“Factors constituting effective communication: An empirical study of the food industry in Greece”

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FACTORS CONSTITUTING EFFECTIVE COMMUNICATION: AN EMPIRICAL STUDY OF THE FOOD INDUSTRY IN GREECE

Abstract

This paper examines communication dynamics within the food industry to identify key factors enhancing organizational cohesion and efficiency. A structured survey was conducted among 152 employees drawn from a broader pool of 240 executives working in food-related enterprises (Thessaly, Greece). This study has unearthed 12 critical communication drivers that significantly influence workplace interactions. These include support and recognition, open and digital communication, trust and information exchange, information flow and benchmarking, effective communication, motivation and openness, positive updates, information and digital communication, transparency and conflict resolution, technology and information use, barriers and support, and communication in emergencies. The survey included 46 items, with 39 focusing on communication variables, and ensured data reliability with a Cronbach's Alpha score of 0.883. Statistical methods such as principal component analysis and Kruskal-Wallis tests were used for analysis.

Findings reveal significant challenges in internal communication, such as tensions between emotional and rational approaches, insufficient information sharing, and person-centered management practices, leading to employee frustration. Despite applying total quality management (TQM) principles, employees reported dissatisfaction with recognition and lack of two-way communication. External communication efforts, particularly transparency and marketing, engaged stakeholders but failed to fully build trust due to limited adherence to transparency principles. However, adopting professional standards and continuous feedback mechanisms has improved internal communication, leading to higher employee satisfaction and operational efficiency. The findings emphasize the need for tailored communication strategies that foster trust, collaboration, and align organizational goals with employee engagement, especially in industries with a localized, person-centered culture.

Keywords culture, employee trust, micromanagement, organizational efficiency

JEL Classification M12, M31, D83, L66

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INTRODUCTION

Communication, a fundamental pillar of organizational function, influences decision-making, employee engagement, and overall efficiency (Hart, 2004). In traditional and modern organizational structures, effective communication is the mechanism through which information is exchanged, relationships are built, and strategic objectives are conveyed (Shannon & Weaver, 1949; Likert, 1967). However, despite its recognized importance, communication remains a complex and multifaceted process, often hindered by barriers such as information asymmetry, hierarchical constraints, and ineffective feedback mechanisms (Downs & Hazen, 1977; Nikolaou et al., 2008). In an era of rapid technological advancements and shifting workplace dynamics, the ur-

gent need for organizations to continuously refine their communication strategies to enhance collaboration, trust, and adaptability is evident (Christensen et al., 2010; Drucker, 1999; Drucker, 2001).

Organizational communication can be broadly categorized into internal and external. Internally, communication aligns employees with organizational goals, facilitates knowledge transfer, and improves workplace interactions (Rakhshanimehr & Jenaabadi, 2015). Externally, it allows organizations to engage with stakeholders, maintain transparency, and respond to regulatory or market demands (Manolov et al., 2019; Drosos et al., 2018; Drosos et al., 2019). While various studies have examined communication frameworks across different organizational settings, empirical research often lacks specificity regarding the factors that determine communication effectiveness and how they manifest in different professional contexts (Nikolaou et al., 2011; Rollnik-Sadowska et al., 2022). However, the role of digital transformation in reshaping communication models has become increasingly relevant, requiring an integrated approach that balances traditional and modern communication methods (Christensen et al., 2010; Heuser et al., 2024).

Despite extensive theoretical models on communication, challenges persist regarding the clarity, openness, and efficiency of communication channels within organizations (Jaupi & Llaci, 2015; Reddy & Gupta, 2020). Unclear managerial directives, insufficient employee recognition, and a lack of two-way feedback mechanisms can contribute to misalignment between employees and organizational goals (Drucker, 1999; Knight, 2018). Understanding the factors that contribute to effective communication and identifying potential inefficiencies is crucial for improving organizational cohesion and employee engagement.

1. LITERATURE REVIEW

Effective communication is a cornerstone of organizational success, influencing employee engagement, decision-making, and overall efficiency (Hart, 2004). Food economy sectors create systems whose existence depends on effective communication. In the turbulent market environment, globalization processes encourage careful selection of information about customers, competitors, or allies, which leads to increased sales. Therefore, communication and methods of identification and exchange are the main sources of profit (Brzozowska et al., 2015; Wu et al., 2021). Over the years, research has delved into various theoretical models, key drivers, and practical organizational communication applications. While rich in insights into how communication structures develop, function, and evolve in response to technological advancements and organizational needs, the existing literature also reveals significant gaps in understanding the specific factors contributing to effective communication in diverse professional settings.

