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# The Impact of Tacit Knowledge Sharing on Personal Marketing Effectiveness among Physicians: A Case Study of a Sample of Specialist Doctors across Various Provinces in Algeria.

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## Abstract

The study aims to investigate the impact of tacit knowledge sharing on personal marketing effectiveness from the perspective of physicians. It was conducted on a purposive sample of 50 doctors from various provinces in Algeria, including Ouargla, El Oued, Tipaza, Blida, and Algiers. The descriptive-analytical approach was employed, utilizing both field study methods and data collection through a questionnaire. Statistical analysis was performed using SPSS version 26. Additionally, personal, computer-assisted, and telephone interviews were conducted to support the study findings. The study concluded with several key results, including high levels of both tacit knowledge sharing and personal marketing effectiveness among the sampled physicians, with a moderately negative correlation between them. Moreover, there was a significant effect of tacit knowledge sharing as an independent variable on personal marketing as a dependent variable, mediated through dimensions such as capturing and imparting tacit knowledge. Additionally, there were statistically significant differences in the responses of the sample doctors regarding personal marketing effectiveness attributed to their demographic and professional variables (gender, age, specialization, seniority).

**Key Words:** Knowledge, Tacit knowledge, Knowledge sharing, Personal marketing, Doctors.

## Introduction:

The world has recently witnessed a shift from the industrial age to the knowledge age, necessitating organizations to prioritize the human element and provide conducive environments for conducting activities and performing tasks with excellence. Humans are recognized as the primary source of knowledge and the driving force, particularly in terms of tacit knowledge, which is stored in the human mind such as experiences, ideas, and skills, alongside explicit knowledge. Sharing this knowledge is crucial to ensuring the success of

organizations and individuals alike by enhancing their intuition, expertise, and skills, thereby excelling in their tasks. This necessity has been imposed by rapid changes in environmental factors, especially concerning information and communication technologies.

As life evolves rapidly with its diverse and varied situations, and the nature of target customers' changes, there is an increasing need for individuals interested in marketing themselves to possess the capabilities to attract and assist potential customers in making decisions to acquire products (goods or services). Hence, personal marketing has emerged as a process of communication between the self-marketer and the customer. Through personal marketing, individuals can clarify many uncertainties for customers and receive their feedback, thereby adjusting how they present their ideas based on the situation.

Based on the above, the study's idea crystallized around exploring implicit knowledge sharing as an independent variable and personal marketing as a dependent variable. Implicit knowledge is intertwined with all aspects of human life, shaped by interactions with reality and prevailing societal beliefs. Therefore, it can be a crucial factor in personal marketing effectiveness.

Thus, this study aims to uncover the impact of implicit knowledge sharing on personal marketing effectiveness, focusing specifically on the healthcare sector. Doctors were chosen as the field of study because they are prominent figures in this sector, relying heavily on their individual capabilities and efforts to achieve personal marketing effectiveness. They require implicit knowledge, encompassing experience, critical thinking, skills, and the ability to share it, enabling them to perform their tasks proficiently.

Research Problem: This study aims to test the impact of implicit knowledge sharing in its dimensions (knowledge acquisition and knowledge contribution) on the effectiveness of personal marketing in its dimensions (personal traits, communication skills, knowledge level, innovative and strategic thinking) among a sample of doctors. From the above the problem of this research has been formulated in the following main question:

**To what extent can implicit knowledge sharing affect the effectiveness of personal marketing among the sample of doctors in the study?**

To comprehend the subject and answer this pivotal question, we devised sub-questions as follows:

-What is the level of implicit knowledge sharing among the sample of doctors?

-What is the level of personal marketing usage among the sample of doctors?

-What is the nature of the relationship between implicit knowledge sharing and the effectiveness of personal marketing among the sample of doctors?

-Are there statistically significant differences in the responses of the sample regarding the effectiveness of personal marketing attributed to their demographic variables?

**Study Hypotheses:**

As an initial response to the questions, we formulated the following hypotheses which we aim to prove or disprove through the study:

There is a high level of implicit knowledge sharing among the sample of doctors.

