia de sustentabilidad, la comunicación puede ser

una aliada efectiva para motivar a los consumidores a elegir destinos, hoteles o restaurantes ecológicos, siempre que el mensaje sea congruente con las prácticas organizacionales (véase tabla 2).

Tabla 2. Objetivo del comportamiento del consumidor (demanda)

Autores	Objetivo del comportamiento del consumidor (demanda):38 %
Chen & Tung (2014); Goodwin & Francis (2003); Han, Hwang, Kim & Jung (2015); Huang, Lin, Lai & Lin (2015); Mantero (2013); Nimri, Patiar & Kensbock (2017).	Ética, obligación moral y responsabilidad.
Oliveira de Carvalho & Dos Santos (2014).	Considerar la identidad de la población.
Antimova, Nawijn & Peeters (2012); Hergesell (2017); Khare (2015).	Actitudes proambientales (compra verde).
Han & Kim (2010); Han & Yoon (2015); Hwang & Lee (2019); Kim, Njite & Hancer (2013); Nimri <i>et al.</i> (2017); Yadav, Balaji & Jebarajakirthy (2018).	Los turistas crean expectativas que influyen en su comportamiento.
D'Acunto, Tuan, Dalli, Viglia & Okumus (2019).	Importancia de la información sobre la oferta de productos verdes.
Kang, Stein, Heo & Lee (2012); Luthe & Schläpfer (2011).	La falta de información influye negativamente.
Piñeiro y Díaz (2012); Wu, Wei, Tseng & Cheng (2018).	Comunicación para motivar al consumidor.

Fuente: Elaboración propia a partir de los resultados de la investigación.

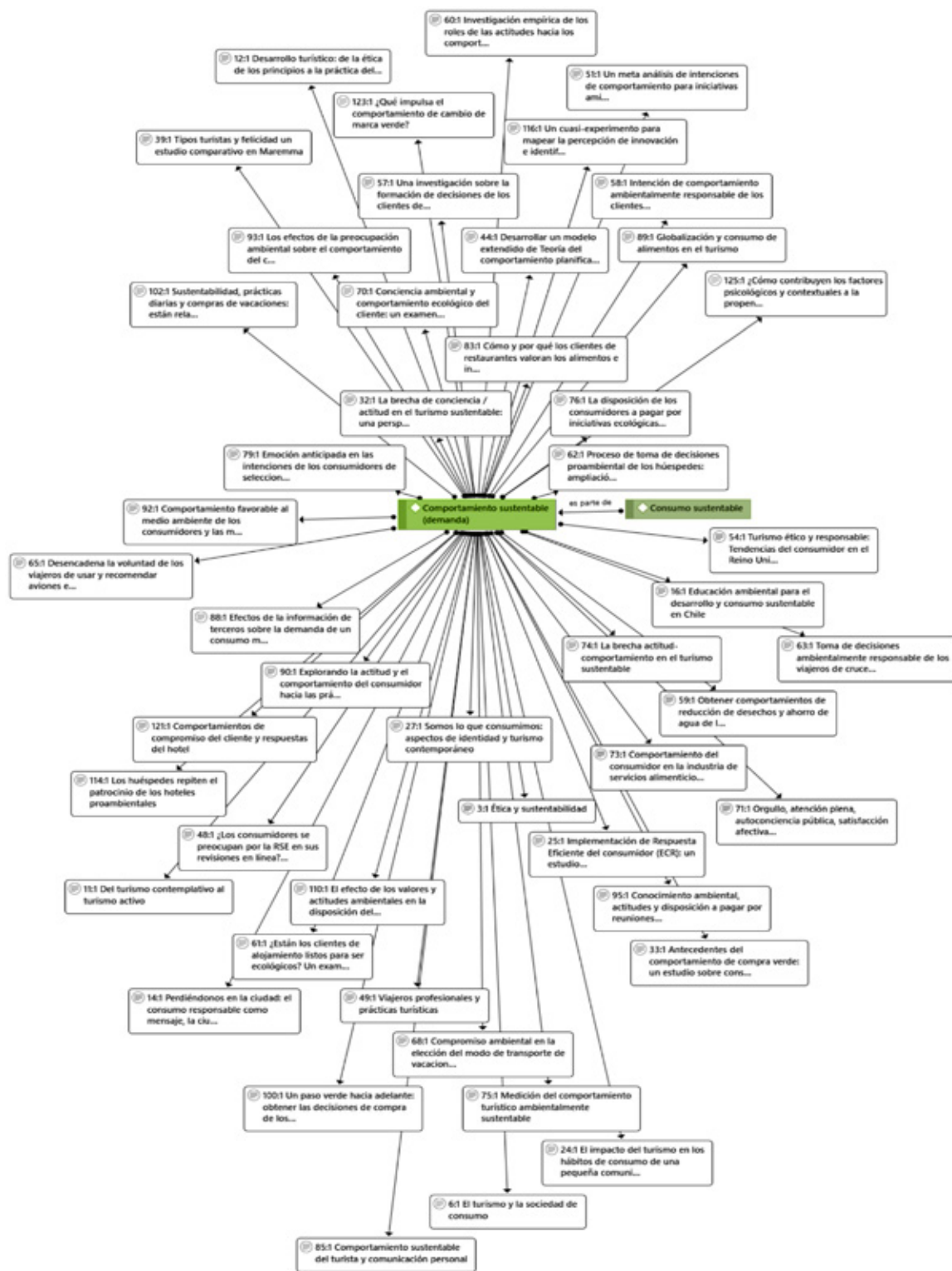


Figura 3. Objetivos de comportamiento sustentable. Fuente: Elaboración propia a partir de los resultados de la investigación.

#### 4.1.3 Políticas públicas y regulaciones ambientales

Ocho artículos (6 %) versan sobre este tema (véase figura 4). Los resultados se engloban en tres tópicos. En primer lugar, aparecen las políticas públicas desde un enfoque ecológico, en específico, políticas relacionadas con la sustentabilidad hídrica. En estos estudios se enfatiza en la importancia de un suministro de agua saludable y equitativo, ya que alrededor del planeta muchos destinos y comunidades turísticas luchan por este derecho esencial para la vida. Por ello, se propone la formulación de modelos de consumo responsable a partir de las siguientes variables: valores, creencias, percepciones, actitudes e intenciones de ahorro de agua. En segundo lugar, se encuentran las investigaciones que proponen la articulación de estrategias para un turismo responsable. Las cuales van desde proyectos turísticos públicos como instrumento de lucha contra la pobreza hasta el desarrollo de un índice para medir la tendencia de consumo verde de los turistas, o la propuesta de estándares de gestión ecológica que los restaurantes pueden implementar. Por último, aparecen los trabajos de gestión pública y planificación, en los que se enmarca la importancia de la gestión socialmente responsable del turismo. En ellos se resalta el diseño de políticas que promuevan la protección del medio ambiente dado que la mayoría de las atracciones turísticas son públicas o en las que la inversión, principalmente en infraestructura, depende de la asignación y gestión de recursos del Estado (véase tabla 3).

Tabla 3. Objetivo de políticas públicas y regulaciones ambientales

Autores	Objetivo de políticas públicas y regulaciones ambientales: 6 %
Carreón, Hernández, García, <i>et al.</i> (2014); Cole (2012).	Formulación de modelos de consumo responsable del agua.
Lanquar y Rivera (2010).	Proyectos turísticos públicos.
Vargas & El Hanandeh (2018).	Diseño de índices de consumo verde.
Wang <i>et al.</i> (2013).	Estándares de gestión ecológica.
Becker (2001); Lanzarini & Barretto (2014); Soliguer (2017).	Gestión pública y planificación.

Fuente: Elaboración propia a partir de los resultados de la investigación.

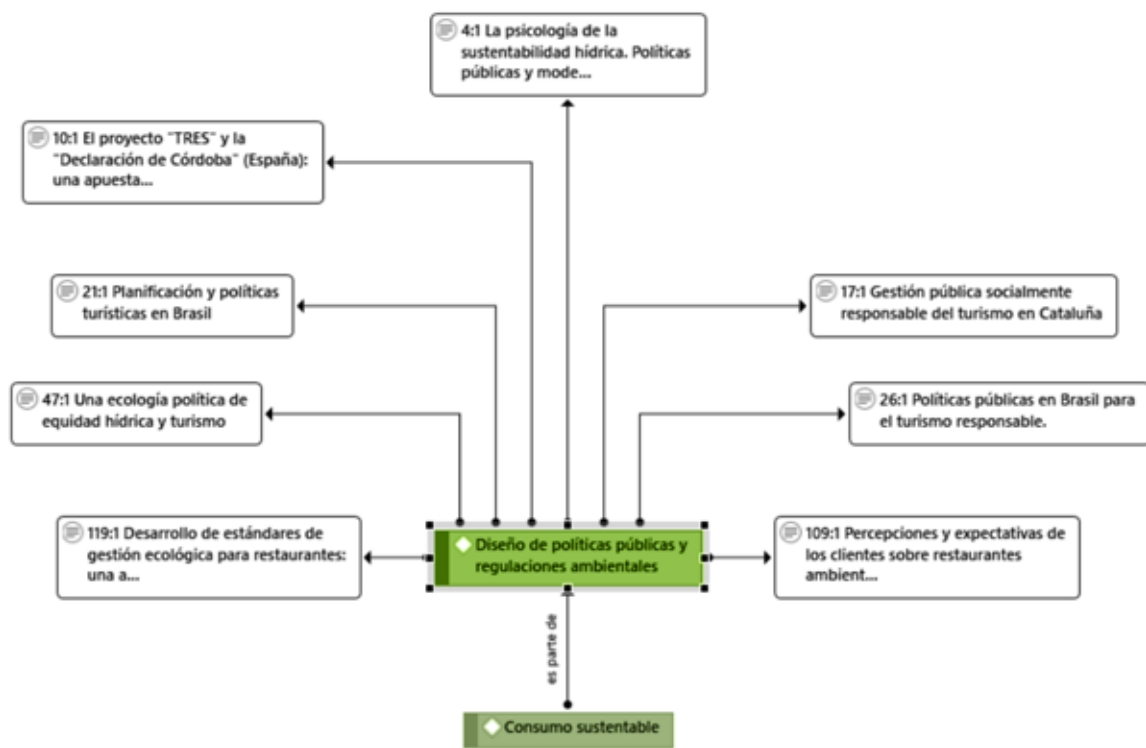


Figura 4. Objetivo de diseño de políticas públicas y regulaciones ambientales. Fuente: Elaboración propia a partir de los resultados de la investigación.

#### 4.2 Ámbitos de implementación

En este tópico, en primer lugar, se encuentran los establecimientos de hospedaje (63 %), seguidos por los establecimientos de alimentos y bebidas (25 %), los medios de transporte (10 %) y, por último, la organización de eventos (2 %). Desde hace algunos años, el sector de alojamiento comenzó a implementar un sinnúmero de prácticas ecológicas para mitigar su amenaza sobre la naturaleza y responder a las crecientes preocupaciones medioambientales de los consumidores. Los resultados muestran las siguientes prácticas: hoteles ecológicos comprometidos con diversas iniciativas, como la reducción de consumo en energía eléctrica y de agua; disminución de residuos orgánicos e inorgánicos; áreas de compostaje; plantas tratadoras de aguas residuales; almacenamiento de agua pluvial; uso de vehículos híbridos dentro de las instalaciones del hotel; piscinas libres de químicos, y el cumplimiento de la política y regulación gubernamental vigentes (véase figura 5).