Early models of communication laid the groundwork for understanding message transmission, feedback mechanisms, and barriers that hinder effective exchange. The Shannon and Weaver model (Shannon & Weaver, 1949) conceptualized communication as a linear process, emphasizing encoding, transmission, and decoding while recognizing the role of noise and distortion. Likert (1967) introduced the concept of participative management, underscoring the importance of open communication channels and trust-based relationships in organizations. Transparent, bidirectional communication fosters employee satisfaction and engagement, promoting a collaborative and adaptive workplace. Furthermore, as Katz and Kahn (1978) proposed, systems theory positions communication as a dynamic process that enables organizations to respond to external challenges and maintain internal coherence. These theoretical foundations continue to shape modern approaches to organizational communication, emphasizing the need for clarity, feedback, and adaptability.

Building upon these foundational theories, researchers have identified several key drivers contributing to communication effectiveness in organizational settings. Clarity and transparency are essential for reducing misunderstandings and ensuring that messages are structured, ac-

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cessible, and aligned with organizational objectives (Downs & Hazen, 1977). The role of feedback mechanisms has also been widely discussed, as two-way communication enhances employee trust and engagement, allowing for continuous improvement (Jaupi & Llaci, 2015). Additionally, leadership plays a critical role in shaping communication culture, with leaders who prioritize open dialogue and knowledge-sharing create more cohesive and motivated workforces (Nikolaou et al., 2008). Another critical factor is the integration of digital technologies into communication. With the rise of digital platforms, organizations must balance traditional face-to-face interactions with virtual communication tools, ensuring employees remain engaged and informed (Christensen et al., 2010; Heuser et al., 2024). Finally, trust and employee recognition have been identified as essential components of effective communication, as acknowledgment and support significantly enhance workplace interactions and overall job satisfaction (Reddy & Gupta, 2020).

The increasing reliance on digital tools has led to significant transformations in organizational communication. Virtual collaboration platforms, real-time messaging systems, and AI-driven analytics reshape how employees interact and share information. In their study, Prakash et al. (2023) examine how the introduction of computer-based artificial intelligence (AI) into the food business is transforming it. Digital transformation offers new opportunities for efficiency and scalability but presents challenges such as information overload, reduced interpersonal interactions, and the need for digital literacy among employees (Drucker, 1999; Christensen et al., 2010). Organizations must adopt adaptive communication strategies that integrate traditional and modern methods, ensuring that technological advancements do not hinder interpersonal connections or lead to miscommunication (Heuser et al., 2024; Rollnik-Sadowska et al., 2022).

Despite the vast body of literature on communication, several research gaps persist. One significant limitation is the lack of industry-specific insights. While many studies offer generalized frameworks, fewer explore the unique communication challenges faced by particular sectors, especially those characterized by hierarchical structures and complex operational environments (Nikolaou et al., 2011). Additionally, while digital transformation has been extensively discussed, there remains a need for empirical research on how organizations can effectively integrate new communication technologies without disrupting existing workflows or employee interactions (Knight, 2018). Another notable gap concerns the role of leadership styles in communication effectiveness. Although leadership is widely recognized as a critical factor, further investigation is required to determine how different managerial approaches impact communication across various workplace environments (Jaupi & Llaci, 2015; Rakhshanimehr & Jenaabadi, 2015). Addressing these gaps is crucial for developing a more nuanced understanding of how communication can be optimized to enhance organizational efficiency and employee engagement.

The present study builds upon previous research by examining communication dynamics through an empirical lens, identifying key factors contributing to organizational communication effectiveness. By analyzing internal and external communication practices across different hierarchical levels and professional roles, this paper aims to provide insights into the drivers of communication success and offer actionable strategies for improving communication efficiency. It seeks to provide concrete strategies that organizations can implement to enhance their communication processes. Existing literature underscores the importance of structured information flow, leadership influence, and digital adaptation, yet few studies comprehensively address these factors in an integrated manner.

The literature on organizational communication highlights the significance of clarity, leadership, feedback, and digital transformation in shaping effective communication strategies. While theoretical models provide a solid foundation, there is an urgent need for more empirical research to explore how these factors interact in different professional settings. By addressing gaps related to industry-specific communication challenges, the integration of digital tools, and the role of leadership in communication effectiveness, this study aims to contribute to developing more efficient and adaptable communication frameworks. Therefore, the aim of this paper is to identify key factors that en-

hance organizational cohesion and effectiveness by examining the dynamics of communication in the food industry.

2. METHOD

The study explored communication dynamics within food businesses in Thessaly, Greece. Thessaly covers an area of 682.189 inhabitants and around 240 food industries around 30% of food industries of Greece.

Data were gathered using a structured questionnaire survey to evaluate internal and external communication practices, their effectiveness, and their impact on employee engagement and organizational cohesion.

First, to ensure the reliability of the results, the survey was conducted with a population of 240 executives across food-related enterprises in Thessaly; 152 executives responded to the survey. The enterprises were stratified into different food categories, with a maximum of three executives per organization eligible to participate. The selection of this population depended on the size of the businesses and the distribution of executives within them, based on the assumption that each participant had an equal probability (20%) of being part of the target population.