There is a high level of personal marketing usage among the sample of doctors.
There is a positive linear relationship between implicit knowledge sharing and the effectiveness of personal marketing among the sample of doctors.
There are statistically significant differences in the responses of the sample regarding the effectiveness of personal marketing attributed to their demographic variables (gender, age, specialization, seniority).

**Study Objectives:**

- To identify the current status of implicit knowledge sharing among the sample of doctors.
- To identify the current status of personal marketing among the sample of doctors.
- To determine the best methods for implicit knowledge sharing with patients.
- To attempt to highlight the impact of implicit knowledge sharing on patient behaviors, such as their decisions in choosing a specific doctor.
- To develop new models of personal marketing that considers the importance of implicit knowledge sharing.

**Significance of the Study**:

The significance of this research is evident in several aspects. Firstly, it sheds light on the concept of implicit knowledge sharing as one of the prominent modern management concepts, as well as personal marketing on the other hand. Additionally, it achieves scientific benefit regarding the impact of implicit knowledge sharing on the effectiveness of personal marketing among doctors and the feasibility of applying the findings in real-world scenarios. Moreover, it underscores the utmost importance of personal marketing activities in the medical field, and the critical significance of studying implicit knowledge sharing and its impact on personal marketing among doctors.

**Study Scope:**

**Objective Scope:** This study focuses on implicit knowledge sharing as an independent variable, a contemporary topic in organizational management and strategic management that concerns the use of tangible and intangible resources to support and enhance competitiveness in a highly turbulent and changing business environment. The dependent variable is personal marketing, which has been addressed in numerous previous studies by researchers.

**Human Scope:** A purposive sample of specialized doctors from various ranks and categories was selected.

**Spatial Scope:** The study was conducted across different regions of the country - Algeria.

**Temporal Scope:** The study was conducted between February and April 2024.

**Study Methodology and Tools Used:**

In order to gather the necessary scientific material, address the research questions, and test the hypotheses for study preparation, a descriptive methodology was adopted to investigate the subject. A case study approach was employed using a questionnaire and its statistical processing through SPSS version 26 as a primary tool for field research and the main source for data collection. Additionally, personal, computer-mediated, and telephone interviews were used as supplementary tools to achieve the desired study outcome.

## Theoretical framework

Tacit knowledge sharing refers to the transfer of knowledge that is difficult to articulate, teach, and express within an individual. (Pang, H. 2023, May 30). It involves the sharing of highly personal and implicit notions such as organizational commitment and trust, (Dinur, A. 2011). Tacit knowledge is profoundly attached to people, and its sharing is highly internal and intangible, making it challenging to directly reward (Dinur, A. 2011).

Tacit knowledge is characterized by its high individualization, difficulty in standardization, and deep roots in individual experiences, technical skills, organizational culture, and other forms (Dong, S. 2009). It encompasses thinking modes, beliefs, viewpoints, and value systems, which are inherently personal and challenging to share (Dong, S. 2009).

Compared to explicit knowledge, tacit knowledge is more dependent on individual communication, and its sharing is more difficult due to factors such as spatial distance, knowledge distance, cultural distance, and absorption ability (Dong, S. 2009). Tacit knowledge sharing involves the transfer of intangible mental products, susceptible to sharing and constant reformulation, comprising abstract elements like ideas, reasoning, know-how, skills, allegories, models, constructs, insights, experiences, memories, sounds, images, smells, tastes, and touches (Ferretti, et al. 2017). Barriers to tacit knowledge sharing can include a lack of mutual trust and intolerance toward mistakes or the need for assistance (Ferretti, et al. 2017) From the previous definitions, tacit knowledge can be defined as: “the intelligence that the worker acquires through personal and professional experience that he learned in the current job and previous jobs. It also falls within the category of intangible assets, and is built on a set of dimensions represented by: experience, skill, and thinking, which are among its most important components and conditions.