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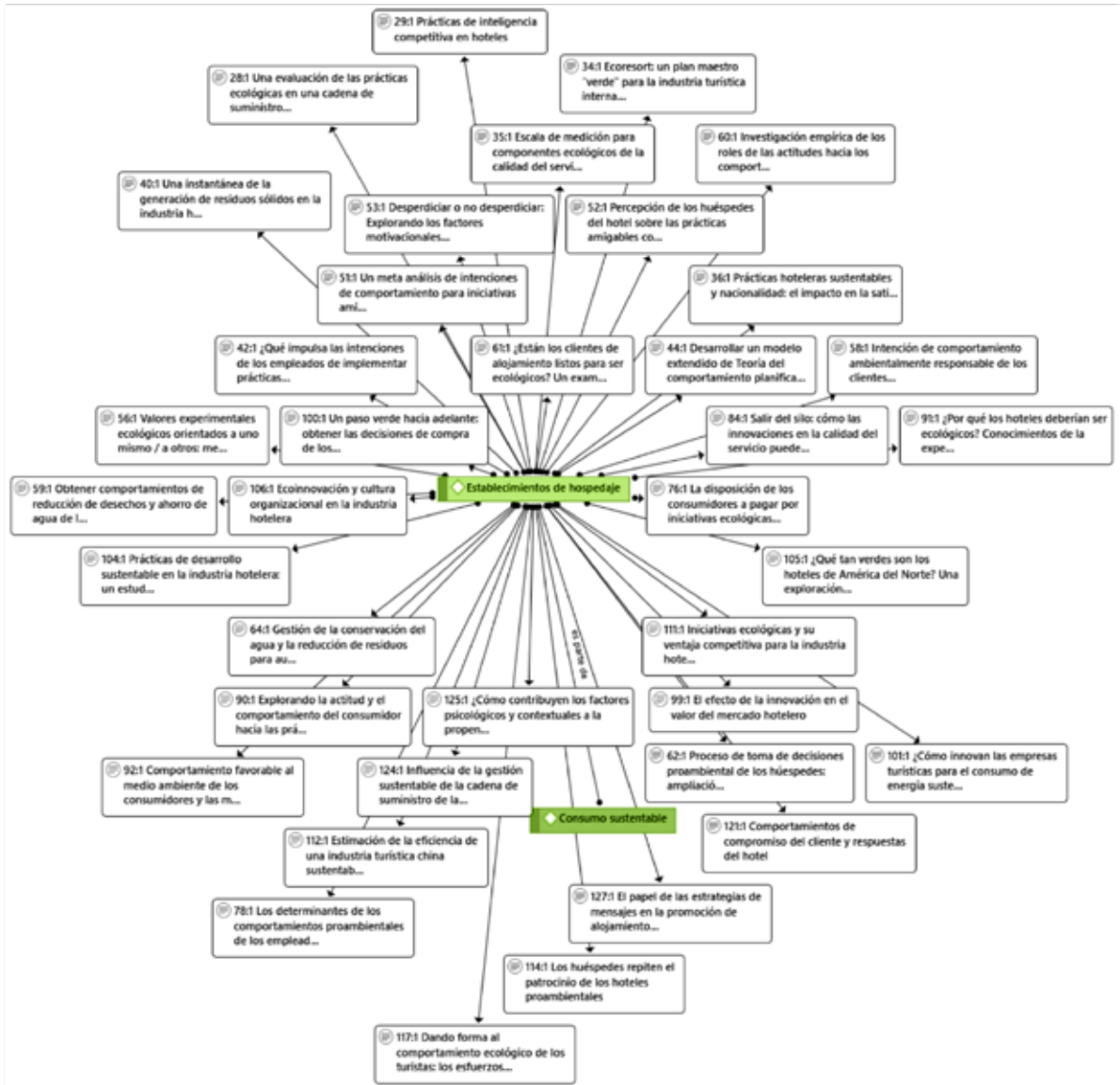


Figura 5. Establecimientos de hospedaje. Fuente: Elaboración propia a partir de los resultados de investigación.

En lo que respecta a los establecimientos de alimentos y bebidas (véase figura 6), en general, sus prácticas incluyen: el rediseño de menús saludables (Filimonau, Lemmer, Marshall & Bejjani, 2017; Shin, Moon, Jung & Severt, 2017); diseño de marca e imagen ecológicas (Jeong *et al.*, 2014; Namkung & Jang, 2013); reciclaje, compostaje, uso de alimentos cultivados localmente u orgánicos, y vinos biodinámicos (Kwok, Huang & Hu, 2016); estrategias de comunicación (León & Araña, 2020; Tiago *et al.*, 2020), o la aplicación de nanotecnologías alimentarias o de impresoras 3D para elaborar platillos.

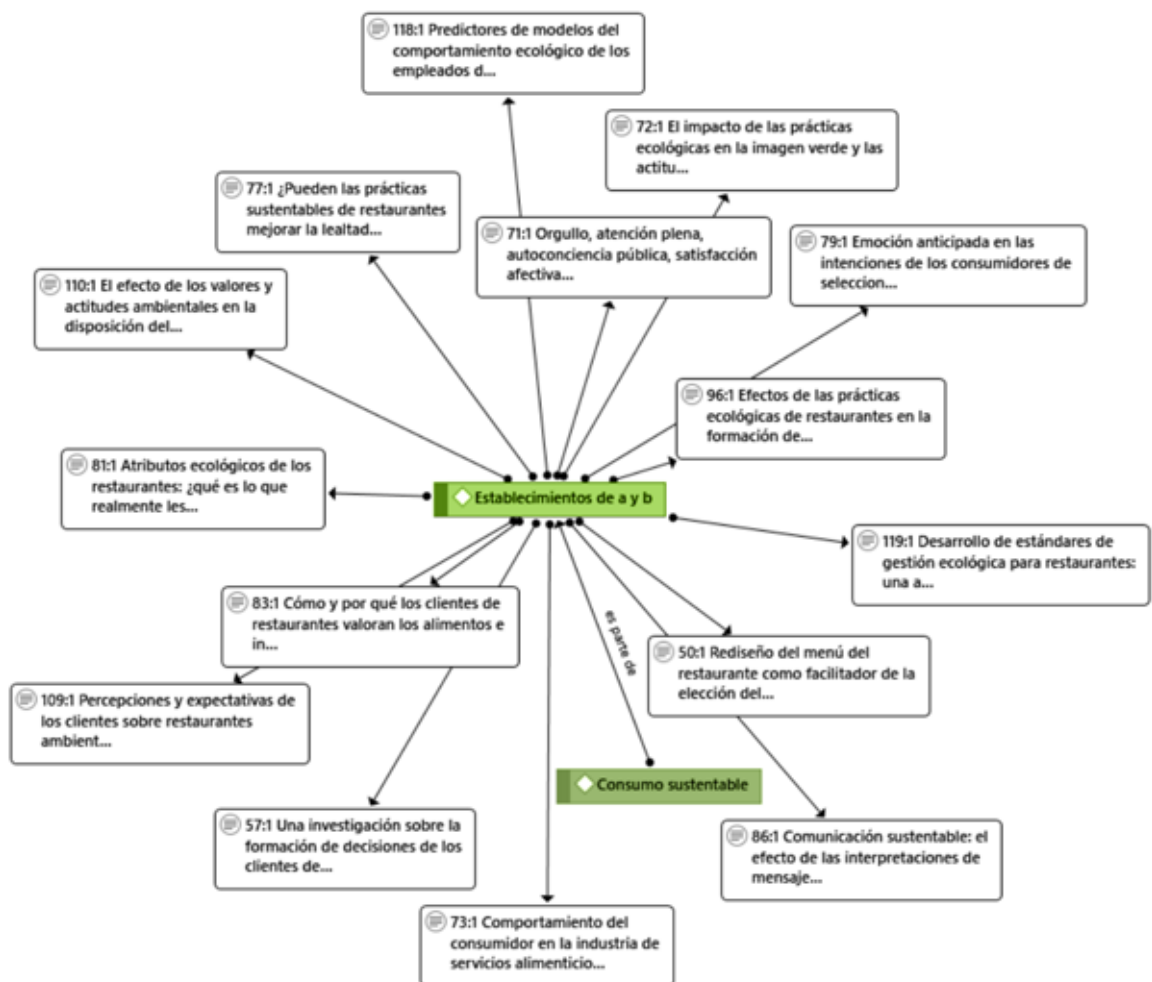


Figura 6. Establecimientos de alimentos y bebidas. Fuente: Elaboración propia a partir de los resultados de la investigación.

En cuanto a los medios de transporte (véase figura 7), se menciona el uso de vehículos autónomos como transporte alternativo para los turistas (Cohen & Hopkins, 2019); las prácticas de gestión sustentable de los cruceros (Han, Jae & Hwang, 2016; Klein, 2011; Paiano, Crovella & Lagioia, 2020), y la propuesta de utilizar aviones eléctricos (Han, Lee, Chua & Kim, 2019). También se mencionan las intenciones de los consumidores por elegir medios de transporte menos contaminantes (Hergesell, 2017).



Figura 7. Medios de transporte. Fuente: Elaboración propia a partir de los resultados de la investigación.

Por último, se halla la organización de eventos sustentables –en específico de festivales– (Laing & Frost, 2010; Myung, 2017) que buscan incorporar operaciones y mensajes ecológicos para un público cada vez más exigente. Este tipo de prácticas pueden replicarse en reuniones como congresos, conferencias o exposiciones, puesto que este tipo de eventos masivos hace uso intensivo de los recursos naturales.

#### 4.3 Innovación y consumo sustentable

Con base en los resultados obtenidos a partir del uso del *software* ATLAS.ti 9, se observa un coeficiente de relación de 0.72 entre las variables analizadas: buenas prácticas, comportamiento sustentable, diseño de políticas públicas y regulaciones ambientales, e innovación (véase tabla 4). Para su mejor comprensión, las actividades de innovación se engloban en la siguiente tipología: organizacional o de gestión, mercadotecnia, procesos y producto.



Tabla 4. Coocurrencias

	Buenas prácticas (oferta) Gr=71		Comportamiento sustentable (demanda) Gr=49		Diseño de políticas públicas y regulaciones ambientales Gr=8		Promedio Gr=69	
	Count	Coefficient	Count	Coefficient	Count	Coefficient	Count	Coefficient
Innovación Gr=69	44	0.46	22	0.23	3	0.04	69	0.72

Fuente: Elaboración propia a partir de los resultados de la investigación.

Las investigaciones de innovación organizacional consideran que la gestión verde –o ecogestión– es una estrategia competitiva para las empresas, al observar que el crecimiento y sostenibilidad económica dependen de la eficiencia en la adopción de prácticas ecológicas (Ali Köseoglu *et al.*, 2016; Chu & Chiu, 2003; Reyes, Sánchez-Medina & Díaz-Pacheco, 2017). Por ejemplo, hábitos alimentarios sustentables (Kim & Hall, 2020) o un modelo de comportamiento ecológico (Yadav *et al.*, 2018). Como parte de las prácticas ecológicas o códigos de ética, algunas empresas utilizan las ecoetiquetas, normas o certificaciones ambientales para motivar la confianza de los clientes (Merli, Preziosi, Acampora & Ali, 2019; Wang *et al.*, 2013). Los hoteles ecológicos emplean desde ecotecnologías para disminuir costos y consumo de agua, hasta energías alternas en espacios comunes. También se identificó el uso de la tecnología *bootstrap* como herramienta para el diseño de contenido web (Song & Li, 2019).

La innovación en producto incluye cambios totales o parciales en el bien o servicio. Ejemplo de ello es el rediseño del menú de un restaurante para facilitar la elección –más responsable– del consumidor (Filimonau *et al.*, 2017); menús saludables que ofrecen alimentos cultivados localmente, orgánicos o vinos biodinámicos (Kwok *et al.*, 2016), o el uso de impresoras 3D para cambiar la presentación de los platillos. Del mismo modo, hay hoteles ecológicos que utilizan el ecodiseño (Chen & Tung, 2014).

Las actividades de innovación en mercadotecnia consideran la percepción de los huéspedes sobre las prácticas amigables con el medio ambiente en las redes sociales u otros medios de comunicación masiva para promover sus servicios (Gil-Soto *et al.*, 2019; Zanon & Teichmann, 2016); la propuesta de mensajes subliminales –con movimientos y aspectos que tienen que ver con las emociones– en la promoción de los destinos turísticos (Hanna *et al.*, 2018), y el marketing ecológico relacionado con la marca e imagen ecológicas (Jeong *et al.*, 2014; Laing & Frost, 2010; Namkung & Jang, 2013).

En la innovación en procesos, las empresas cambian o modifican sus rutinas ineludiblemente por las actividades que implican la implementación de los sistemas

de gestión ambiental (Han *et al.*, 2018). Ejemplo de ello es que el personal de limpieza tiene que separar los residuos o utilizar productos de limpieza ecológicos que requieren precauciones específicas; o el personal administrativo que debe llevar un control sistematizado de la información de dicho sistema de gestión.