The minimum sample size was determined by calculating the sample size (n) for polls or surveys; a finite population of N is described by Equation 1 (Chalikias et al., 2015).

$$n = \frac{z^2 \cdot p \cdot \frac{1-p}{e^2}}{1 + z^2 \cdot p \cdot \frac{1-p}{e^2 \cdot N}}, \quad (1)$$

where z-score is associated with the confidence level of the study. For example, for a 95% confidence level, z is about 1.96, while for a 99% level, it is 2.576. p is the estimated success rate in the population; when the value is unknown, it is estimated to be 0.5, leading to the largest possible sample size and is considered a more conservative estimate. e is the desired margin of error, that is, how far the sample is from the actual value in the population. For example, if a margin of error of 5%, then $e = 0.05$. N is the population size.

The minimum sample size calculation was performed using standard statistical methods, ensuring the scientific rigor of this study. It accounts for a 95% confidence level and a 5% margin of error. The estimated population size (240) and the proportion of interest (20%) led to the requirement of a minimum sample size of 122 individuals. This was determined using the following equation, which incorporates the z-score for a 95% confidence level, the population interest ratio, and the margin of error:

$$n = \frac{z^2 \cdot p \cdot \frac{1-p}{e^2}}{1 + z^2 \cdot p \cdot \frac{1-p}{e^2 \cdot N}} = \frac{1.96^2 \cdot 0.2 \cdot \frac{1-0.2}{e^2}}{1 + 1.96^2 \cdot 0.2 \cdot \frac{1-0.2}{e^2 \cdot 152}}. \quad (2)$$

$$n \approx 122 \ \textit{responders}.$$

After the minimum number of participants in this specific survey was predetermined, the questionnaire was distributed, and the data have been collected for three months. The respondent's demographics and occupational details are presented in Table 1.

The questionnaire was carefully designed to investigate the communication dynamics within the food industry in Thessaly. It consisted of 46 items structured on a five-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree," to measure the intensity and agreement of participants' perceptions. This widely recognized tool in social science research was chosen for its ability to quantify subjective opinions reliably and facilitate the consistent evaluation of responses. Of the 46 items, 39 focused on variables related to communication, such as information flow, support, recognition, trust, and digital communication practices, while seven captured demographic data to ensure a diverse and representative sample.

The questionnaire's design ensured that it was comprehensive and efficient, capturing the nuances of communication dynamics across various hierarchical levels and professional roles. Statistical validation confirmed its reliability, with a Cronbach's Alpha score of 0.883

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(Table 2), demonstrating the instrument's consistency and appropriateness for exploring organizational communication in this context (Joshi et al., 2015).

Table 1. Respondent demographics

Demographic Variable	Categories	Frequency (n)	Percentage (%)
Gender	Male	68	44.74
	Female	81	53.29
	Prefer not to say	3	1.97
Age	Up to 35 years	25	16.45
	36–45 years	39	25.66
	Over 45 years	88	57.89
Marital Status	Married	68	44.74
	Single	50	32.89
	Divorced	31	20.39
	Cohabitation Agreement	3	1.97
Experience (Years)	Up to 5	21	13.82
	6 to 10	31	20.39
	10 to 15	30	19.74
	16 to 20	18	11.84
	21 to 25	23	15.13
	26 to 30	19	12.5
	Over 30	10	6.58
Industry	Dairy Products	37	24.34
	Fish	25	16.45
	Fruit and Vegetables	21	13.82
	Vegetable and Animal Oils	14	9.21
	Bakeries	20	13.16
	Flour Mill Products	12	7.89
	Meat	14	9.21
	Other Food Items	9	5.92
Region	Karditsa	26	17.11
	Larissa	49	32.24
	Magnesia	36	23.68
	Trikala	41	26.97

Table 2. Cronbach's alpha

Number of Cases: 152	
Variable	N(%)
Valid	152 (100%)
Excluded	0 (0%)
Total	152 (100%)
Reliability Statistics	
Number of Variables	46
Cronbach's Alpha	0.883

Then, a quantitative statistical analysis was performed to explore organizational communication, including factor analysis using the principal component analysis method and inferential statistical techniques, the Kruskal-Wallis test, and Spearman correlation coefficients.

Factor analysis was utilized to reduce the dimensionality of the 39 communication-related variables and identify underlying patterns to address the complexities of the communication data. Factor analysis is a powerful statistical tool that enables the extraction of latent variables (factors) that explain the observed correlations among many variables. Specifically, principal component factor analysis was chosen as the method for this reduction due to its ability to transform correlated variables into fewer uncorrelated composite variables. This process helps identify critical factors that influence the communication process within the organizational context, enhancing interpretability and simplifying subsequent analysis (Joliffe & Morgan, 1992).

The 39 communication-related variables were subjected to principal component factor analysis. The factor loadings were examined to assess their significance, and the resulting factors were incorporated into the dataset. This dataset was then expanded to include demographic variables, crucial for understanding potential differences across various groups within the sample.