On the other hand Against the background of a thorough specialization, any professional, no matter his/her specialization, has to build around and for himself strong integrated and marketing campaigns, which should shed light on him/her and make him/her eligible for the consumers of services from his/her area of specialization. The personal brand is what a person wishes to do in order for him/her to escape the anonymity of his/her profession, to become visible in a certain circle or for a particular cause. The cover is important, but the content is essential, as it is the one that gives the final touch to the product and/or services. Unlike other types of services, medical services, including doctors, no matter their specialization, have that particular feature of being evaluated by the consumers only from the point of view of perception, few of them having the necessary competences to make an objective assessment (Seyed, M,M2021), Personal marketing can be defined as the individual’s ability to define himself and communicate his skills and abilities in a way that enables him to stand out from his competitors in the job market, to increase his chances of getting a job or advancing in the current job. This can only be done by striving to develop the most important features that he has, such as innovative and strategic thinking, creativity in marketing methods, familiarity with the art of communication, a high degree of knowledge, and most importantly, his personal characteristics.

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**Field Study:**

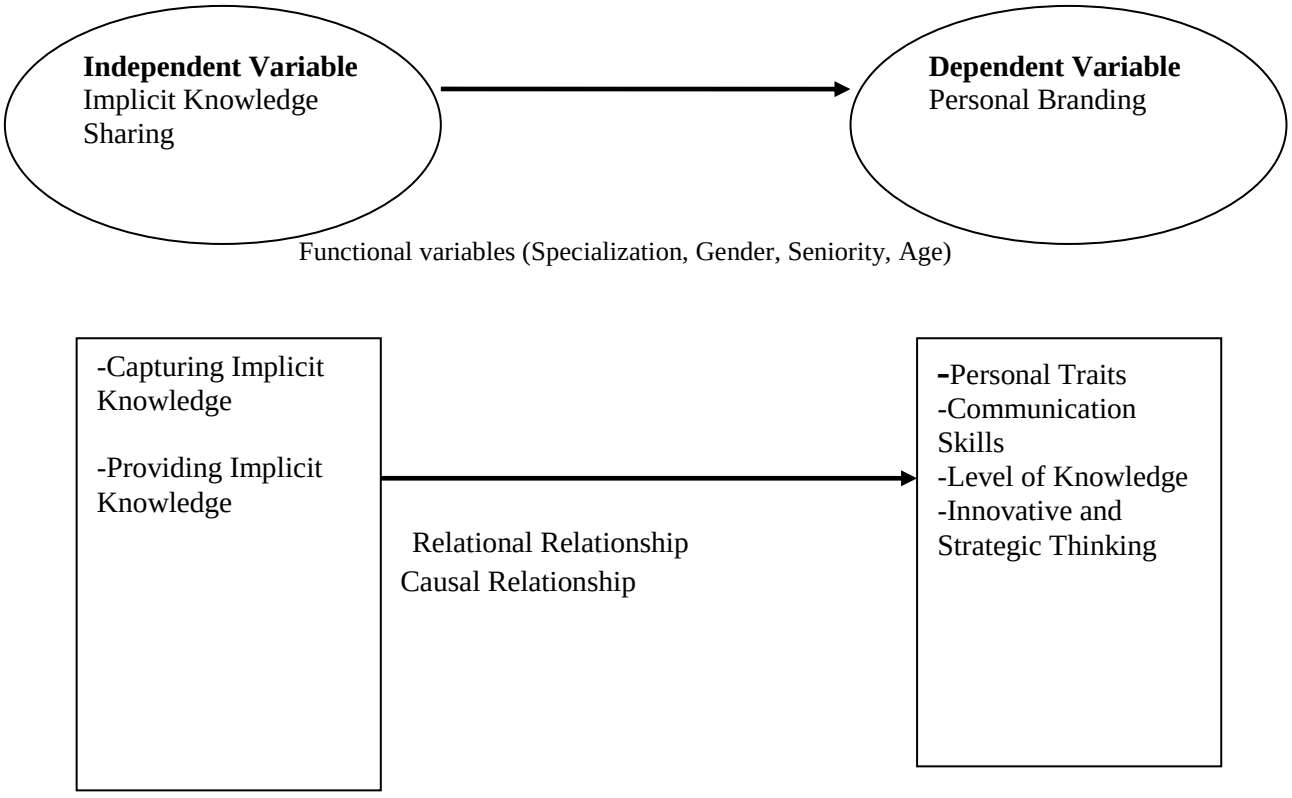
This section will address the methods and tools used in conducting the field study by explaining how the study population and sample were selected, presenting the study methodology, and outlining the data collection methods and tools used for gathering and processing data. Additionally, it will cover the main statistical techniques employed in testing the study hypotheses.