Definitivamente, se considera necesario expandir estas actividades para enriquecer las capacidades de innovación de la empresa y encontrar mercados no aprovechados. Cualquier tipo de innovación ambiental demanda tiempo, creatividad, flexibilidad cognitiva y resolución de problemas; la introducción de nuevos sistemas de gestión; el diseño, contratación y/o compra de productos o servicios ecológicos o de ecotecnologías. Además, estas actividades requieren de altos niveles de compromiso y persistencia relacionadas con la motivación de los colaboradores.

## 5. CONCLUSIONES

La realidad global exige que las actividades económicas sean más sustentables y rentables. De acuerdo con los datos analizados, se observa una creciente conciencia en la adopción de prácticas ecológicas en el sector turístico, en particular en los establecimientos hoteleros y restauranteros. En lo concerniente a los consumidores, estos consideran mayormente la experiencia de sustentabilidad como un aspecto que debe estar implícito en el servicio turístico y no como una estrategia para atraer su atención.

El limitado número de investigaciones relacionadas con el sector público manifiesta la falta de interés o desconocimiento por parte de las autoridades para diseñar o promover políticas o regulaciones ambientales. Por lo cual es necesario fomentar un consumo sustentable en la sociedad desde el espacio público, puesto que los problemas ambientales globales –como la distribución equitativa del agua– están ocasionando conflictos sociales. El sector turístico requiere regulaciones ambientales más estrictas que presionen a los consumidores y a las empresas a ser conscientes de las consecuencias de sus acciones. Es necesaria la intervención de las autoridades para diseñar y promover programas e iniciativas que regulen las prácticas de consumo sustentable en el turismo. La adopción de prácticas ecológicas o códigos de ética pueden enfrentar varios desafíos, como la falta de recursos financieros, falta de conocimiento o conciencia ambiental, falta de habilidades –personal capacitado–, falta de tiempo, y el hecho de que los resultados de este tipo de prácticas se vean reflejados en el mediano y largo plazo. Del mismo modo, estas iniciativas requieren de costos asociados con su implementación –sistemas de gestión ambiental y compras de suministros y productos–, que pueden pasar a los consumidores por la vía de precios más altos. Por otro lado, la confianza en las autoridades públicas podría incentivar a los empresarios a pagar impuestos verdes o a incrementar la adopción de estándares ecológicos.

Como se observa, todos los estudios se enmarcan en la concientización de los problemas relacionados con el medio ambiente. A lo cual se suman los esfuerzos de los involucrados –consumidores, empresas, comunidad anfitriona, proveedores y

gobierno- por proponer o implementar mejores prácticas. Finalmente, es oportuno mencionar que, desde una perspectiva gerencial, estos resultados brindan a los gerentes o tomadores de decisiones de las empresas turísticas la oportunidad de comprender la atención que ponen los clientes en los asuntos ambientales. Además de mejorar el uso de estrategias de comunicación, como el uso de redes sociales que informen oportunamente sobre las prácticas responsables de la organización para incrementar la efectividad de las estrategias verdes.

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# THE IMPACT OF KNOWLEDGE MANAGEMENT ON ORGANIZATIONAL PERFORMANCE: A STRUCTURAL EQUATION MODELING STUDY

EL IMPACTO DE LA GESTIÓN DEL CONOCIMIENTO EN EL DESEMPEÑO ORGANIZACIONAL: UN ESTUDIO DE MODELADO DE ECUACIONES ESTRUCTURALES

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## ABSTRACT

This study attempts to investigate the role of knowledge management (KM) in commercial companies. To this end, a literature review was made and relevant components were extracted to conceptualize KM and organizational performance (OP), and the relationship between KM and OP was presented in a theoretical framework. Secondly, to assess the proposed model, a questionnaire was given to 200 participants in five commercial companies, chosen through multi-stage stratified sampling. The data were analyzed using structural equation modeling (SEM) and Lisrel 8.8. The results revealed that the model enjoyed an acceptable degree of fit. The obtained coefficient (0.41) showed a direct impact of KM indices on OP, indicating the significant and positive relationship between KM and OP dimensions such as financial performance, quality of goods and services, staff members' performance, innovation, and customers' level of satisfaction.

## KEYWORDS

Knowledge management, Organizational performance, Structural equation modeling, Commercial companies

## RESUMEN

Este estudio trató de investigar el papel de la gestión del conocimiento (KM) en las empresas comerciales. Con este fin, se revisó la literatura y se extrajeron componentes relevantes para conceptualizar el KM y el desempeño organizacional (OP). A continuación, la relación entre KM y OP se presentó en un marco teórico. En segundo lugar, para evaluar el modelo propuesto, se entregó un cuestionario a 200 participantes en 5 empresas comerciales, elegidos mediante muestreo estratificado de etapas múltiples. Los datos se analizaron utilizando modelado mediante ecuaciones estructurales (SEM) y Lisrel 8.8. Los resultados revelaron que el modelo proporcionaba un grado aceptable de ajuste. El coeficiente obtenido (0,41) muestra un impacto directo de los índices de KM en OP, lo que indica la relación significativa y positiva entre las dimensiones de KM y OP, tales como el desempeño financiero, la calidad de los bienes y servicios, el desempeño de los miembros del personal, la innovación y el nivel de satisfacción de los clientes.

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## PALABRAS CLAVE

Gestión del conocimiento, desempeño organizacional, modelación de ecuaciones estructurales, empresas comerciales

## INTRODUCTION

In the current knowledge-based era, knowledge, along with other physical properties of organizations (e.g. land, human resources, equipment, capital, etc.) is conceived of as the most important organizational property and the source of competitiveness advantage. It is believed that knowledge performance is very important to the survival of an organization (Easterby-Smith & Prieto, 2008). Numerous scholars consider it as an important factor in achieving dynamic potentials and value for an organization (Zollo and Winter, 2002; Karami et al., 2015). Knowledge, a floating combination of experiences, values, information and expert vision, provides a framework for evaluating and combining new experiences and information. Organizational knowledge not only results from the experts' minds but also is internalized within the organizational norms and actions, processes, procedures, warehouses or documents (Pandey & Dutta, 2013).

Achieving competitiveness advantage from organizational knowledge requires its accurate management, the so-called knowledge management which currently has an important status in the organizational leadership and management to which researchers have paid particular attention. This is due to the fact that several areas such as philosophy, cognitive sciences, social sciences, management sciences, information sciences, engineering sciences, and artificial intelligence play a key role in the evolution of knowledge management, and as such, several definitions have been proposed. Ju Choi et al. (2005) defined knowledge management as the process of creating, gathering, organizing storing, disseminating, using and exploiting knowledge for creating organizational value and competitiveness advantage. Pandey and Dutta (2003) held that knowledge management entails identifying and exploiting individual and collective knowledge in an organization, in order to contribute to the organizational performance. Knowledge management processes would be useful for problem-solving, dynamic learning, strategic planning, decision-making and avoiding burnouts, and lead to increasing flexibility and organizational intelligence. In the most comprehensive definition, Hislop (2010) believed that any attempts to manage organizational knowledge is called knowledge management which can be implemented in a wide range of direct ICT-based methods or indirect ones based on managing social processes, organizational structures, creating culture and individuals' management approaches.

Also, knowledge management, if it is well implemented, can contribute to faster and more efficient innovation, more coordination, commercializing goods, responding to the environmental changes, flexibility, efficiency, productivity, and profitability (Gold et al., 2001). However, no study has yet touched upon the possible

impact of knowledge management on the performance of commercial companies in terms of various proposed dimensions. Identifying its influence on various dimensions of performance would lead to improved performance of commercial companies. Bearing this in mind, the current study primarily attempts to identify various dimensions and factors constituting knowledge management and their relationships with different dimensions of performance. The study further aimed to present a model for constituent dimensions and factors of knowledge management and their influence on various dimensions of performance. To this end, a review of the existing literature is presented, followed by the method, findings, discussion and conclusion.

## REVIEW OF THE LITERATURE

During the last decades, knowledge management has been discussed as a scientific concept. Since 1995, several studies have been conducted and developed. Nowadays, few journals publish articles without mentioning the concept of knowledge management. Knowledge management, as a vital instrument for organizations and society, is of utmost significance. Moreover, the concept has led to transforming knowledge management into an updated term (Desouza, 2011).

Knowledge management is a systematic process involving the creation, collection, organization, storage, dissemination, and utilization of knowledge to create business value and competitive advantage (Pandey and Dutta, 2013). Several local and international studies have been carried regarding the influence of knowledge management on the performance of organizations, and have illustrated that knowledge management practices positively affect the performance of the organizations.

Yang et al. (2014) discovered the positive influence of knowledge management on organizational performance. They understood that the customers' knowledge leadership, as the independent variable, and innovation, customers' level of satisfaction, and products and services quality, as various dimensions of organizational performance, were related.

Gholami et al. (2013) analyzed the influence of knowledge management on the performance of micro and moderately-sized firms. They concluded that acquiring knowledge, storing knowledge, sharing knowledge, creating knowledge, and applying knowledge were among the leading factors for knowledge management. They also discovered that production, financial performance, staff members' performance, innovation, professional relationships, and customers' level of satisfaction were the leading positive factors related to organizational performance. They concluded that knowledge management would have a direct impact on the performance of micro and moderately-sized businesses.

Many researchers like Miković et al. (2020) and Matveeva et al. (2021) believed that effective knowledge management would lead to the collaboration and cooperation among individuals, projects, and organizations. For example, those organizations which create new knowledge and widely distribute it across the organization can incorporate it into their technologies quickly and thereby, produce and present new

products. Moreover, McKenzie and VanWinkelen (2004) highlighted the importance of knowledge as a vital source for organizations which lead to their performance enhancement. This was also emphasized by Iqbal et al. (2012), Salleh and Ching (2012), and Tsai et al. (2012). The role and influence of knowledge management on improving organizational performance have been specifically identified in numerous studies, such as (Hosseini et al., 2019). The significance of knowledge management is not only confined to performance of knowledge-based companies in high-tech industries but is also important to all economic sectors (Teng and Soung, 2011). Commercial companies also significantly enjoy the benefits of knowledge management (Byukusenge et al., 2017). Today, commercial companies play an important role in the economies of countries; in a way, a large part of the world's wealth is produced by these companies, and the shares of commercial companies constitute the major part of people's wealth. The importance of commercial companies, especially in the economies of developing countries such as Iran, is twofold. Commercial companies pursue income by buying and selling goods and services. Paying attention to the value of knowledge and knowledge requirements in these companies can help develop a knowledge strategy tailored to their business strategy and strengthen their competitive advantage (García-Holgado & García-Peñalvo, 2016). If commercial companies develop a knowledge strategy based on their transaction data and customer information, and use appropriate data mining tools and other knowledge management techniques, they will be able to learn about their customers' purchasing behavior, customers' characteristics, information market trends, and effective knowledge-based means to execute marketing strategies (Kasemsap, 2017).

Byukusenge et al. (2017) determined that knowledge management could improve the commercial performance of companies through making a positive impact on organizational innovation. The effect of knowledge management and organizational innovation on companies and business' performance has been reviewed by Vaio et al. (2021).

It appears that knowledge management may likely influence gradual and radical innovations within organizations (Miković et al., 2020). Gradual innovations are those which change customers' behavior. The key role of knowledge management in gradual innovation is taking advantage of the knowledge properties. Radical innovations are those which deform and reform the competitive condition among firms. The main role of knowledge management in radical innovations is recombination of the knowledge properties while creating new ideas and exploring new knowledge.

This review of the research literature shows that no study has yet touched upon the possible impact of knowledge management on the performance of commercial companies in terms of various dimensions (such as financial performance, goods and services quality, staff members' performance, and customers' level of



satisfaction). As such, this study further aimed to present a model for constituent dimensions and factors of knowledge management, and their influence on various dimensions of performance.