3. RESULTS AND DISCUSSION

Demographic and occupational screening of the survey (Table 1) participants reveal exciting facts. Male participants constituted 44.74% (68), while 53.29% were women (81). Just 1.97% (3 people) did not answer the gender question. In terms of age, 16.45% (25 people) are up to 35 years old, 25.66% (39 people) belong to the 36–45 age group, and the majority, i.e., 57.89% (88 people), are over 45 years old. Regarding marital status, 44.74% (68 people) are married, 32.89% (50 people) are single, 20.39% (31 people) are divorced and 1.97% (3 people) have a cohabitation agreement.

In the professional sector, the participants come from various industrial sectors: 9.21% (14 people) from the meat sector, 16.45% (25 people) from fish, 13.82% (21 people) from fruit and vegetables, 9.21% (14 people) from vegetable and animal oils,

24.34% (37 people) from dairy products, 7.89% (12 people) from flour mill products, 13.16% (20 people) from bakeries and 5.92% (9 people) from other food items. Geographically, 17.11% (26 people) work in the Regional Unit (PU) of Karditsa, 32.24% (49 people) in PU of Larissa, 23.68% (36 people) in PU of Magnesia and 26.97% (41 people) in PU of Trikala.

The distribution of professional experience shows that 13.82% (21 people) have up to 5 years of experience, 20.39% (31 people) have 6–10 years, 19.74% (30 people) have 11–15 years, 11.84% (18 people) have 16–20 years, 15.13% (23 people) have 21–25 years, 12.50% (19 people) have 26–30 years and 6.58% (10 people) have more than 30 years of experience. More specifically, seniority in the same company is up to 5 years for 42.11% (64 people), 6–10 years for 26.32% (40 people), 11–15 years for 22.37% (34 people), 16–20 years for 6.58% (10 people) and 21–25 years for 1.97% (3 people).

Most participants (53.29%) are women, and 57.89% are over 45 years old, showing an experienced workforce. The majority (44.74%) are married, and the most common work experience is 6–10 years (20.39%). Moreover, 42.11% have worked in their company for up to 5 years. The most popular sectors are dairy products (24.34%) and fish (16.45%), while most participants (81.58%) work in the PEs of Larissa, Trikala, and Magnesia.

Following the descriptive statistical analysis, frequency analysis of the answers to the questions/statements concerning the communication part was conducted.

The general picture is positive, with communication considered satisfactory by 78.3% (118 people) of the participants who state that they agree or completely agree with the various proposals.

Digital communication is evaluated positively, with 81.2% (123 people) agreeing or completely agreeing that it is effective. Also, the management effectively communicates with the staff, with 78.3% (118 people) confirming this positive relationship.

Employees state that they are sufficiently informed about the company's activities and problems, with 81.5% (124 people) agreeing or completely agreeing. The provision of information on the progress and performance of employees is also considered satisfactory by 74.7% (113 people) of the participants.

Guidance and support from management and supervisors are rated positively by 79.5% (121 people). In contrast, the ability to communicate digitally and a cheerful outlook within the organization are highly rated, with 81.2% (123 people) and 62.5% (95 people), respectively.

Providing information on company policies and feedback on management's work is considered satisfactory, with 77.6% (118 people) and 76.3% (116 people), respectively. In addition, the clarity and conciseness of the written instructions, as well as the satisfactory communication and conflict management within the management, receive a positive evaluation with 80.0% (121 people), 72.4% (110 people), and 76.3% (116 people), respectively.

However, slight differences in responses to various questions are observed, suggesting that different experiences may exist depending on the role, department, or work location.

A principal component analysis was conducted to perform factor analysis. Factor analysis was employed to examine the data derived from the questionnaire items pertaining to communication, resulting in a total of 39 variables. To ascertain the suitability of the model, the Kaiser-Meyer-Olkin (KMO) test was conducted, as Bartlett's test (Table 3).

Table 3. KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.85
Bartlett's Test of Sphericity	Approx. Chi-Square	2170.11
Df		741
Sig.		0

According to Table 3, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy test gave a value of 0.85, which is considered high and indicates that there is sufficient correlation between the variables to proceed to the factor analysis. This high value reiterates the robustness of the data for factor analysis. At the same time, Bartlett's test of sphericity gave a chi-square statistic (chi-

