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Emotional Intelligence in the Sales Performance of a Healthcare Related Company

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ABSTRACT

Marketing sectors need to assess the possible incidence of non-cognitive factors on complex interactions with clients. Therefore, the objective of analyzing the influence of emotional intelligence (EI) on sales force performance (SFP) through a PLS-SEM model, which relates EI components with SFP. El was measured with EQ-I, and SFP was measured with the value (USD) of sales/year/ salesperson. This analysis was applied to a sample of 58 salespeople of a supply medical equipment company in the Peruvian market. The design was cross-sectional with an explanatory scope. The results show that only the "intrapersonal" and "interpersonal" components of IE influence SFP, whereas the components "adaptability", "stress management" and "general mood" do not correlate, which partially supports the relationship between EI and SFP.

Keywords: emotional intelligence; sales; structural equations; emotional competencies.

INTRODUCTION

According to Market Research Future, the mercado de dispositivos médicos podrá evaluarse en USD 6170.72 Bn al 22% CAGR para el 2025 [medical devices market may be valued at USD 6170.72 Bn at 22% CAGR by 2025] (Dispositivos Médicos, 2021). It is believed that this amount could rise due to COVID-19 and that it has been partially stimulated by the prioritization of healthcare services in developing countries, where the demand for medical technology is boosted, in addition to privatization processes. In Peru, fierce competition is observed in the sector, which is estimated to grow by approximately 8% annually as well as a forecast of foreign competitors participating directly or partnering with national companies (Diario Médico, 2019). In addition to export potential, a significant increase in demand is foreseen since it is estimated that 60% of the sanitary equipment of one of the most important clients (hospitals) could be reaching obsolescence levels. This activates political and social pressures of great importance for the executive branch. Faced with the described scenarios, it is relevant for companies in the sector —especially those located in the B2B (Business-to-Business) segment— to focus on strengthening and developing the competencies of their workers, particularly those related to the emotional component (Guillén et al., 2016), as they are vital for the sales force in charge of face-to-face negotiations, since the emotions shown by the salesperson while interacting with their customer contribute to forging their perceptions of the quality of the service offered. Likewise, these emotions influence the employee performance, an area in which the literature reports significant research gaps (Kearney et al., 2017).

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In this context, marketing (sales) literature highlights that, although interpersonal skills are proclaimed as invaluable for good salesperson performance, the understanding of said concept is limited, sporadic and seemingly conflicting. For example, the relationship between interpersonal skills and emotional intelligence (EI) has already been established in disciplines like management and psychology but has been scarcely investigated in marketing (sales). Therefore, there is an urgent need to provide more information that is useful to professionals and companies, and that integrates seemingly conflicting conceptual approaches to interpersonal skills (Delpechitre & Beeler, 2018). Thus, it is argued that the role of EI in sales performance is not clear enough (Kadic-Maglajlic et al., 2016) and understudied, especially in the context of B2B or business-to-business sales (Briggs et al., 2018). Although it has been noted that EI predicts sales (McFarland et al., 2016), empirical research results, in addition to being scarce, show inconsistencies. While some of these results support the positive influence of El on sales (Ambavale, 2018; Amor, 2019; Kalra et al., 2021; Sandroto & Fransiska, 2021), various researchers do not confirm this hypothesis (Griffin, 2013; Reid, 2015) or reveal contradictions (AlDosiry et al., 2016). For this reason, some authors indicate that further studies on this topic are needed (Kadic-Maglajlic et al., 2016; Lyne, 2019), which is one of the main arguments for developing the present research.

The lack of understanding of the relationships between sales performance and EI is also due to the significant changes in buying and consumption behaviors over time. These changes must be taken into account in sales departments as an adequacy response when planning the recalibration of salespeople's performance metrics (Herjanto & Franklin, 2019). The reality is that the role of salespeople has become more critical, as it evolved from an agent executing a job of selling to a value-generating entity for customers and businesses. In addition, businesses need their sales force to face increasingly complex situations (Tageja et al., 2021), persuade customers in increasingly competitive environments, build trust, and achieve organizational sales objectives (Franklin & Marshall, 2019). However, there has not been a systematic and up-to-date review of the scientific literature related to the performance factors that are most effective for salespeople (Herjanto & Franklin, 2019).

These gaps in knowledge about these factors, which include gaps related to EI and sales performance—partly caused by the accelerated changes

that the role of salesperson has been undergoing are the reason for which the aim of this study is to address the influence of EI on sales through a structural equation model. The general objective was "To evaluate the influence of competencies related to emotional intelligence on the SFP of a private service company". The specific objectives are as follows: 1) To establish the influence of EI competencies related to the component "intrapersonal" on SFP, 2) To establish the influence of EI competencies related to the component "interpersonal" on SFP, 3) To determine the influence of EI competencies related to the component "adaptability" on SFP, 4) To measure the influence of EI competencies related to the component "stress management" on SFP, and 5) To establish the influence of EI competencies related to the component "general mood" on SFP.