**The Methodology Adopted in the Study:**

To determine the methodology adopted in the field study, we will first present the model of the study variables and then discuss the methodology and provide details about the study population and sample.

**Presentation of the Study Variables Model:**

Figure (1): Study Variables Model




**Source:** Prepared by the researchers

**Study Methodology:**

To achieve credible results and the desired objectives of the research, it is necessary to follow a clear methodology that aids in studying the problem. The choice of methodology depends on the nature of the topic, the questions, and the hypotheses posed by the researcher. To address the research problem and to validate or refute the hypotheses in the field study, the research primarily relied on:

**Descriptive Methodology:** This allows for the collection, presentation, analysis, and graphical representation of data about the phenomenon under study, especially functional variables.

**Statistical Methodology:** This enables us to test the validity of hypotheses using statistical methods and tools for data analysis, to determine the impact of tacit knowledge sharing on personal marketing effectiveness among private doctors from various regions of the country, and to measure the relational and causal relationships between study variables.

**Presentation of the Study Population and Sample:**

1. **Study Population:**

   The study population consists of all private doctors of various categories and ranks in Algeria. Due to the difficulty of studying all members of the population because of its size, if a sample is chosen correctly, the results can be generalized to the entire population.

2. **Study Sample:**

   The study sample consisted of a purposive sample of private doctors of various categories and ranks from the following regions: Ouargla, El Oued, Tipaza, Blida, and Algiers. We distributed 53 electronic survey questionnaires via social media and email. All questionnaires were returned, with 3 being discarded. The remaining 50 questionnaires were valid for analysis and study.

3. **Reliability of the Questionnaire:**

   To determine and ensure the degree of internal consistency and reliability of the study tool, represented by the statements used in the questionnaire, we will calculate the "Cronbach's Alpha" reliability coefficient.

   **First:Calculating the "Cronbach's Alpha" Reliability Coefficient:**

   This coefficient ranges between 0 and 1, with values closer to 1 indicating greater reliability of the questionnaire statements. The criteria for judging the degree of internal consistency of the questionnaire statements are as follows:

   -If the "Cronbach's Alpha" reliability coefficient is less than 0.6, this indicates that the statements have weak reliability, requiring a review of the questionnaire statements to modify, delete, or eliminate them entirely.

   -If the "Cronbach's Alpha" reliability coefficient ranges between [0.6 – 0.7], this indicates that the statements have acceptable reliability.

-If the "Cronbach's Alpha" reliability coefficient ranges between [0.7 – 0.8], this indicates that the statements have good reliability.

-If the "Cronbach's Alpha" reliability coefficient is greater than 0.8, this indicates that the statements have excellent reliability and are well-suited to the study topic.

Based on the analysis of the responses from the 50-sample size, the Cronbach's Alpha coefficient was calculated for both the dependent and independent variable dimensions. The reliability coefficient for the questionnaire components was found to be good, as shown in the following table:

**Table (1): Cronbach's Alpha Reliability Coefficient**

| Number of Questions | Cronbach's Alpha Coefficient |
|---|---|
| **32** | **0.787** |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.

From the table above, we observe that the Cronbach's Alpha value is 0.787, which is greater than 0.7. Therefore, the consistency and stability level is good, indicating that the questionnaire items have a high level of reliability. This suggests that the results are likely to remain stable if the questionnaire is re-administered and distributed again to the same sample under the same conditions, with a reliability of 78.7%. Hence, we can conclude that the questionnaire has a good degree of reliability and can be relied upon in the field study.