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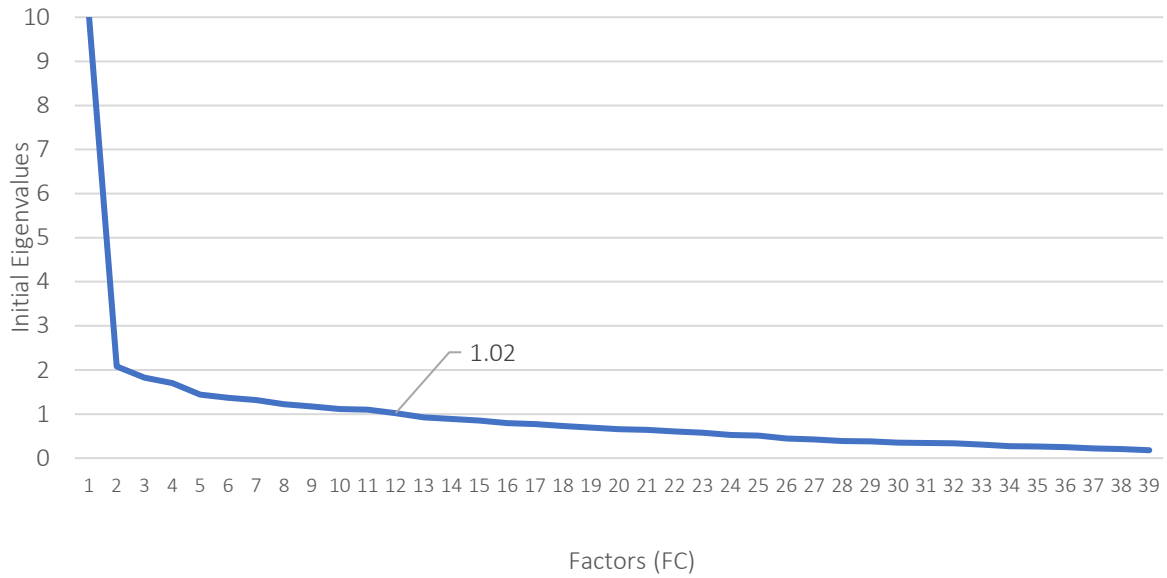

Figure 1. Factor analysis (scree plot)

square) of about 2170.11 with degrees of freedom (df) 741.00 and *p*-value (Sig.) 0.00. The chi-square statistics are remarkably high, indicating a significant association between the variables, while the *p*-value is less than the 0.05 significance level, rejecting the null hypothesis that the variables are not related.

The results of both tests indicate that the data are suitable for factor analysis. The high KMO value and statistically significant chi-square in Bartlett's test indicate a sufficient correlation between variables to extract meaningful factors. A KMO value 0.85 is considered very good, suggesting that factor analysis can produce reliable results. In addition, the statistically significant chi-square in Bartlett's test confirms the existence of a correlation between the variables, which is a necessary condition for the analysis.

The data concerning communication in the food industry are suitable for factor analysis based on KMO and Bartlett's test results. The high KMO value and the statistically significant chi-square mean that the analysis can reveal meaningful groups of variables (factors) related to employees' perception of communication (Figure 1).

Based on the above, a new data set has been created. This set includes seven nominal variables (demographic variables) and 12 numerical variables (the factors resulting from the factor analysis). The latest data set, with 19 variables and 152 respondents, was used in this comprehensive study to identify associations between the demographics and the analytic factors related to communication. Table 4 presents 12 factors related to communication in a company, as well as the individual variables and loading coefficients associated with each factor.

Table 4. Factor analysis of 12 factors

Factors	Loadings
Support and Recognition	**FC01**
Management provides guidance to solve problems related to the company	0.54
I am recognized for my contribution to the company	0.53
I am informed about the policies and objectives of the company	0.43
I receive information about my performance	0.39
My boss knows the problems his subordinates face	0.73
My boss listens carefully to his subordinates	0.75
My supervisor guides problem-solving	0.51
I receive information about the progress of my work	0.46
Open and Digital Communication	**FC02**
I am informed about organizational changes in the company	0.45
My boss is receptive to innovative ideas	0.37
My company's human resources department has high digital communication skills	0.68
The attitude of employees toward digital communication is positive	0.76
I receive feedback on the work of the department I work for	0.49

Table 4 (cont.). Factor analysis of 12 factors

Factors	Loadings
The written instructions of my management are clear and concise	0.59
The human resources department members communicate well with each other	0.53
Trust and Information	**FC03**
The communication actions of the top management make me identify with them and feel a vital part of it	0.61
Management trusts me	0.46
I receive information about problems in my work and how they were dealt with	0.54
I am informed about the actions that have an impact on my work	0.52
I have been informed about the company's financial data	0.63
Information Flow and Benchmarking	**FC04**
I am informed about business failures	0.42
I have an information overload	0.41
I receive information about how my work compares to that of other colleagues	0.83
Effective Communication	**FC05**
Communication with my colleagues in other departments is satisfactory	0.51
Informal communication (body language, verbal) is effective	0.76
Motivation and Openness	**FC06**
Business communication motivates and conveys enthusiasm to employees to achieve their goals	0.58
The management listens carefully to the staff	0.48
Management is receptive to innovative ideas	0.71
Positive Updates	**FC07**
I am informed about the successes of the business	0.77
Information and Digital Communication	**FC08**
The level of digital communication is satisfactory	0.36
I receive information about the company's policies and objectives	0.77
Transparency and Conflict Resolution	**FC09**
The announcements on the company website are helpful and posted promptly	0.72
Conflicts within my address are managed through appropriate communication policies	0.42
The management is aware of the problems faced by the staff	0.41
Technology and Information	**FC10**
I have a good relationship with technology	0.75
I receive information about my company's policies	0.56
Barriers and Support	**FC11**
There are communication barriers	0.83
The guidance provided to me by the management is satisfactory	0.45
Communication in Emergency Situations	**FC12**
Communication practices are fully adapted to emergencies	0.85