### **Knowledge Management Processes**

Several models have been proposed for describing knowledge management processes in the existing literature. The review of literature indicates that knowledge management entails creating, storing, sharing, and using knowledge. These processes are described below:

- (i) **Knowledge Creating:** Creating knowledge includes using internal and external resources of an organization to create new knowledge in order to achieve organizational objectives. According to previously conducted studies of successful organizations and the intellectual methods and research related to making better use of customers' and suppliers' knowledge properties, the best strategies employed to create such knowledge were identified by (Alavi & Leidner, 2001).
- (ii) **Knowledge Storing:** Storing knowledge encompasses recording and keeping knowledge which makes it possible to retrieve individual and organizational information. Technical systems (e.g. modern information software and hardware) and human processes are commonly used to identify, code, store, and retrieve knowledge (Alhawari et al., 2012). Storing knowledge can effectively contribute to protecting organizations from the negative impacts of duplication, repeating actions, and solving present and future problems (Stein, 1995). The best form of storing knowledge is creating an organizational memory. Organizational memory is a warehouse or system including details about previous decisions and their results, previous crises and organizational reactions and other decisions. This memory makes it possible to retrieve knowledge in inactive knowledge dissemination and distributes knowledge actively among staff members (El Sawy & Majchrzak, 2004).
- (iii) **Knowledge Sharing:** As soon as organizational knowledge is obtained, coded, and stored, it should be shared. To this end, it is necessary to change the organization and staff members' mindset. The staff members should be asked to share their knowledge, and they should be ensured that this would not negatively influence their organizational position and status, and thus would increase their respect among their colleagues and counterparts (Mohapatra et al., 2016).
- (iv) **Knowledge Utilization:** This entails using existing knowledge for making decisions, improving organizational performance and achieving organizational objectives. Indeed, organizational knowledge should be applied in services, processes and products of an organization (Tarlatt, 2013). This seems to be a challenging issue for organizations. Developing an effective framework for implementing knowledge management before applying it can be influential.

Such framework acts as guidelines which illustrate the key components to effective application of knowledge in organizations.

### Infrastructural Factors

The infrastructural factors of knowledge management refer to a set of mechanisms through which an organization manages its knowledge. Individuals share their knowledge in various sectors through these Infrastructural factors so that everybody can effectively use it. The review of literature reveals such important Infrastructural factors as organizational culture, leadership, information technology, and organizational processes. These are all illustrated below:

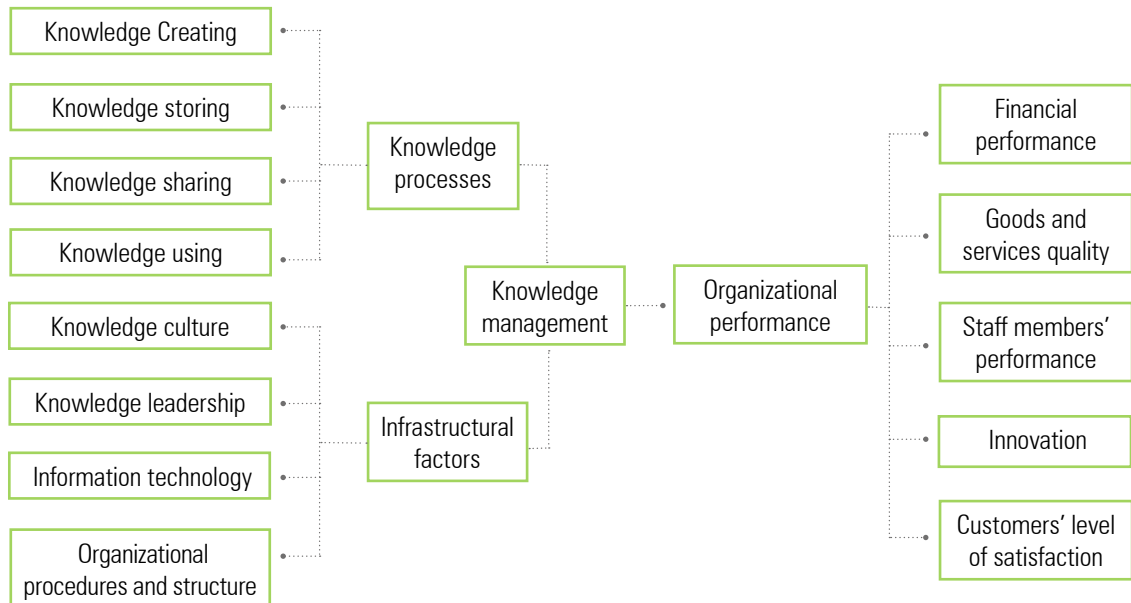
- (i) **Organizational Culture:** Sharing knowledge at all levels, from face to face individual interactions to collective knowledge sharing, and even sharing knowledge in virtual teams, which are all highly moderated by cultural factors. Knowledge sharing processes, particularly implicit knowledge sharing, requires social interactions which are in turn formed in a cultural context including values and beliefs. These determine behavioral and normal patterns. Organizational culture in general, and organizational subcultures in particular, can make a significant impact on processes related to knowledge in four ways: 1) culture forms the assumptions revealing which type of knowledge is useful, 2) culture moderates the relationship between individuals and organizational knowledge, 3) culture provides a context for social interaction, and 4) culture influences the creation and adaptation of new knowledge. Organizational culture may facilitate or debilitate sharing knowledge.
- (ii) **Leadership:** Leadership is an impetus leading knowledge management strategies in an organization. The organization's leaders' ability to react to knowledge-based organizational challenges is crucial. Knowledge management leadership is assessed in terms of knowledge management policies and strategies in an organization. Moreover, leadership is assessed in terms of actions taken to create a relevant context to knowledge management behaviors in an organization (Young, 2010).
- (iii) **Information Technology:** Information technology (IT) is a key factor which influences the implementation of knowledge management. A wide range of IT-based instruments exist, which make a tremendous impact on knowledge management, including the intranet, extranet, content management systems, document management systems, data warehousing, data mining, and portals, etc. (Kruger & Johnson, 2009). Information technology can play different roles in knowledge management settings, including acquiring knowledge, defining, storing, ranking and relating knowledge-based goods, searching and identifying knowledge content, creating context-based content flexibility, creating communicative channels among the staff members for sharing knowledge, and identifying knowledge carrying locations (Hedelin & Allwood, 2002).

(iv) Organizational structure and procedures: Organizational structure and procedures can make an impact on the knowledge management through forming the patterns and influencing the frequency and intensity of communication among members of an organization. Furthermore, knowledge management can impose a structural effect on the effectiveness of an organization since it influences the efficiency and effectiveness of daily routines (Zheng et al., 2010). The more flexible the organizational structure and procedures are, the better they can be adapted to the changes related to knowledge management. Furthermore, the lower the number of hierarchies an organizational structure has, the less it would be enabled to foster communication among individuals and units, and to facilitate knowledge sharing and flow (Du Plessis, 2006).

### Theoretical Model of Research

According to the sections 2, -2-1 and 2-2, a theoretical model has been developed to show how knowledge management affects the performance of commercial companies (Figure 1).

Figure 1. Theoretical model of the study



The metrics of the theoretical mode of the study are presented in Table 1. Many of these metrics have been extracted from the knowledge management framework of the Asian Productivity Organization (APO) (Young, 2010).

Table 1. Metrics of the theoretical model of the study

Secondary factors of the theoretical framework of the study	Metrics
Knowledge creating	<ol style="list-style-type: none"> <li>1. Creating knowledge is part of the philosophy and culture of an organization;</li> <li>2. The local research and development and joint projects with other organizations are supported;</li> <li>3. Cooperative learning is facilitated and fostered through developing and enhancing group and team work.</li> </ol>
Knowledge Storing	<ol style="list-style-type: none"> <li>1. Important, relevant and new knowledge is stored in the organization;</li> <li>2. All information related to meetings and seminars, such as notes, invitation letters, enactments, etc. are stored in the organization;</li> <li>3. The guidelines are stored and prepared to be retrieved later in the website to be easily accessible.</li> </ol>
Knowledge sharing	<ol style="list-style-type: none"> <li>1. The staff members are informed of the organizational events through formal and informal channels;</li> <li>2. Open communities and informal networks such as CoPs are formed in order to facilitate knowledge dissemination and sharing;</li> <li>3. The communications beyond the organizational structure are supported in order to facilitate knowledge dissemination and sharing.</li> </ol>
Knowledge using	<ol style="list-style-type: none"> <li>1. The acquired knowledge is used in completing the organizational usual tasks, identifying the problem, and solving it (by whom and how);</li> <li>2. The acquired knowledge is used for evaluating the existing options for action and the possible approaches such as determining the risks and the advantages of all options;</li> <li>3. The staff members are given freedom to use knowledge in doing their job and the managers and supervisors put emphasis on indirect supervision and low control.</li> </ol>

Secondary factors of the theoretical framework of the study	Metrics
Knowledge culture	<ol style="list-style-type: none"> <li>1. There is trust among the staff members and secondary units in an organization in sharing knowledge;</li> <li>2. There is commitment at all levels of the organization;</li> <li>3. There is a belief that knowledge hoarding is not power and sharing knowledge would foster one's power and position;</li> <li>4. The information technology strategies and the knowledge strategy and prospects are in line with each other;</li> <li>5. The values and beliefs about the value of knowledge and sharing knowledge are internalized.</li> </ol>
Knowledge leadership	<ol style="list-style-type: none"> <li>1. It focuses on the organizational management, performance improvement, individual and organizational learning, sharing knowledge, and creating knowledge and innovation;</li> <li>2. The organization owns a policy for protecting its knowledge (e.g. copyright, patent, knowledge management, knowledge security);</li> <li>3. The required financial resources are allocated to the innovations in knowledge management.</li> </ol>
Information technology	<ol style="list-style-type: none"> <li>1. The organizational management provided the necessary IT substructures (e.g. the Internet, intranet, website) for developing the required capabilities for facilitating knowledge management;</li> <li>2. All people have access to the computer in the organization;</li> <li>3. All people have access to the Internet, intranet, and email address in the organization.</li> </ol>
Organizational processes and structure	<ol style="list-style-type: none"> <li>1. The organization designs its mechanism and key processes for creating value for the customers, and achieving the performance excellence;</li> <li>2. The organization implements and manages its key professional mechanisms to ensure that the customers' needs are met and the commercial outcomes are stable;</li> <li>3. The organization continuously evaluates and improves its professional processes in order to reach a better performance and decrease deviations;</li> <li>4. The organizational structure includes a low degree of hierarchy and facilitates communication.</li> </ol>

Secondary factors of the theoretical framework of the study	Metrics
Goods and services quality	<ol style="list-style-type: none"> <li>1. Knowledge management increases the quality of goods and services;</li> <li>2. Several indices are developed and applied in the organization to evaluate the influence of knowledge innovations on the quality of goods and services, and individuals' role in them;</li> <li>3. The customers' comments are used to improve the quality of goods and services;</li> <li>4. Numerous facilities are used to offer services faster and better;</li> <li>5. The organization is constantly using new knowledge and incorporates innovation in goods and services;</li> <li>6. The organization prioritizes the quality of its goods and services over profitability;</li> <li>7. The organization attempts to receive its customers' feedback on the quality of its goods and services through various channels;</li> <li>8. There are mechanisms for constant evaluation of the goods and services quality control.</li> </ol>
Financial performance	<ol style="list-style-type: none"> <li>1. Knowledge management increases the speed of responding to the market crises;</li> <li>2. Knowledge management increases the profitability;</li> <li>3. Knowledge management improves the financial and commercial processes;</li> <li>4. Knowledge management creates new financial and commercial processes;</li> <li>5. Knowledge management improves the productivity of the organization after increasing learning;</li> <li>6. Knowledge management causes the stable growth of the organization;</li> <li>7. Knowledge management creates new commercial opportunities.</li> </ol>

Secondary factors of the theoretical framework of the study	Metrics
Innovation	<ol style="list-style-type: none"> <li>1. The organization constantly illustrates the values related to learning and innovation;</li> <li>2. The organization considers individuals' mistakes and risk-taking as opportunities for learning unless they are not repeated;</li> <li>3. Inter-task teams are formed to confront the problems or difficulties in various units of the organization;</li> <li>4. Individuals feel competent and feels that the organization appreciates their ideas and contribution to knowledge management;</li> <li>5. Organizational management is inclined to test new techniques and instruments; 6. Confronting a problem, creative solutions are prioritized over the common ones; 7. The organization increases the speed of innovation through decreasing the amount of time for the operational cycle, being more efficient at saving money, improving effectiveness, using resources (e.g. knowledge) more efficiently, improving decision-making; 8. The organizational environment is ready to acknowledge and accept individuals' ideas.</li> </ol>
Customers' level of satisfaction	<ol style="list-style-type: none"> <li>1. Knowledge management leads to an increase in the customers' level of satisfaction; 2. It is common to discuss and negotiate ideas about meeting the customers' wants;</li> <li>3. Various social media are used to ease the customers' access;</li> <li>4. The customers' feedbacks are evaluated and the knowledge resulting from this is recorded and used in the organization;</li> <li>5. The goods and services are developed based on the customers' basic level of knowledge;</li> <li>6. The data of the customers' telephone center are evaluated and examined and the resulting knowledge is used.</li> </ol>

**Secondary factors  
of the theoretical  
framework of the study**

**Metrics**

The staff members'  
performance

1. The occupational skills enhance through educational and occupational development programs;
2. There is a systematic process for acquainting the new staff members including their familiarity with knowledge management and its advantages, knowledge management system, and knowledge management instruments;
3. The staff members take advantage of the stored and recorded knowledge within the organization;
4. Knowledge management and the staff members' awareness of it leads to presenting new methods or appropriate methods for doing their tasks;
5. The staff members share the best methods and this decreases the learning curve;
6. Using knowledge management leads to the staff members' better decision-making;
7. New staff members use the knowledge bank and portal for learning and thereby, their productivity increases;
8. The organization owns a databank of the staff members' capabilities;
9. The staff members are organized in small groups in order to respond to the concerns and problems in the occupational environment.