**Table (2): Cronbach's Alpha Reliability Coefficient for the Independent Variable**

| Number of Questions | Cronbach's Alpha Coefficient |
|---|---|
| **14** | **0.675** |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.

From the table, we observe that the Cronbach's Alpha coefficient value for the independent variable is 0.675, which is acceptable. Thus, the level of consistency and stability is acceptable, indicating that the questionnaire items related to the independent variable are also acceptable.

Table (3): Cronbach's Alpha Reliability Coefficient for the Dependent Variable

| Number of Questions | Cronbach's Alpha Coefficient |
|---|---|
| **18** | **0.734** |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.

From the table above, we observe that the Cronbach's Alpha coefficient value for the dependent variable is 0.734, which is good. Thus, the level of consistency and stability is also good, indicating that the questionnaire items related to the dependent variable have a high level of reliability.

**Presentation and Discussion of Field Study Results**

Secondly: Presentation and Analysis of Data Related to the Level of Availability of Tacit Knowledge Sharing Dimensions among the Doctors in the Study Sample

**Table (4): Mean and Standard Deviations of Sample Responses Regarding the Statements of Tacit Knowledge Sharing Dimensions**

| Statements and Dimensions | Mean | Standard Deviation | Statement Degree | Level of Agreement | Statement Ranking |
|---|---|---|---|---|---|
| I obtain knowledge from doctors who have experience, competence, and skill | 3.92 | 0.932 | 4 | Agree | 5 |
| I frequently use the internet to search for medical information | 3.84 | 0.668 | 4 | Agree | 6 |
| I find that discussions with colleagues enhance my medical knowledge | 4.60 | 0.367 | 5 | Strongly Agree | 1 |
| Interaction with patients improves my understanding of medical cases | 4.32 | 0.630 | 5 | Strongly Agree | 3 |
| My previous experience in the medical field enhances my understanding of medical cases | 4.52 | 4.52 | 5 | Strongly Agree | 2 |
| I can use informal information shared by colleagues as a type of | 3.16 | 1.035 | 3 | Neutral | 7 |

| | | | | | |
|---|---|---|---|---|---|
| knowledge if it fits my work | | | | | |
| I gain knowledge through ideas and experiences that update medical procedures and systems | 4.16 | 0.34 | 4 | Agree | 4 |
| Capturing tacit knowledge dimension | 4.074 | 0.6038 | 4 | Agree | |
| I use my personal knowledge to provide better care for patients | 4.06 | 0.425 | 4 | Agree | 5 |
| I allocate time to share my practical experiences with my fellow doctors | 4.22 | 0.338 | 5 | Strongly Agree | 3 |
| I build stronger relationships with patients using my knowledge | 4.48 | 0.540 | 5 | Strongly Agree | 2 |
| I look for opportunities to exchange knowledge with other experts in the medical field | 4.16 | 0.423 | 4 | Agree | 4 |
| I encourage new colleagues to share their knowledge | 3.96 | 0.611 | 4 | Agree | 7 |
| I solve complex medical problems using my knowledge and experience in the medical field | 4.02 | 0.632 | 4 | Agree | 6 |
| I make sound decisions based on my knowledge | 4.64 | 0.235 | 5 | Strongly Agree | 1 |
| Dimension of Providing | 4.22 | 0.4577 | 5 | Strongly Agree | |

| | | | | |
|---|---|---|---|---|
| Implicit Knowledge | | | | |
| Tacit knowledge sharing | 4.147 | 0.53075 | 4 | Agree |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.

**Dimension One:** "**Capturing Implicit Knowledge**": The table above shows that the overall mean of the sample's responses regarding the total statements of the dimension of capturing implicit knowledge was 4.074 with a standard deviation of 0.6038, indicating an agreement level. The table's data reveal that the mean values ranged between 3.16 and 4.60. The third statement ranked first with a mean of 4.60 and a standard deviation of 0.367, which falls under the "Strongly Agree" level. In contrast, the sixth statement ranked last with a mean of 3.16 and a standard deviation of 1.035, which is at the Neutral level. This indicates that the statements related to the dimension of capturing implicit knowledge are generally in agreement.