Table 5 provides vital information about the differences and correlations of various workplace factors. According to Table 4, no statistically significant differences were observed between categorical variables, as none of the *p*-values were less than 0.05. However, lower *p*-values indicate interesting points.

Specifically, in the effective communication factor, the *p*-value for gender was the lowest at 0.103, suggesting potential differences in communication perception between genders. Similarly, the *p*-value for marital status (0.121) in the same factor implies that marital status could be a significant factor in how effective communication is perceived.

Regarding the industrial sector, the *p*-value for the motivation and openness factor was 0.144, indicating potential differences in motivation based on the sector of work. Lastly, in terms of geographic location, the *p*-value for the trust and information factor was 0.105, suggesting that business location could play a role in these crucial areas.

Finally, although the differences are not statistically significant, the trends emerging from the *p*-values may provide substantial evidence for the study of communication and motivation in the workplace.

Following the statistical analysis, Spearman Coefficients were conducted to identify the correlations of the categorical variables with the factors obtained from the factor analysis. Spearman Coefficients revealed specific statistically significant or near-significant correlations. First, there is a statistically significant correlation between age and the communication in emergency situations factor ($p = 0.02$), indicating that age may influence how emergency communication is overseen. Second, the relationship between work experience and the technology and information factor is close to significance ($p = 0.085$), suggesting that overall work experience may be related to technology access and use. Third, a statistically significant correlation is observed between length of stay and use of technology and information ($p = 0.023$), showing that length of stay in the company is associated with the use of technology and information due to a better understanding of the company's systems.

Following the search for demographic variables (gender, marital status, industry, and region), the

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Table 5. Test of normality of 12 factors

Factors	Kolmogorov-Smirnov			Shapiro-Wilk		Sig.
	Statistic	Df	Sig.	Statistic	df	
Support and Recognition	0.076	152	0.032	0.978	152	0.016
Open and Digital Communication	0.056	152	0.2	0.99	152	0.348
Trust and Information	0.082	152	0.015	0.976	152	0.01
Information Flow and Benchmarking	0.102	152	<0.001	0.952	152	<0.001
Effective Communication	0.099	152	<0.001	0.967	152	0.001
Motivation and Openness	0.042	152	0.2	0.992	152	0.604
Positive Updates	0.044	152	0.2	0.99	152	0.396
Information and Digital Communication	0.067	152	0.092	0.984	152	0.073
Transparency and Conflict Resolution	0.045	152	0.2	0.995	152	0.92
Technology and Information	0.039	152	0.2	0.991	152	0.434
Barriers and Support	0.045	152	0.2	0.995	152	0.887
Communication in Emergency Situations	0.055	152	0.2	0.973	152	0.005

Table 6. Mann-Whitney, Kruskal-Wallis H and *T*-tests

Gender						
Factor	**Mann-Whitney**	**df**	**Asymp. Sig.**	**T-Statistic**	**df**	**Asymp. Sig.**
Support and Recognition	1.00	2	0.487	1.102	147	0.271
Open and Digital Communication	0.91	2	0.635	–0.636	147	0.526
Trust and Information	8.00	2	0.02	–1.112	147	0.268
Information Flow and Benchmarking	2.00	2	0.363	–1.406	147	0.162
Effective Communication	4.54	2	0.103	0.524	147	0.601
Motivation and Openness	3.00	2	0.227	1.876	147	0.063
Positive Updates	1456.00	2	0.483	0.523	147	0.602
Information and Digital Communication	0.50	2	0.779	0.68	147	0.497
Transparency and Conflict Resolution	1.00	2	0.488	–1.031	147	0.304
Barriers and Support	0.02	2	0.988	–0.055	147	0.955
Communication in Emergency Situations	0.61	2	0.738	–0.697	147	0.488
Technology and Information	1.00	2	0.585	1.275	147	0.204
Marital status						
Factor	**Kruskal-Wallis H**	**df**	**Asymp. Sig.**	**One-way ANOVA F**	**df**	**Asymp. Sig.**
Support and Recognition	0.71	3	0.87	0.43	3	0.732
Open and Digital Communication	1.00	3	0.69	0.923	3	0.431
Trust and Information	2.00	3	0.593	0.742	3	0.529
Information Flow and Benchmarking	8.00	3	0.055	2	3	0.163
Effective Communication	6.00	3	0.121	1	3	0.309
Motivation and Openness	0.62	3	0.891	0.184	3	0.907
Positive Updates	2.00	3	0.573	0.598	3	0.617
Information and Digital Communication	2.17	3	0.538	0.86	3	0.464
Transparency and Conflict Resolution	2.00	3	0.572	0.796	3	0.498
Technology and Information	6.00	3	0.138	2	3	0.135
Barriers and Support	3.00	3	0.431	0.593	3	0.62
Communication in Emergency Situations	2.00	3	0.623	0.531	3	0.662
Industry						
Factor	**Kruskal-Wallis H**	**df**	**Asymp. Sig.**	**One-way ANOVA F**	**df**	**Asymp. Sig.**
Support and Recognition	5.00	7	0.626	0.826	7	0.567
Open and Digital Communication	10.00	7	0.177	1	7	0.177
Trust and Information	2.50	7	0.927	0.315	7	0.946
Information Flow and Benchmarking	8.00	7	0.296	2	7	0.074
Effective Communication	4.00	7	0.81	0.631	7	0.73