**METHOD**

The method of the current study included two stages: 1. Documentary and library method to access the existing theoretical viewpoints on knowledge management and review of related literature, 2. Survey to gather the required data, to describe and illustrate the questions and the research theoretical model. The statistical population consisted of the staff members in Tehran. The multi-stage stratified sampling method was used and the participants were selected through appropriate stratification for the proportion. In this way, five commercial organizations (strata) in Tehran were selected. Then, participants were selected from each organization based on the staff members' proportion, field of study, and major. The final participants were 200 staff members of these organizations. The demographic characteristics of the sample are presented in Table 2.



Table 2. Demographic characteristics of the research sample

Educational level	Frequency percentage	Working experience (years)	Frequency percentage	Field of study	Frequency percentage
Diploma	4.5	less than 1 year	9.5	Management	25
Associate and BA	16	1-2 years	38.5	Industrial engineering	33
MA	42	2-4 years	27.5	IT engineering	24
PhD	32.5	more than 4 years	24.5	Social sciences	14

The instrument was a researcher-made questionnaire including 65, 5-point Likert scale items. The responses ranged from completely agree (5) to completely disagree (1) (completely agree=5, agree=4, neutral=3, disagree=2, completely disagree=1). These items measured knowledge processes (12 items), infrastructural structures (15 items), quality of goods and services (8 items), financial performance (7 items), staff members' performance (9 items), organizational innovation (8 items), and customers' level of satisfaction (6 items).

The research variables had a sufficient degree of content validity. Content validity is commonly checked by the experts in the field, and relies on their judgment (Khaki, 2012, p.288). In the current study, six experts in the field of knowledge management were asked to comment on the first draft of the questionnaire and all had consensus over 65 items of the questionnaire. Moreover, factor analysis was run and the Kaiser Meyer Olkin (KMO) value was 0.87, which indicates that the items were appropriately correlated in order to create a factor analysis.

Reliability indicates the internal consistency of the instrument. In order to assess the reliability of the instrument used in the current study, the construct reliability was checked through calculating Cronbach alpha. The standard construct reliability coefficient should exceed 0.7. The Cronbach alpha coefficients for the components of the questionnaire were as follows: knowledge processes (0.76), infrastructural factors (0.78), quality of goods and services (0.86), organizational performance (0.88), staff members' performance (0.71), innovation (0.74), and customers' level of satisfaction (0.77). Cronbach alpha coefficients for all research variables were more than 0.7, indicating the acceptable degree of the reliability for the instrument used in the current study.

In order to analyze the gathered data, descriptive and inferential statistics were used. To gain descriptive statistics, the table of frequency and questionnaire components, SPSS was used. To test the research hypotheses, SEM and Lisrel 8.8 were utilized.

## FINDINGS

In this section, descriptive statistics for variables of organizational performance have been provided. Table 3. presents descriptive statistics for variables of organizational performance.

Table 3. Measures of central tendency and dispersion for variables of organizational performance

Indices	Organizational performance	Financial performance	Quality of goods and services	Staff members' performance	Innovation	Customers' level of satisfaction
Mean	145.35	42.08	27.74	24.66	22.76	28.13
Median	14617.767	43	28	25	23	28
Mode	138	44	35	24	26	28
Standard deviation	17.767	9.019	6.023	3.636	3.607	4.346
Coefficient of Skewness	-0.17	-0.38	-0.843	0.03	-0.357	-0.292
Kurtosis coefficient	0.077	0.06	0.618	0.910	0.22	-0.57
Max	110	48	28	28	23	22
Min	81	12	7	7	7	13
Total score	191	60	35	35	30	35

The measures of central tendency, mode, median, and mean have approximate values for organizational performance which represents a normal distribution. As Table 3 displays, the minimum and maximum scores for organization performance were 81 and 110, respectively and the total score was 191. Accordingly, the range of normal distribution was 110. Most of the respondents had an organizational performance score of 138. Half of the respondents has an organizational score of less than or equal to 146 and half of them had more than this score. The average score of the organizational performance of the statistical sample was 145.35. Taking into account the standard deviation, the distribution score of the organizational performance variable was dispersed at 17.76 around the mean values. Hence, the scores of the organizational performance for %95 were estimated as more than or equal to 127.59 and less than or equal to 163.11. A general evaluation of organizational performance variable and its five dimensions indicates that the approximate values of this variable and its dimensions to the normal distribution accounts for the optimal status of this variable in the organizations under the study.

### Structural Equation Modeling and the Model Fit

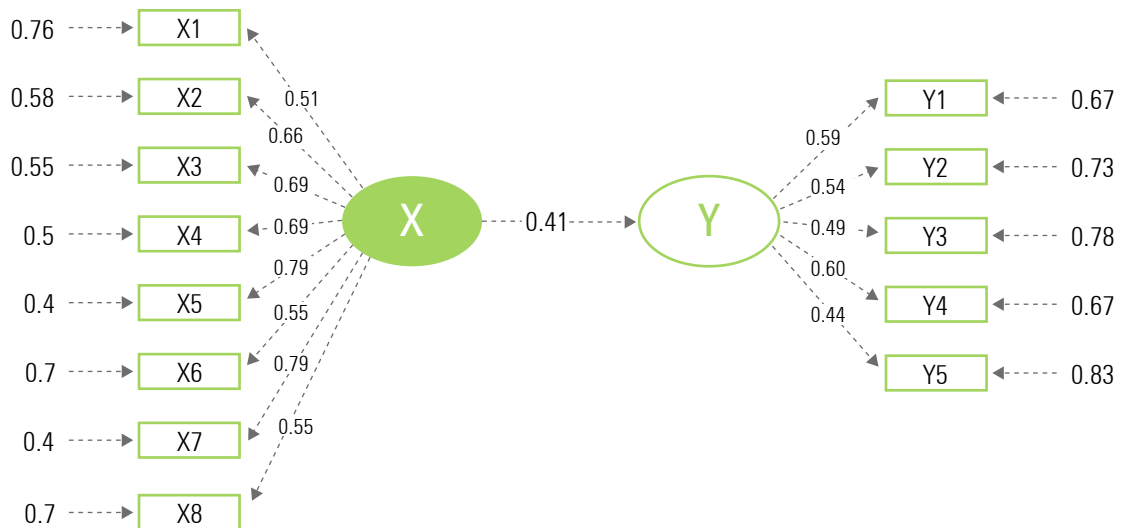
Structural Equation Modeling (SEM) is a technique for analyzing the data which was designed for evaluating the relationship between two types of variables: a. Explicit variables (variables which were directly measured and included observed variables); b. Implicit variables (variables which were the theoretical constructs). Compared to other data analysis techniques, SEM makes it possible for the researcher to test the complicated theoretical models in an analysis. The most distinguishing characteristic of SEM is simultaneous processing and analysis of the relationships among variables. SEM allows the researchers to conduct a simultaneous causal analysis of the implicit and observed variables. When SEM is used, an important component is evaluating the fit of a hypothetical model or observed data. Researchers commonly use goodness of fit indices for evaluating this fit. In general, goodness of fit indices is divided into two categories: a. goodness of fit indices, and b. badness of fit indices. Goodness of fit indices includes comparative fit index (CFI), incremental fit index (IFI), and normal fit index (NFI). The higher values are more desired. The suggested value for these indices is 0.9. In the same line, badness of fit indices entails  $\chi^2/df$  and the root mean square error of approximation (RMSEA). The lower values indicate a more desirable fit. In order to answer the fit model, both goodness and badness indices should be examined. These indices are illustrated below (Toit, H., & Du Toit, 2008).

- RMSEA: It is the root mean square of approximation and its closer value to 0 indicates a better fit. If it is less than 0.1, the model fit is excellent.
- RMR: This index is the root mean square of residuals and its closer value to 0 indicates a better fit.
- $\chi^2/df$ : It is the absolute value of the residuals and it should be less than 3.
- NFI: It is an index for assessing the goodness of fit model considering the data. If it is more than 0.9, it would indicate the fitness of the extracted model.
- CFI: It is a comparative fit index and values more than 0.9 indicate the fit of the extracted model.
- NNFI: It is non-normal fit index and values more than 0.9 indicate the fit of the extracted model.
- RFI: It is a relative fit index and values more than to 0.9 indicate the fit of the extracted model.
- IFI: It is incremental fit index and values more than 0.9 indicate the fit of the extracted model.
- SRMR: It is the standard root mean square residual and its closer value to 0 indicates a better fit of the extracted model.

Taking advantage of SEM, it was attempted to examine the causal relationship among the implicit variables and their relationship with their relevant indicators (explicit variables). First, dependent and independent variables and their indicators as explicit variables were separately examined to ensure that appropriate indicators

were considered for the implicit variable. Then, independent variable indicators were separately tested against the dependent variable in the LISERAL model frame. In the current study, knowledge management was considered as the external implicit variable and organizational performance was considered as the internal implicit one. Taking into account that data analysis based on fit indices and according to the presented reasoning in SEM is the basis on which decisions on the accuracy of the proposed hypotheses are made. All indices were calculated. Figure 2 displays the model of the relationship between knowledge management indices (X) which encompasses such variables as creating knowledge (X1) (3 items), storing knowledge (X2) (3 items), sharing knowledge (X3) (3 items), using knowledge (X4) (3 items), knowledge culture (X5) (5 items), knowledge leadership (X6) (3 items), information technology (X7) (3 items), organizational structure and processes (X8) (4 items) as the independent variable and organizational performance indices (Y) encompassing financial performance (Y1) (7 items), quality of goods and services (Y2) (8 items), the staff members' performance (Y3) (9 items), innovation (Y4) (8 items), the customers' level of satisfaction (Y5) (6 items) as the dependent variable.

Figure 2. Analysis of knowledge management indices paths (X1-X6) and organizational performance indices (Y1-Y5)



This model is not different from that the real data. The Lambda rates for the external implicit variable of knowledge management indices (X) were as follows: creating knowledge (X1= 0.51), storing knowledge (X2= 0.66), sharing knowledge (X3= 0.69), using knowledge (X4= 0.69), knowledge culture (X5= 0.79), knowledge leadership (X6= 0.55), information technology (X7= 0.79), and organizational structure and processes (X8= 0.55). These all constituted the knowledge management variable.

The Lambda rates for the external implicit variable and organizational performance indices (Y) were as follows: financial performance (Y1= 0.59), quality of goods and services (Y2= 0.54), the staff members' performance (Y3= 0.49), innovation (Y4= 0.60), and the customers' level of satisfaction (Y5= 0.44). These all constituted the organizational performance variable. Table 4 illustrates the goodness of fit model indices.