One contribution of this study derives from the fact that EI has generally been evaluated as a second-order construct in structural equation models (Wisker & Poulis, 2015), whereas in this paper, El dimensions are related as first-order constructs to the endogenous variable in order to provide empirical evidence from another perspective in addition to traditional multiple linear regression modeling. On the other hand, the empirical result that shows a partial influence of EI on sales partially coincides with the two types of controversial relationships, total effect and no effect found, in the specialized literature. Likewise, another contribution of the present research is the rigorous validation of the Bar-On (2000) El model in the Peruvian context, since a complete psychometric evaluation was applied. Finally, this is a pioneering study in the country on the relationship between EI and sales performance based on an advanced statistical model, which represents a significant contribution, mainly for the business and academic fields.

Emotional Intelligence

Emotion is believed to serve many vital functions, such as prioritizing incoming information, focusing attention on matters of immediate concern, and motivating people to take necessary action (Sandroto & Fransiska, 2021). El is not determined at birth and is a relatively new concept that has attracted the attention of many researchers.

The concept of EI represents a multifactorial approach to social skills and competencies that affects the ability to recognize and manage emotions, problem solving, and coping, thereby effectively adapting a person to the needs, pressures, and challenges of life.

Emotional Intelligence Model According to Bar-On

Bar-On (1997) defined EI as a set of emotional and social knowledge and skills that influence our ability to cope effectively with the demands of our environment. Such ability is based on our capacity to be aware of, understand, control, and express emotions effectively. The Bar-On Model (Bar-On, 2000) has five components: 1) Intrapersonal, which assesses the individual's general self-identification, assertiveness, emotional self-actualization and independence, emotional self-awareness and self-evaluation (self-regard); 2) Interpersonal, which includes empathy, social responsibility and social relationships; 3) Stress management, which is the ability to tolerate stress and the ability to control impulses (impulse control); 4) Mood, which includes optimism and happiness; and 5) Adaptability, which consists of the individual's capacity to correctly evaluate reality and adjust efficiently to new situations; it is also the capacity to create adequate solutions to daily problems; it includes the notions of reality testing, flexibility and problem solving.

Relationship between Sales and Emotional Intelligence

The person who represents the sales department of the organization and meets the needs of customers is known as a salesperson. It is still unclear how to accurately describe the performance of a salesperson or the factors that have an impact on his or her achievements and that control and predict his or her performance (Rao et al., 2019). Selling is considered the most important role for the organization and is the main marketing expenditure in the market (Rao et al., 2019). Salesperson performance is one of the critical factors that affect sales volume, productivity, customer loyalty, and unforeseen expenses. The performance of these personnel is crucial because they have to deal with essential data, products, and clients who may use their allocations with a different provider effortlessly.

Knowledge of sales management practices that have been highly effective is a fundamental asset of marketing management. Factors related to the best performing salespeople (the best salespeople) must be identified to optimize sales management, guide organizational behavior, and establish the competitiveness of the company. Such efforts are invaluable in completing benchmarks that can be used to evaluate the performance of salespeople in an organization according to the industry standards. A salesperson's ability to consider about relationships with the client to create a positive atmosphere

can affect sales performance. Salespeople who can create a positive sales atmosphere are likely to improve sales performance, which is measured by sales volume, monetary value generated by the number of units sold, and sales growth, among other indicators (Ferdinand & Wahyuningsih, 2018).

The emotional intelligence of a salesperson is the ability to perceive, understand and regulate his or her emotions to facilitate interaction with customers (Delpechitre & Beeler, 2018). El is essential to a salesperson's success. Social and emotional skills are necessary for salespeople as they work in a highly social and psychological environment. Their ability to handle problems socially and emotionally can have a great influence on their performance. El can also improve the performance of salespeople, enable them to regulate their emotions to cope with stress and perform well under pressure, and can also help in adapting to organizational change (Ferdinand & Wahyuningsih, 2018). The consequences of failures in managing emotions are common in the lives of salespeople, but those with high emotional intelligence can cope with these situations (Rao et al., 2019). El can develop personal creativity and thus help improve job performance. Additionally, EI can improve personal work performance through the quality of social relationships, even if cognitive skills are low.