Table 6 (cont.). Mann-Whitney, Kruskal-Wallis H and *T*-tests

Factor	Kruskal-Wallis H	df	Asymp. Sig.	One-way ANOVA F	df	Asymp. Sig.
Motivation and Openness	11.00	7	0.144	2	7	0.135
Positive Updates	5.00	7	0.614	0.769	7	0.615
Information and Digital Communication	7.00	7	0.384	0.904	7	0.505
Transparency and Conflict Resolution	10.00	7	0.197	1	7	0.334
Technology and Information	10.00	7	0.194	1	7	0.185
Barriers and Support	3.73	7	0.81	0.456	7	0.865
Communication in Emergency Situations	5.00	7	0.671	0.771	7	0.613
Region						
Factor	**Kruskal-Wallis H**	**df**	**Asymp. Sig.**	**One-way ANOVA F**	**df**	**Asymp. Sig.**
Support and Recognition	0.18	3	0.981	0.117	3	0.95
Open and Digital Communication	4.00	3	0.308	0.992	3	0.398
Trust and Information	6.00	3	0.105	2.984	3	0.033
Information Flow and Benchmarking	6.00	3	0.114	2.179	3	0.093
Effective Communication	5.00	3	0.156	1.397	3	0.246
Motivation and Openness	4.00	3	0.315	1.399	3	0.245
Positive Updates	2.00	3	0.63	0.763	3	0.517
Information and Digital Communication	0.61	3	0.895	0.326	3	0.807
Transparency and Conflict Resolution	2.00	3	0.52	1.124	3	0.341
Technology and Information	0.93	3	0.819	0.3	3	0.825
Barriers and Support	2.61	3	0.456	0.743	3	0.528
Communication in Emergency Situations	–	–	–	0.84	3	0.474

Mann-Whitney (equal to Kruskal-Wallis for two groups) statistical test was performed with the *T*-test and One-way ANOVA F (Table 6). Mann Whitney (or Kruskal-Wallis H) and *t*-test statistics are two essential methods used in statistical analysis to compare means between two groups.

According to Table 6, regarding support and recognition, no statistically significant differences were observed between gender groups (p = 0.487, t = 1.102 and p = 0.272). Similar were the findings for open and digital communication, with no significant differences between genders (p = 0.635, t = –0.636 and p = 0.526). However, the analysis showed that in the trust and information factor, there was a statistically significant difference (p = 0.02), which indicates that gender affects employees' perceptions of trust and information in their workplace. In the remaining factors, such as information flow and benchmarking, effective communication, and positive updates, no statistically significant gender differences were found.

Regarding marital status, the results show no statistically significant differences in employees' perceptions of support and recognition in the workplace, regardless of their marital status (p = 0.87 and p = 0.732, respectively). The same applies to trust and information (p = 0.593 and p = 0.529). The information flow and benchmarking factor are of great interest, where the p-value approached the threshold of statistical significance (p = 0.055), but no significant differences were finally observed based on One-Way ANOVA (p = 0.163).

Analysis of the data by industry showed that employees, regardless of the industry they work in, have similar perceptions of support and recognition, with no statistically significant differences recorded (p = 0.626 and p = 0.567). Similar were the findings for open and digital communication, where the results showed identical perceptions among employees (p = 0.177 and p = 0.177). In technology and information, no statistically significant differences were found between the different branches (p = 0.194 and p = 0.185).

Regarding the region where the company is located, the analysis revealed statistically significant differences in the trust and information factor (p = 0.033), indicating that employees' perceptions of trust and information differ according to the company's region. In contrast, information flow and benchmarking approached the statistical signifi-

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cance threshold ($p = 0.093$), but no significant differences were observed in employee perceptions.