Table 4. Model's fit indices

Index	Standard rate	Calculated rate	Interpretation
RMR	close to 0	0.1	excellent fit
RMSEA	less than 0.1	0.021	excellent fit
X2/df	at least 3	1.57	excellent fit
CFI	at least 0.9	0.94	excellent fit
IFI	at least 0.9	0.95	excellent fit
NFI	at least 0.9	0.98	excellent fit
NNFI	at least 0.9	0.96	excellent fit
SRMR	close to 0	0.096	excellent fit

The values for the goodness of fit indices in Table 4 show that the research model has an acceptable fit. Moreover, the obtained coefficient (0.41) indicates the direct impact of knowledge management indices on the organizational performance. The most important indicators of the knowledge management index include knowledge culture and information technology, followed by sharing knowledge and using knowledge, and finally storing knowledge, knowledge leadership and knowledge structure, and processes and creating knowledge. The %41 coefficient indicates that %41 of the changes in the organizational performance result from a set of knowledge management indices. Furthermore, knowledge culture and information technology had the highest degree of impact on the organizational performance variable.

Knowledge management indices (0.41) = Y (organizational performance)

## DISCUSSION AND CONCLUSION

The research findings revealed a direct and positive relationship between knowledge management and different dimensions of the performance including financial performance, quality of goods and services, staff members' performance, innovation, and customers' level of satisfaction in commercial companies. More precisely, the path coefficient between knowledge and organizational performance indicated that %41 of the changes in the organizational performance could be explained by a set of knowledge management indices in the sample under the study. Taking into account the calculated effect sizes for the knowledge management indices, knowledge culture and information technology were identified as the most important indicators of knowledge management. It might be implied that the two factors, knowledge culture and information technology, had the highest degree of contribution to account for the changes in organizational performance.

The importance of information technology in knowledge management has also been emphasized in past studies such as Young (2010). Also, in their studies, researchers such as Kim et al. (2011) have emphasized the important role of knowledge culture for implementation of knowledge management.

The research findings were in line with most of the previously conducted studies at both local and international levels. One of the results of this study is the existence of a positive and significant relationship between knowledge management and innovation in the commercial companies. Research by Byukusenge et al. (2017) showed that knowledge management has a significant effect on business performance through its impact on innovation. Also, Prajogo et al. (2004) confirmed that knowledge management made a tremendous impact on innovation of the goods and services.

Another result of this study is that knowledge management has a positive and significant effect on the quality of goods and services of commercial companies. This result has been confirmed by other researchers such as Bouncken (2002). Some researches like Ellis (2020) demonstrated the influence of knowledge management on the quality of goods and services and thereby, profitability. She mentioned that knowledge management not only improved the quality of services but also played a key role in producing desirable goods and put the production on the right and optimal track. To this end, knowledge seems to be more important than the customer and management of goods. Organizations should learn from the market and turn this learning into knowledge, utilize it in the production process, and accordingly create knowledge.

Another result of this study is the positive and significant effect of knowledge management on the performance of staff. This result has been confirmed by other researchers such as Yang et al. (2014), and Sujatha and Krishnaveni (2018). Considering the impact of knowledge management on the staff members' organizational performance, Bhatt (2002) held that self-organized teams and social interactions are key to the development and enhancement of the organizational

knowledge base. Such teams create multiple interpretations which not only bring about new realities but also increase the organizational commitment for enriching the organizational knowledge bases. Multiple interpretational processes lead people to moderating and reorganizing their belief system in relation to each other. In order to develop the interactions among the staff members, an organization should use various viewpoints such as brainstorming and critical thinking. Through presenting multiple interpretations of knowledge, an organization becomes more sensitive to the environmental impetus in order to understand market realities. Moreover, various viewpoints lead an organization to take a risk in using a particular type of knowledge in different situations. Implementing and applying a wide range of solutions require the staff members' commitment; if the staff members' viewpoints are overlooked by the managers, an organization fails in solving the problems.

Another result of this study is the existence of a positive and significant relationship between knowledge management and customer satisfaction. This result has been confirmed by other researchers such as Kasemsap (2017), and Gholami et al. (2013). In addition, in this study, existence a positive and significant relationship between knowledge management and financial performance of commercial companies has been confirmed. This result has been emphasized and considered by Gold et al. (2001).

Although the relationship between knowledge management and each of the dimensions of organizational performance in previous studies has been considered separately, no study has yet touched upon the possible impact of knowledge management on the performance of commercial companies in terms of various dimensions (Financial performance, Goods and services quality, Staff members' performance, Innovation, and Customers' level of satisfaction). As such, this study has developed a model for constituent dimensions and factors of knowledge management and their influence on various dimensions of performance in commercial companies. This model can specify the need to implement knowledge management in commercial companies of countries like Iran. Based on this model, commercial companies can gain many benefits from knowledge management in favor of their performance. Achieving these benefits requires improving and strengthening IT infrastructure, knowledge culture, and knowledge management processes, leadership style, procedures, and organizational structure. In order to execute these, some managerial recommendations are given below:

- Knowledge management should be considered as an integrated managerial plan which focuses on strategic goals and works based on business processes. Also, it entails such components as substructure (including human resources, technology, culture, and processes), strategy, establishment and evaluative models. Developing a strategic knowledge management plan is a key action for organizations. Nevertheless, to develop a strategic knowledge management

plan, one should consider that knowledge management strategy of an organization highly relies on the organizational strategy, and is the source of various organizational plans, principles and organizational strategies.

- Human resources are knowledge creators in an organization and carry a considerable proportion of the organizational knowledge in their brains. Human resources and knowledge management are highly interwoven. Indeed, to succeed a knowledge management plan, the role and status of human resources should be given prominent attention. In this regard, creating a free environment and setting the required scene for expressing the staff members' ideas and comments, training and developing the human resources' skills and expertise, and fostering self-organized teams can be helpful.
- Technology supports the knowledge warehouses and increases accessibility, knowledge transfer, and knowledge environmental facilities, and can facilitate the individual, group and organizational interactions. Identifying and using IT-based knowledge management tools can make a tremendous impact on successful implementation of knowledge and organizational performance.
- Organizational culture can inhibit attempts to change the organizations in knowledge management plans. As such, most researchers have consensus over the fact the organizational culture is the most important factor contributing to successful knowledge management. Developing and fostering knowledge-based culture through senior managers' support is key to successful knowledge management in an organization.
- Organizational structure (such as learning organizations) and knowledge processes (managing, keeping and discarding knowledge, and documenting experiences) play an important role in knowledge management success, and should be led in a way that support knowledge flow among individuals and in an organization. Decreasing organizational hierarchies and moving towards creating flat structures are keys to this action.
- Leadership is a concept dependent on knowledge management strategy and applying knowledge management requires senior managers' support (in order to allocate resources and time to the knowledge management strategic plans and programs).

Finally, it should be noted that this study has some potential limitations. Due to the non-cooperation of commercial companies in completing the questionnaires, the authors obtained only the data of five commercial companies, provided that their names were not disclosed; however, if more companies had collaborated with the authors in this study, the possibility of generalizing the study results would have increased given that fact that sound generalizability requires data on large populations. In addition, data on large populations could increase the accuracy of study results.



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# THE MODEL OF WORKFORCE AGILITY DEPENDENT ON DRIVERS, STRATEGIES, PRACTICES, AND RESULTS

EL MODELO DE AGILIDAD DE LA FUERZA LABORAL DEPENDIENTE DE LOS CONDUCTORES, ESTRATEGIAS, PRÁCTICAS Y RESULTADOS

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## ABSTRACT

For the time being, organizations throughout the world are in an environment that is constantly changing in various aspects including technological developments, customers' preferences, emerging markets, and globalization. In this environment, the concept of agility, especially workforce agility, is a valuable tool for organizations and can assist them considerably to cope with this situation. Given that a substantial number of scholars have studied the concept of agility from the technical point of view up until now, and have neglected the human resource aspect, this study has two aims: First, to, investigate the concept of workforce agility through a model incorporating drivers, practices, strategies advocating and stimulating the implementation of this concept while examining the relationships between these variables; and second, to determine the results of implementing a workforce agility system. The sample of the present study was selected from the staff and managers of the Ports and Maritime Organization of Iran, and namely those who had a bachelor's degree or higher and were working in the field of human resource management. Additionally, we used a questionnaire to evaluate the variable. According to the findings, except for the relationship between drivers and implementation results, all other relationships between drivers, practices, strategies, and results have been supported.

## KEYWORDS

Agility, Workforce agility, Workforce agility drivers, Workforce agility strategies, Workforce agility practices, Workforce agility implementation results

## RESUMEN

Por el momento, las organizaciones de todo el mundo se encuentran en un entorno que cambia constantemente en varios aspectos, incluidos los desarrollos tecnológicos, las preferencias de los clientes, los mercados emergentes y la globalización. En este entorno, el concepto de agilidad, especialmente la agilidad de la fuerza laboral, es una herramienta valiosa para las organizaciones y puede ayudarlas considerablemente a hacer frente a esta situación. Dado que un número sustancial de académicos han estudiado el concepto de agilidad desde el punto de vista técnico hasta ahora, y han descuidado el aspecto de recursos humanos, este estudio tiene como objetivo, en primer lugar, investigar el concepto de agilidad de la fuerza laboral a través de un modelo que incorpora impulsores, prácticas, estrategias que propugnan y estimulan la implementación de este concepto y examinan las relaciones entre estas variables y, en segundo lugar, determinan los resultados de la implementación del sistema de agilidad laboral. La muestra del presente estudio fue seleccionada entre el personal y los gerentes de la Organización de Puertos y Marítima de Irán, que tenían una licenciatura o un título superior y trabajaban en el campo de la gestión de recursos humanos. Además, utilizamos un cuestionario para

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evaluar la variable. Según los hallazgos, a excepción de la relación entre los impulsores y los resultados de la implementación, se han respaldado todas las demás relaciones entre los impulsores, las prácticas, las estrategias y los resultados.

## **PALABRAS CLAVE**

Agilidad, agilidad de la fuerza laboral, impulsores de la agilidad de la fuerza laboral, estrategias de agilidad de la fuerza laboral, prácticas de agilidad de la fuerza laboral, resultados de implementación de la agilidad de la fuerza laboral

## **1. INTRODUCTION**

Currently, organizations around the world are engaged in an environment where change is a key characteristic. Rapid technological progress, globalization, turbulent business models, novel and emerging markets, and ever-changing customer preferences are some of the daily challenges that most organizations ranging, from small to large, are currently coping with (Zitkiene & Deksnys, 2018). So far, various solutions such as reengineering, networking, virtual enterprises, modular corporations, high performing organizations, flexible manufacturing, and employee empowerment have been proposed, and that of “agility” has been proposed as one of them as well (Sherehiy et al., 2007). The challenges mentioned above force organizations to follow those rules which make them more efficient and agile in order to survive. In order to compete in the current turbulent market environment effectively, organizations should be proactive and be able to anticipate change. To do so, organizational structures should embrace more levels of agility through response and flexibility. Experts in the industry require novel organizational solutions, tools, and techniques to deal with environmental alterations, identify new opportunities, and be more adapted to external forces. In other words, an agile organization demands agile organizational enablers, drivers, abilities, strategies, and practices (Deksnys, 2018).

Organizational agility, that which is the capability of quickly responding to environmental changes through modifying products and services provided, is gradually becoming a critical issue to achieve and maintain a sustained competitive advantage in the fast-changing market (Singh et al., 2013; Zitkiene & Deksnys, 2018). One of the prerequisites of an agile organization is an agile workforce (Breu et al., 2002; Muduli, 2013). According to Virchez, (2015) the characteristics of agile organizations are grouped into five categories: strategic awareness (being aware of the external environment along with internal priorities) a reconfigurable organization (being able to easily redesign, rescale, realign and redeploy the processes, products, systems, work procedures, and even business models rapidly), organizational learning (the ability to identify an opportunity, transmitting that information, turning it into a viable and actionable strategy, testing it, learning from the test and finally deciding whether to develop or ignore it), flawless execution (having the ability of both integrating processes and balancing performance in different time frames) and an agile workforce (organizations that count on the capacities of their employees

to deliver special skills at any time). In a research of workforce agility, Beatty (2005) concluded that considering agile workforce management in an organization enables it to acquire their targets through innovation, increases the strategic capacities, and curbs the workforce-related structural costs.