METHODOLOGY

A non-experimental, cross-sectional design, with explanatory scope, was applied. The unit of analysis was each member of the staff of the commercial area of the Industrial Analytics division of a private company dedicated to the supply of medical equipment in the B2B business model. The company had 58 salespeople at the time of the study, who were considered in the sample whose statistical power was measured with the Gamma-exponential method and indicated a minimum sample size of 56 individuals. El was measured with the Emotional Quotient-Inventory (EQ-I) proposed by Bar-On (2000), widely used in recruiting companies. To measure the five EI components, EQ-I has 133 items, which are answered in Likert-type format from 1 (very rarely) to 5 (very often). The total score obtained per person is converted to a standard score with \overline{X} = 100 and standard deviation =15 (similar to the procedure of intelligence tests). The scheme proposed by Ugarriza (2001) was used for the analysis and interpretation of the information. Ugarriza evaluated the EQ-I questionnaire assuming the five components of EI as subconstructs -intrapersonal (INTR), interpersonal (INTE), adaptability (ADAP), stress management (MANA) and general mood (MOOD)— and the fifteen factors as observable variables of these subconstructs (or subcomponents). Meanwhile, the sales performance variable was measured by the annual sales volume generated by each member of the company's sales force (USD/salesperson). SmartPls software was used to solve the PLS-SEM model.

RESULTS

Table 1 presents the descriptive statistics of the EI components of the sales force of a company dedicated to equipment supply, where higher values with lower variability are observed in the component "intrapersonal" (INTR). In contrast, the interpersonal component (INTE) reports the lowest values with

the greatest variability. The other components do not differ much in average values.

Evaluation of the Structural Equation Model

The EI components correspond to its dimensions and, therefore, would be sub-constructs in a second-order reflective arrangement, but here they are used as first-order variables, so they can be called constructs. All EI components (intrapersonal [INTR], interpersonal [INTE], adaptability [ADAP], stress management [MANA], and general mood [MOOD]) exhibited item reliability, as all loadings were statistically significant (p < 0.01). Likewise, these constructs showed convergent and divergent validity, as the Average Variance Extracted (AVE), Cronbach's alpha (α) and Composite Reliability (CR) statistics yielded appropriate values (Table 2).

Table 1. Descriptive Statistics of the El Components.

El Components	Mean	Standard Deviation
Intrapersonal (INTR)	103.1	9.7
Interpersonal (INTE),	96.2	11.8
Adaptability (ADAP)	102.7	9.8
Stress Management (MANA)	100.0	10.6
General Mood (MOOD)	101.4	11.5

Source: Prepared by the authors.

Table 2. Significance of the Loadings, Reliability, and Validity of the El Dimensions.

Construct	Indicator	Loading (λ)	t	AVE	CR	α
INTR	SR <- INTR	0.796	10.458***			
	SAc <- INTR	0.620	5.042***			
	AS <- INTR	0.889	39.016***	0.619	0.888	0.848
	SAw <- INTR	0.923	66.190***			
	IN <- INTR	0.659	6.775***			
INTE	IR <- INTE	0.846	30.028***			
	RS <- INTE	0.867	24.974***	0.782	0.915	0.860
	EM <- INTE	0.937	40.733***			
ADAP	PS <- ADAP	0.698	2.698 **			
	RT <- ADAP	0.834	3.204***	0.630	0.835	0.730
	FL <- ADAP	0.842	4.013***			
MANA	ST <- MANA	0.993	8.499***	0.811	0.894	0.820
	IC <- MANA	0.785	4.413***			
MOOD	HA <- MOOD	0.932	30.201***	0.801	0.888	0.829
	OP <- MOOD	0.918	24.930***			
SFP	Sales <- SFP	1.000				

Note: Variable SFP las only one item. Significance level for a one-tailed t-Student. For n = 5,000 subsamples (bootstrapping), *** p < 0.001; *p < 0.01; *p < 0.05.

Source: Prepared by the authors.

Assessment of the Structural Model Relating El and SFP

It was shown that collinearity is not a major problem among the constructs studied since the Variance Inflation Factor values were below the threshold of 5, above which they are considered problematic, and greater than 10 evidence the existence of multicollinearity. Likewise, as an overall evaluation of the model, the R² of the endogenous construct SFP yielded a value of 0.682 (68.2%), which is well above the minimum limit of 0.10. Similarly, the goodness of fit index (GoF) yielded a value of 0.709, which is considered appropriate.