Workplace communication, support, and information factors do not show significant differences between different socio-economic groups, with some exceptions. Trust and information are affected by gender and the region of the company's headquarters, indicating the need for tailored communication strategies that consider these factors.

This study examined the role of effective communication in organizational success. The results of the study are generally consistent with the existing literature on communication in the food industry. Along with previous studies, this study highlights persistent challenges related to information sharing (Durrant et al., 2021; Skordoulis et al., 2018; Yamabe-Ledoux et al., 2023). The findings highlight critical internal communication challenges, such as a high percentage of employees reporting insufficient information sharing and dissatisfaction with recognition. These challenges persist despite the implementation of structured management. The study also shows that communication relies heavily on individual managers rather than standardized processes, raising concerns about people-centered management practices. The results suggest that organizations should consider implementing more structured feedback mechanisms and participatory decision-making approaches to increase communication transparency and engagement.

Regarding external communication, 77.6% of employees recognized stakeholder engagement efforts as primarily marketing-driven, while only 62.5% expressed confidence in their organization's transparency practices. This indicates that while external communication enhances corporate visibility, it does not always foster long-term trust. Organizations should prioritize consistency and openness in their external messaging, ensuring that stakeholders receive substantive and verifiable information beyond promotional efforts.

This work also reveals both the benefits and challenges of digital communication. While 81.2% of employees found digital tools beneficial, 40.3% reported experiencing information overload, and 53.3% struggled with adapting to digital platforms. This highlights the need for a balanced digital transition, a manageable challenge that can be overcome with structured training and gradual integration. This approach supports effective adoption without overwhelming employees.

Finally, leadership and organizational culture play a decisive role in communication effectiveness. Although 79.5% of employees acknowledged management's influence on communication, only 68% felt their leaders actively listened to them, and 76.3% believed hierarchical structures hinder open dialogue. This reinforces the importance of leadership strategies that actively foster open dialogue, inspiring the audience to implement these changes in their own organizations. Strategies that promote inclusivity, transparency, and cross-departmental collaboration can significantly enhance communication effectiveness.

The study's findings underscore the importance of structured internal communication, transparent external engagement, a balanced digital transition, and leadership strategies that foster open dialogue. Addressing these key areas will enable organizations to improve their communication processes, align employees with strategic objectives, and bolster overall workplace cohesion.

CONCLUSION

Effective communication is crucial for organizational success, influencing decision-making, employee engagement, and cohesion. This study aimed to identify key factors that enhance organizational cohesion and effectiveness by examining communication dynamics in the food industry.

This study delved into the intricacies of both internal and external communication, uncovering significant challenges and opportunities that influence organizational effectiveness. The results revealed persistent internal communication barriers, such as limited information sharing, reliance

on person-centered management, and employee dissatisfaction with recognition. Despite the use of structured management frameworks, the absence of consistent feedback mechanisms and transparent dialogue continues to impede employee engagement and alignment with organizational objectives.

Externally, the study revealed that while stakeholder engagement efforts were largely marketing-driven, they often lacked transparency, with a significant portion of employees expressing doubts about their organization's external communication practices. This suggests that while organizations successfully promote their image, there is a significant opportunity to strengthen credibility and trust through proactive, verifiable, and open communication strategies.

The results demonstrate that communication effectiveness is primarily determined by individual management practices rather than standardized organizational processes. The study also highlighted the impact of gender and geographic location on employee perceptions of communication, particularly concerning trust and information sharing.

This work also highlighted the impact of digital transformation, with employees acknowledging its benefits but grappling with information overload and adaptation difficulties. While digital tools have improved communication efficiency, their implementation should be accompanied by structured training programs and integration strategies to ensure accessibility without overwhelming employees. The findings underscore the importance of a balanced approach that effectively integrates traditional and digital communication methods.

A key takeaway from this study is the critical role of leadership and organizational culture in shaping communication effectiveness. The results showed that overall communication in this industry is generally viewed favorably, especially in terms of management commitment to information sharing, use of digital communication methods, and support for employees. However, the results suggest that hierarchical structures and passive leadership styles hinder open dialogue, reinforcing the necessity of inclusive leadership approaches that promote transparency, participatory decision-making, and cross-functional collaboration. Organizations have the power to invest in leadership development programs that encourage open communication, empower employees, and break down hierarchical barriers to foster a more engaged and dynamic workforce.

This paper makes a substantial contribution to organizational communication research by providing empirical evidence on communication inefficiencies and offering practical, actionable recommendations. Organizations can enhance their communication frameworks by addressing internal communication gaps, improving external transparency, strategically managing digital transformation, fostering leadership-driven communication models, increasing employee satisfaction, and building long-term stakeholder trust. Future research should further explore sector-specific communication challenges and the evolving impact of digitalization, ensuring that communication strategies remain adaptive, effective, and aligned with the demands of an increasingly complex organizational landscape.

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