Organizational agility is one of the most fundamental issues of human resource management throughout the world as the changes in both workplace and the demand and supply of workforce should be considered in human resource strategies. The issue of workforce agility in Latin America could be also be an intriguing issue for most of the organizations in the region given such problems as: recruiting women in companies, increasing rates of unemployment in some countries of Latin America and the impact of recruiting highly skilled employees in the labor market. On the other hand, the history of Latin America has been identified by characteristics including oscillating rates of economic growth, inadequate development of human capital and notable rates of income inequality. However, as the decade of growth which stemmed from high commodity prices ends, countries in Latin America are now aware that they must take into consideration the challenge of productivity improvement as a reliable source of equitable and sustainable long-term growth, as this requires coping with the forthcoming challenges of skills development throughout the area (Fiszbein et al., 2016). Accordingly, identifying the procedures of human resource agility and paying attention to aspects of pertinent drivers could empower and be beneficial to Latin American companies and thus achieving their goals.

Having reviewed the importance of workforce agility in organizations and given the dearth of systematic studies considering its essence and concept, (A. Gunasekaran, 1999; Sherehiy & Karwowski, 2014) it has been noted that up until now the majority of the research has underlined the importance of agility from technical points of view (Sherehiy & Karwowski, 2014). Given that studying specific human resource activities that would support the development of workforce agility have been neglected throughout the literature, this paper aims to study the mechanism of implementing workforce agility through a model incorporating drivers, strategies, and practices required for generating results derived from its implementation. Moreover, the effects of these elements (drivers, strategies, practices, and results) on each other are also assessed.

## 2. LITERATURE REVIEW

### 2.1. Workforce agility frameworks

Multiple frameworks have been suggested to classify the features of an agile workforce. A set of characteristics, such as behaviors, capabilities, competencies, attributes, and mindsets bring about the creation of a workforce agility concept (Breu et al., 2002; McCann & Selsky, 2012; Muduli, 2013; Shafer et al., 2001). Table 1 demonstrates a summary of frameworks providing the characteristics of the agile workforce.

Table 1. Frameworks in the literature pertaining to workforce agility

Features of an agile workforce	Classification	Conducted by
Generative Proactive Adaptive	Behaviors and mindsets	(Dyer & Shafer, 2003)
Adaptive Business-driven Generative Focused Values-driven	Competencies	(Dyer & Shafer, 1998)
Resilient Business-driven Focused Values-driven Generative	Competencies	(Shafer et al., 2001)
Infrastructure for the quick introduction of new information systems The advocacy of Information technology Employee empowerment for making the decision independently Availability of moving between projects Effectiveness of cooperating across functional boundaries Showing tendency to changing customer requirements Responsiveness to changing market conditions Speed of developing novel skills, abilities, and competencies Speed of acquiring the skills necessary for business process change Speed of innovating management skills Speed of getting new information technology and software skills	Capabilities	(Breu et al., 2002)
Adaptability Resiliency Proactivity	Capabilities	(Sherehiy et al., 2007)



Features of an agile workforce	Classification	Conducted by
Being aware	Capabilities	(McCann & Selsky, 2012)
Being networked		
Being goal-oriented		
Being action-oriented		
Being resourceful		
Flexible	Attributes	(Muduli, 2013)
Developmental		
Speedy		
Qualified		
Collaborative		
Informative		
Adaptive		

## 2.2. Categories of organizational agility

The categorization of organizational agility consists of agility drivers, capabilities, and enablers. Agility drivers or the reason or catalyst for agility (Sharifi & Zhang, 2001; Yusuf et al., 1999) are the external environmental changes impacting internal organizational components and processes and putting organizations in a vulnerable condition that may have never experienced before, and necessitating looking for competitive advantages (Deksnyš, 2018; Walter, 2020). The main categories for agility drivers are based on their sources. External or internal changes open up an organization for vulnerabilities or opportunities, depending on how prepared an organization is for a change. If the organization is not able to adapt to changes, has rigid structure and processes, does not have sufficiently trained employees, or lacks change capability altogether, it is exposed to competitive forces and often falls behind companies which are more agile and adaptable. However, if the organization is ready for change, has flexible structure and processes, highly trained employees, and the right culture, these market changes become opportunities to strengthen its competitive position and gain market share. Based on the literature analysis, we have identified different influences and sources for change (both internal and external) that are depicted in Table 2. Specific abilities providing the needed power and qualifications to respond to changes, require agility capabilities including responsiveness, flexibility, competency, and speed, as they provide pivotal roles. Zhang & Sharifi, (2000) defined agility capabilities as “essential capabilities that the company needs to positively respond to and take as ‘vital abilities that would provide the required strength to make appropriate responses to changes taking place in its business.’” Some scholars consider agility attributes as a synonym for agility capabilities (Bottani, 2009; Nejatian et al., 2018). The last category is agility enablers

determining the methods, practices, tools (Sharifi & Zhang, 1999), and essential technologies facilitating organizational agility implementation (A. Gunasekaran, 1998; B.-W. Lin, 2004; Oosterhout et al., 2006). Additionally, enablers play the role of leverage at different organizational levels (Sharifi & Zhang, 1999) and prepare an infrastructure for agility capabilities to be realized (Sharifi & Zhang, 2001). Lastly, agility enablers are also described as agility providers or agility practices in the literature (Bessant et al., 2000; C.-T. Lin et al., 2006; Vázquez-Bustelo et al., 2007; Zhengwen Zhang & Sharifi, 2007).

Table 2. Agility drivers Source: (Walter, 2020)

Source	Reason for change
External	<ul style="list-style-type: none"> <li>Changes in market</li> <li>Faster delivery time</li> <li>Increased speed of innovations</li> <li>Changes in customer requirements</li> <li>Environmental pressures</li> <li>Changes in the business network</li> <li>Technology-related innovations and changes</li> <li>Political/legal changes and pressures</li> <li>Stricter financial obligations</li> <li>Broader product changes</li> <li>Changes in the social contract</li> <li>Intense competitive environment</li> <li>Shorter product lifecycle</li> <li>Outsourcing and dependence on suppliers</li> <li>Lower prices/costs</li> <li>Globalization</li> <li>Advancements in the scope of IT</li> <li>Customization and individualized products</li> <li>Higher quality demands</li> <li>More demand for IT/IS safety measures</li> <li>Shorter time to market</li> </ul>
External	<ul style="list-style-type: none"> <li>Production variables' changes</li> <li>Expectations of workforce/workplace</li> <li>Sustainable improvement strategy</li> <li>Social factors</li> <li>Internal complexity</li> </ul>

### 2.3. Human Resource Strategies and Activities Related to Workforce Agility

Since each organization has its own unique and specific characteristics and experiences a stream of changes, defining a special set of activities that are applicable to develop an agile workforce is an arduous process (Dyer & Shafer, 1998). Thus far, researchers have identified various activities which include: incorporating training and development, staffing, information-sharing practices, work design, rewards and promotion regulations, work structure, performance management and power-sharing practices, supporting the guidance of agile workforce development (Dyer & Shafer, 1998; Muduli, 2013; Sumukadas & Sawhney, 2004). Table 3 depicts the research from the literature introducing various activities, practices, strategies, enablers, and capabilities for developing the agile workforce preparation program.

### 2.4. Impact of workforce agility on organizational performance

Agile organizations are constantly attempting to protect and enhance their competitive position (Bottani, 2009; Angappa Gunasekaran et al., 2018) in various ways which encompass producing high-quality products rapidly at reduced costs, (Bottani, 2009; Cheng et al., 2000; Angappa Gunasekaran et al., 2018; Meade & Sarkis, 1999), customer satisfaction, (Cao & Dowlatshahi, 2005; C.-T. Lin et al., 2006) workforce satisfaction, (C.-T. Lin et al., 2006) improved capability of producing new products, (Sharifi & Zhang, 2001) and removing valueless processes (C.-T. Lin et al., 2006). As such, organizational agility provides other advantages for organizations including increased performance, profitability and an increment in market share as well as environmental objectives (Chakravarty et al., 2013; C.-T. Lin et al., 2006; Narasimhan et al., 2006; Vázquez-Bustelo et al., 2007; Wang et al., 2014). So far, several studies have acknowledged that organizational agility has a positive impact on firm performance (Hazen et al., 2017; Inman et al., 2011; Vickery et al., 2010; Wang et al., 2014; Yusuf & Adeleye, 2002). For example, Vázquez-Bustelo et al. (2007) concluded that a higher level of organizational agility implementation has a positive impact on financial, operational, and market performance through improving the strength of manufacturing.

Therefore, based on the theoretical studies and discussions reviewed above, the hypotheses of this study are provided as follows:

H<sub>1</sub>: Workforce agility drivers have an impact on workforce agility practices

H<sub>2</sub>: Workforce agility practices have an impact on workforce agility results and performances

H<sub>3</sub>: Workforce agility drivers have an impact on workforce agility strategies

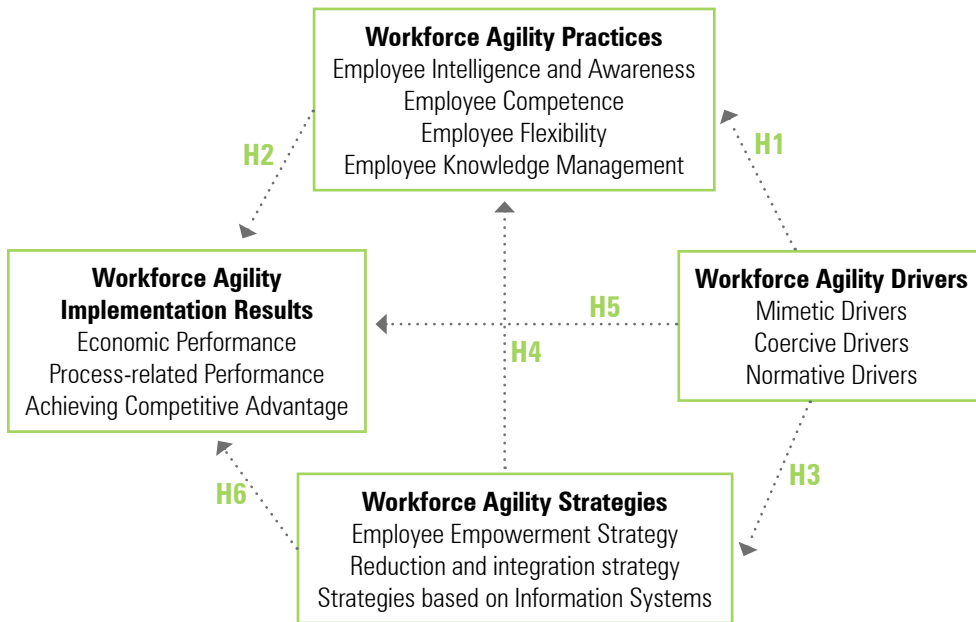
H<sub>4</sub>: Workforce agility strategies have an impact on workforce agility practices

H<sub>5</sub>: Workforce agility drivers have an impact on workforce agility results and performances

H<sub>6</sub>: Workforce agility strategies have an impact on workforce agility results and performances

In addition, according to the discussions above, the conceptual model of this study is demonstrated as the following (Figure 1).

Figure 1. The Conceptual Model



### 3. RESEARCH METHOD

#### 3.1. Sample and procedure

The statistical population of the present study is the staff and managers of the Ports and Maritime Organization of the Islamic Republic of Iran, having a bachelor's degree or higher and are working in the field of human resource management. These people had the necessary knowledge in the field of human resource agility and were fully acquainted with the process of human resource agility. The sample selected in this study was 300 people, and they were randomly selected from ten different

provinces in the country, meaning that the share of each province was estimated at 30 people. In the sample, 80 were males and 20 were females. Also, 45% of the selected sample were employees and 55% were senior and middle managers. Moreover, given that the main concept of this study is workforce agility, external environment has been determined as the driver in the conceptual model. Accordingly, the notion of agile work environments has been considered in all variables of this research, demonstrating that in this study the organizational agility and environmental variables have been regarded coherently in all processes of the research. On the other hand, we distributed the questionnaires among the respondents who were familiar with the concepts of agility and agile work environments, and had been appropriately taught with respect to human resource agility.