When assessing the hypotheses (Table 3), the results indicate that the component "intrapersonal" (INTR) has a significant and positive influence on SFP with a medium effect size (f2). Likewise, the component "interpersonal" (INTE) of EI has a positive and significant influence on SFP. This hypothesis represents the most important relationship, as the standardized beta coefficient is the highest and indicates a strong relationship since it is greater than 0.30. On the other hand, it is evident that the hypotheses relating SFP to Adaptability (ADAP), Stress Management (MANA) and General Mood (MOOD) have no empirical support. Finally, given that only two El components (INTR and INTE) influence SFP, it is inferred that there is only partial support for the hypothesis relating EI to sales performance.

DISCUSSION

The validity of the construct EI was demonstrated, which corroborates previous studies (Bar-On, 2000; Rao et al., 2019; Sandroto & Fransiska, 2021). The assessment of the hypotheses determined that only the components "intrapersonal" and "interpersonal"

of EI have positive and significant influence on sales performance, while the other components (adaptability, stress management, and general mood) do not impact sales activity. Thus, it is assumed that there is only partial support for the hypothesis relating EI to SFP. Although this result does not agree with the results obtained by several authors (Ambavale, 2018; Amor, 2019; Kalra et al., 2021; Sandroto & Fransiska, 2021) who did establish this relationship, there are other researchers who, like the present study, failed to establish the relationship between EI and sales (Griffin, 2013; Reid, 2015).

Because the results of the present research only partially coincide with the reports of the two aforementioned streams, it is confirmed that more studies on the relationship between EI dimensions and sales are needed, as supported by several researchers (Kadic-Maglajlic et al., 2016; Lyne, 2019).

CONCLUSIONS

El competencies related to the component "intrapersonal" positively and significantly influence SFP in the private service company.

El competencies related to the component "interpersonal" positively and significantly influence SFP in the private service company.

El competencies related to the components "adaptability", "stress management", and "general mood" do not influence SFP in the private service company.

The general conclusion was that there is only partial support for the general hypothesis, which was intended to prove that competencies related to El positively and significantly influence the SFP of the private service company, since only the El

Table 3. Hypothesis Testing for the Model Relating El Subconstructs to SFP.

Hypothesis	Relationship	β	Sign	t	f²	Assessment
H ₁	INTR -> SFP	0.467	+	2.536 **	0.285	Accepted
H_2	INTE -> SFP	0.624	+	3.121***	0.264	Accepted
H_3	ADAP -> SFP	-0.039	-	0.221 ns		Rejected
H_4	MANA -> SFP	-0.190	-	1.237 ns		Rejected
H ₅	MOOD -> SFP	-0.129	-	0.128 ns		Rejected
H _G	EI -> SFP		+			Partially supported

Note: Significance level for a one-tailed t-Student. For n = 5000 subsamples, ***p < 0.001; **p < 0.01; *p < 0.05). ns: statistically non-significant.

Source: Prepared by the authors.

components "intrapersonal" and "interpersonal" impact sales force performance.

REFERENCES

- [1] AlDosiry, K., Alkhadher, O., AlAqraa, E., y Anderson, N. (2016). Relationships between emotional intelligence and sales performance in Kuwait. *Journal of Work and Organizational Psychology*, 32(1), 39-45. https://doi. org/10.1016/j.rpto.2015.09.002
- [2] Ambavale, R. (2018). A study on emotional competence of sales people in organized retail in major cities of Gujarat State (Tesis doctoral). Gujarat Technological University, Chandkheda.
- [3] Amor, N. (2019). What skills make a salesperson effective? An exploratory comparative study among car sales professional. *International Business Research*, *12*(11), 76-92. https://doi.org/10.5539/ibr.v12n11p76
- [4] Bar-On, R. (1997). Emotional quotient inventory: technical manual. Toronto, Canadá: Multi-Health Systems.
- [5] Bar-On, R. (2000). Emotional and Social Intelligence: Insights from the Emotional Quotient Inventory. En R. Bar-On, y J. D. A. Parker (Eds.), *The Handbook of Emotional Intelligence* (pp. 363-388). San Francisco, CA, EE. UU.: Josey-Bass.
- [6] Briggs, E., Kalra, A., y Agnihotri, R. (2018). Contrasting effects of salespeople's emotion appraisal ability in a transaction-oriented environment. *The Journal of Business & Industrial Marketing*, 33(1), 84-94. https://doi. org/10.1108/JBIM-06-2016-0138
- [7] Delpechitre, D., y Beeler, L. (2018). Faking it: Salesperson emotional intelligence's influence on emotional labor strategies and customer outcomes. *Journal of Business and Industrial Marketing*, 33(1), 53-71. https://doi. org/10.1108/JBIM-08-2016-0170
- [8] Dispositivos Médicos. (2021, 6 de enero). Mercado mundo al de dispositivos médicos proyecta amplio crecimiento hacia el 2025. https://dispositivosmedicos.org.mx/mercado-mundial-de-dispositivos-medicos-proyecta-amplio-crecimiento-hacia-el-2025/#:~:text=Mercado%20mundial%20 de%20dispositivos%20m%C3%A9dicos%2-0proyecta%20amplio%20crecimiento%20 hacia%20el%202025.,-Ene%206%2C%20 2021&text=De%20acuerdo%20al%20