### 3.2. Measurement

In this study, we used a questionnaire (based on the 5-value Likert scale) to measure the variables. The concepts in this questionnaire are according to the previous studies. For measuring the Workforce Agility drivers three concepts of Coercive, Normative, and Mimetic where each concept incorporates four questions have been employed (Liu et al., 2010). Also, for measuring the Workforce Agility practices, four concepts of Employee Intelligence and Awareness, Employee Competence, Employee Flexibility, and Employee Knowledge Management were considered, and again for each concept, four questions were taken into account (Muduli, 2013). Employee Empowerment Strategy, Reduction, and integration strategy, and Strategies based on Information Systems concepts constitute the structure of the workforce agility strategies variable involving four questions for each concept (Sumukadas & Sawhney, 2004). Finally, for Workforce Agility, implementation results measurement we used were Economic Performance, Process-related Performance, and Achieving competitive advantage concepts (Hazen et al., 2017; Inman et al., 2011; Tallon & Pinsonneault, 2011; Vickery et al., 2010; Wang et al., 2014; Yusuf & Adeleye, 2002). Also, we used the Conformity Factor Analysis (CFA) and Cronbach's Alpha to evaluate the questionnaire, and the results of the analysis shown in Table 3 indicate that the questionnaire is sufficiently valid. Overall Fit Indices are also shown in Table 5. On the other hand, in this research, the Second Order Analysis was performed for each of the research variables, which according to Table 6, the measurement model of this research has sufficient validity.

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Table 3. Organizational practices, strategies, enablers, and capabilities for developing the agile workforce

Organizational workforce agility practices	Conducted by	Organizational workforce agility practices	Conducted by
Organizational learning and training / Reward systems/ Employee involvement/ Teamwork/ Information systems	(Muduli, 2017)	Front-line decision-making empowerment/ Cross-functional team sharing/ Modular integration of available technologies/ Delayed design specification/ Product succession planning/ Enterprise-wide integration of learning.	Gehani (2010)
Staffing (selecting; hiring, promoting, dismissing; adjusting)/ Training/Coordination / Collaboration/ Incentive/ Empowerment and involvement	(Qin & Nembhard, 2015) (Contreras et al., 2015)	Flexible working hours/ Organizing work, job rotation, flat organization structure/ Participation, cooperation, team working/ Well-being activities, leisure activities, occupational health/ Leading personnel, supervision Brainstorming, innovativeness, overall development, competences/ Interaction, atmosphere, organization citizenship behavior/ Remote work, different workplaces  Opportunity to have both work and family/ Hiring new personnel/ Tools, materials, equipment	(Heilmann et al., 2020; Jin-Hai et al., 2003; Meredith & Francis, 2000; Sharp et al., 1999)

Organizational workforce agility practices	Conducted by	Organizational workforce agility practices	Conducted by
Selection/ Induction/ Organizational learning and training/ Performance management/ Promotion/ Rewards and Recognition	(Shafer et al., 2001)	Decentralization of decision-making/ Low formalization/ Flat structure	(Alavi et al., 2014)
Knowledgeable and skilled workforce/ Motivated people/ Flexible workforce/ Knowledgeable workers with skills in IT/ Multi-lingual/Empowered workers	(Yusuf et al., 1999) (Esfahani et al., 2017)	Top management support/ Skill and knowledge exploitation/ Open sharing of information/ Continuous communication/ Employee involvement/ Empowerment	(A. Gunasekaran, 1999; A. Gunasekaran & Yusuf, 2002; Şahin, 2000; Sharp et al., 1999; Z. Zhang & Sharifi, 2000)
Knowledgeable people/ Organizational flexibility/ Adaptable structure/ Multi-skilled people/ Decentralization of decision making	(Z. Zhang & Sharifi, 2000)	Job rotation/ Multifunctional workforce/ Job enrichment (responsibility on multiple tasks)	(A. Gunasekaran, 1999; Jin-Hai et al., 2003; Şahin, 2000)
Higher average skill levels/ Training and education/ Workforce skill upgrade/ Continuous training and development/ Cross-functional training	(A. Gunasekaran, 1999; A. Gunasekaran & Yusuf, 2002; Hormozi, 2001; Jin-Hai et al., 2003; Şahin, 2000; Z. Zhang & Sharifi, 2000)	Entrepreneurial firm culture	(Şahin, 2000)

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Table 4. Measurement items, standardized CFA factor loadings, average variance extracted (AVE), and composite reliabilities.

Items	Loading	CR	AVE	Alpha	
Coercive drivers			0.748450822	0.527625	0.843
CO1	0.7				
CO2	0.69				
CO3	0.62				
CO4	0.6				
Normative drivers			0.828391252	0.55235	0.813
NO1	0.69				
NO2	0.58				
NO3	0.87				
NO4	0.8				
Mimetic drivers			0.757986031	0.5126	0.884
MI1	0.64				
MI2	0.79				
MI3	0.71				
Employee Empowerment Strategy			0.82496867	0.56005	0.843
ES1	0.61				
ES2	0.44				
ES3	0.92				
ES4	0.91				
Reduction and integration strategy			0.795599846	0.49645	0.813
RI1	0.68				
RI2	0.61				
RI3	0.83				
RI4	0.68				
Strategies based on Information Systems			0.910230258	0.72495	0.884
IT1	0.56				
IT2	0.85				
IT3	0.99				
IT4	0.94				



Items	Loading	CR	AVE	Alpha	
Employee Intelligence and Awareness			0.873213531	0.639825	0.843
EIA1	0.55				
EIA2	0.88				
EIA3	0.82				
EIA4	0.9				
Employee Competence			0.822202079	0.53905	0.813
EC1	0.69				
EC2	0.84				
EC3	0.76				
EC4	0.63				
Employee Flexibility			0.807965861	0.52075	0.884
FLE1	0.52				
FLE2	0.79				
FLE3	0.86				
FLE4	0.67				
Employee Knowledge Management			0.76691639	0.466425	0.816
KN1	0.66				
KN2	0.4				
KN3	0.85				
KN4	0.74				
Economic Performance			0.83004273	0.554525	0.843
EC1	0.68				
EC2	0.6				
EC3	0.86				
EC4	0.81				
Process-related Performance			0.679257795	0.359125	0.813
PR1	0.36				
PR2	0.75				
PR3	0.6				
PR4	0.62				

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Items	Loading	CR	AVE	Alpha
Achieving competitive advantage		0.682422152	0.3738	0.884
COM1	0.62			
COM2	0.88			
COM3	0.4			
COM4	0.42			

Table 5. Overall Fit Indices of the CFA model

Fit index	Scores	Recommended cut-off value
$\chi^2/df$	2.65	<2 <5
GFI	0.84	>0.90 >0.80
RMSEA	0.07	<0.08 <0.1
CFI	0.92	>0.90

Table 6. Second-Order Measurement Factor

-	INT	PRA	EST	RES	AVE
INT	1				0.672733
PRA	0.442	1			0.726855
EST	0.385	0.56	1		0.866804
RES	0.408	0.753	0.63	1	0.774198

### 3.3. Structural model

After validating the measurement model, the structural model is used to test the hypotheses. In this study, two structural models were investigated by using PLS software and the results of this analysis are demonstrated in Table 6.

Table 7. Structural parameter estimates

Path	Hypotheses	Estimate	t-Value	Result
DRA->PRA	H1	0.266	4.2224	Supported
PRA->RES	H2	0.569	5.374	Supported
DRA->EST	H3	0.385	5.847	Supported
EST->PRA	H4	0.457	6.8884	Supported
DRA->RES	H5	0.043	0.9459	Not supported
EST->RES	H6	0.295	3.2038	Supported

Relying upon the results (Table 7), workforce agility drivers, impact on workforce agility practices demonstrating that H1 is confirmed. Also, H2 is supported meaning that workforce agility practices affect the workforce agility implementation results. In this study, we determined that workforce agility drivers, impact on workforce agility strategies, proving that H3 is admitted. While according to the results H4 is accepted, H5 is not supported. Finally, findings showed that H6 is accepted as well.

#### 4. DISCUSSION AND CONCLUSION

In this paper, Human resource agility was considered as an effective topic in the organization and agility was also analyzed as a coherent and cohesive process. In the process of workforce agility, drivers, practices, strategies and results derived from the implementation were examined as the main concepts in agility. The results of this study showed that workforce agility drivers affect both workforce agility practices and strategies. In this case, it seems that Coercive, Mimetic and Normative drivers can lead to executive success and the realization of agile human resource management strategies. In order to improve the quality of workforce agility practices, attention to environmental drivers should be considered by organizations involved in this process. Paying attention to the performance of competitors and using their successful experiences in implementing the process of workforce agility through benchmarking, proper analysis and use of environmental drivers can be noteworthy tips to ameliorate the process of making the workforce agile. Moreover, in this study we found that practices and strategies of workforce agility affect the implementation results variable. Also, workforce agility strategies lead to the improvement of workforce agility practices. It seems that the formulation of strategies such as Staff empowerment, Reduction/integration and information technology-based strategies should be considered by managers in order to successfully implement agility processes. On the other hand, we found that in order to improve the performance and the implementation results of workforce agility, Employee intelligence and awareness, Employee competence, Employee flexibility and Employee knowledge management can be applicable tools. It is worth mentioning that these tools are most effective if they are considered within the framework of Staff empowerment,

Reduction/Integration and IT-based strategies. Furthermore, we have concluded that workforce agility drivers do not affect the implementation results and performance of workforce agility. This suggests that agility drivers cannot directly lead to the appropriate results and consequences derived from implementing the workforce agility process. Instead, these drivers can be truly effective when they improve the performance of considered strategies and practices that may positively impact the expected drivers on the performance of whole system. In general, according to the concluding findings, in order to achieve appropriate and agile performance in the field of human resources, agility should be considered as a continuous and interconnected process, and in this process, based on the appropriate analysis of environmental factors, agility strategies and practices should be created and institutionalized into the overall organization. In this case, it seems that the realization of the desired performance is not out of reach.

Furthermore, concepts such as price changes, changes in global policy and distribution of resources (such as petroleum and base metals) are some specific characteristics of emerging economies. Therefore, in order to manage international organizations properly, identifying these changes and adopting accurate strategies to convert environmental threats into opportunities could make such organizations leading and prosperous within their industry. Currently, of the effective strategies that could be applicable is organizational agility which has been evaluated from the aspects of drivers, strategies and implementation results in this study. For instance, workforce flexibility and workforce knowledge were considered as practices of making the workforce agile, while competitive advantage was introduced as one of the results of implementing workforce agility strategies and practices. Hence, given the challenges in emerging economies including weak and unstable market capacity, political instability and restrictions of foreign accessibility, the findings of this paper have generated some pathways for understanding the management of firms in emerging economies.

Also, we used the SEM method to reach the results. This method examines all variables and their relationships coherently and simultaneously, meaning that it is an adaptable method for analyzing the results within the conceptual study model. In addition, we employed the institutional theory for conducting the conceptual model, illustrating how external environmental pressure affects an organization. This theory demonstrates that social frameworks, values and norms affect the economic behavior of individuals and organizations. As such, we applied the drivers of workforce agility demonstrating the distinctive theoretical perspective of this study regarding the issue of workforce agility. Strategic Choice Theory shows that managers' discretion and the way in which they interpret environmental drivers have a considerable impact on their strategic decisions. Hence, Strategic Choice Theory is the basis of analyzing agility strategies in this research. As a result, all the points mentioned above indicated the methodological and theoretical contributions of this study.

Another point worth mentioning is that the data of this research were gathered before the Coronavirus pandemic. It seems that since the environmental conditions are the most important factors regarding the agility issue, this pandemic could have affected some results of this study, especially in the part of agility drivers in which Environmental changes can bring about legal, behavioral and social changes. However, investigating this question of: “how the Coronavirus might pandemic affect the concept of workforce agility,” may be the subject of future research.

#### 4.1. Managerial implications

Even though numerous studies regarding the workforce agility issue have been conducted thus far, this study has been done in one of the government departments of Iran where results could be applied by managers in future management science studies in similar countries, especially countries in the Latin American region. Iran, like some Latin American countries, suffers from problems such as unemployment, lack of attention to labor laws and economic problems. Based on this fact, the results of this paper could be viable, attractive and beneficial for managers in Latin American countries. Also, since this paper has studied the issue of human resources agility as a process in which all concepts such as drivers, strategies and operational components have been considered, the results of this study can serve as a model for controlling human resource agility processes with a coherent approach. In addition, these research findings can be the basis for extracting an executive instruction in the field of human resource agility describing all the drivers, strategies and operational components separately.

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