- Market%20Research,aproximadamente%20 USD%201533%2C97%20Bn
- [9] Ferdinand, A. T., y Wahyuningsih, W. (2018). Salespeople's innovativeness: A driver of sales performance. *Management and Marketing*, 13(2), 966–984. https://doi.org/10.2478/ mmcks-2018-0016
- [10] Franklin, D., y Marshall, R. (2019). Adding cocreation as an antecedent condition leading to trust in business-to-business relationships. *Industrial Marketing Management*, 77, 170-181. https://doi.org/10.1016/j. indmarman.2018.10.002
- [11] Griffin, P. (2013). Emotional intelligence as a predictor of a sales manager's sales performance (Disertación doctoral). Walden University, Minneapolis, MN.
- [12] Guillén, M., Monferrer, D., y Moliner, M. (2016). Entrenamiento de la inteligencia emocional en el contexto de la formación en ventas. Revista Española de Orientación y Psicopedagogía, 27(2), 62-79. https://doi.org/10.5944/reop. vol.27.num.2.2016.17114
- [13] Herjanto, H., y Franklin, D. (2019). Investigating salesperson performance factors: A systematic review of the literature on the characteristics of effective salespersons. *Australasian Marketing Journal*, 27(2), 104-112. https://doi. org/10.1016/j.ausmj.2018.12.001
- [14] Kadic-Maglajlic, S., Vida, I., Obadia, C., y Plank, R. (2016). Clarifying the influence of emotional intelligence on salesperson performance. *Journal of Business & Industrial Marketing*, 31(7), 877-888. https://doi.org/10.1108/JBIM-09-2015-0168
- [15] Kalra, A., Dugan, R., y Agnihotri, R. (2021). "A little competition goes a long way": Substitutive effects of emotional intelligence and workplace competition on salesperson creative selling. *Marketing Letters*, 1-15. https://doi.org/10.1007/ s11002-021-09599-z
- [16] Kearney, T., Walsh, G., Barnett, W., Gong, T., Schwabe, M., y Ifie, K. (2017). Emotional intelligence in front-line/back-office employee relationships. *Journal of Services Marketing*, 31(2), 185-199. http://dx.doi.org/10.1108/JSM-09-2016-0339
- [17] Lyne, J. (2019). The impact of emotional intelligence on business to business software as a service sales performance. (Tesis de maestría). National College of Ireland, Dublín.

- [18] McFarland, R. G., Rode, J. C., y Shervani, T. A. (2016). A contingency model for emotional intelligence in professional selling. *Journal of the Academy Marketing Science*, 44(1), 108-118. https://doi.org/10.1007/s11747-015-0435-8
- [19] Diario médico. (2019, 4 de setiembre). Comsalud: «Tecnosalud ya genera 22 millones de dólares en ruedas de negocio». http://www.diariomedico.pe/?p=13204
- [20] Rao, T., Valliappan, R., y Muhammad, S. (2019). A study to determine the factors effect on sales performance in beverages sector: Pakistán. Journal of Emerging Technologies and Innovative Research, 6(6), 749-755.
- [21] Reid, M. (2015). Sales performance and emotional intelligence of technology sales professionals (Tesis doctoral). Walden University, Minneapolis, MN.
- [22] Sandroto, C.W., y Fransiska, J. (2021). The importance of emotional intelligence for the sales associates profession as a mediation between job stress and job satisfaction. *International Journal of Management and Economics*, 57(4), 331-342. https://doi.org/10.2478/ijme-2021-0012

- [23] Tageja, N., Chaturvedi, V., y Rajput, N. (2021). Emotional exhaustion and deviant misbehaviours: Effects of job stressors and emotional intelligence among insurance salespersons. Academy of Accounting and Financial Studies Journal, 25(5), 1-11.
- [24] Ugarriza, N. (2001). La evaluación de la inteligencia emocional a través del inventario de Bar On (I-CE) en una muestra de Lima Metropolitana. *Persona*, 4, 129-160.
- [25] Wisker, Z. L., y Poulis, A. (2015). Emotional intelligence and sales performance. A myth or reality? *International Journal of Business and Society*, 16(2), 185-200. https://doi.org/10.33736/ijbs.563.2015