**Dimension Two**: "**Providing Implicit Knowledge**": The table above shows that the overall mean of the sample's responses regarding the total statements of the dimension of providing implicit knowledge was 4.22, with a standard deviation of 0.4577, indicating a "Strongly Agree" level. The data reveal that the mean values ranged between 3.96 and 4.64. The seventh statement ranked first with a mean of 4.64 and a standard deviation of 0.235, which falls under the "Strongly Agree" level. In contrast, the fifth statement ranked last with a mean of 3.96 and a standard deviation of 0.611, which is at the Agree level. This indicates that the statements related to the dimension of providing implicit knowledge are generally in strong agreement.

**Third:** Presentation and Analysis of Data Related to the Level of Availability of Personal Marketing Dimensions among the Sampled Doctors

**Table (5): Overall Mean and Deviations of Sample Responses Regarding Personal Marketing Dimension Statements**

| Statements and Dimensions | Mean | Standard Deviation | Statement Degree | Level of Agreement | Statement Ranking |
|---|---|---|---|---|---|
| I strive to achieve good values and principles | 3.94 | 0.588 | 4 | Agree | 4 |
| I possess quick wits | 3.94 | 0.384 | 4 | Agree | 3 |
| I have the methods and arguments needed to persuade the other party | 4.38 | 0.444 | 5 | Strongly Agree | 2 |

| | | | | | |
|---|---|---|---|---|---|
| I pay attention to my appearance to ensure it is appropriate for work | 4.74 | 0.196 | 5 | Strongly Agree | 1 |
| I prefer to deal with people in a polite manner | 3.46 | 0.702 | 4 | Agree | 5 |
| **Dimension: Personal Traits** | 4.092 | 0.4628 | 4 | Agree | |
| I know what the other party wants quickly before they finish speaking | 2.64 | 0.725 | 3 | Neutral | 5 |
| I can handle more than one person at the same time | 4.46 | 0.253 | 5 | Strongly Agree | 1 |
| I listen attentively to the other party until they finish speaking | 3.34 | 1.004 | 3 | Neutral | 4 |
| I use social media platforms to communicate with patients and to appear online | 3.34 | 0.719 | 3 | Neutral | 3 |
| I regularly prepare and update my CV | 3.58 | 0.738 | 4 | Agree | 2 |
| **Dimension: Communication Skills** | 3.472 | 0.6878 | 4 | Agree | |
| I keep up with all new knowledge and information in my specialty | 4.58 | 0.249 | 5 | Strongly Agree | 1 |
| I pay attention to information and its source | 4.50 | 0.255 | 5 | Strongly Agree | 2 |
| I always strive to learn new methods for teaching and sharing my knowledge with others | 4.20 | 0.367 | 5 | Strongly Agree | 4 |
| I perform my work | 4.28 | 0.614 | 5 | Strongly | 3 |

| | | | | | |
|---|---|---|---|---|---|
| excellently and do not concern myself with competitors (doctors, nurses, etc.) | | | | Agree | |
| **Dimension: Knowledge Level** | 4.39 | 0.24525 | 5 | Strongly Agree | |
| I prefer clear routine work | 3.26 | 1.053 | 3 | Neutral | 4 |
| My responses to others' questions are carefully considered (I do not react quickly) | 3.96 | 0.325 | 4 | Agree | 1 |
| I rely on prediction, intuition, and the past in my analysis of situations | 3.54 | 0.621 | 4 | Agree | 2 |
| I tend to take risks and enjoy new opportunities (a person of initiative) | 3.34 | 0.822 | 3 | Neutral | 3 |
| Dimension: Innovative and Strategic Thinking | 3.525 | 0.72025 | 4 | Agree | |
| **Personal Marketing** | 3.86975 | 0.529025 | 4 | Agree | |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.

**Dimension One**: "**Personal Traits**": The table above shows that the overall mean of the sample's responses regarding the total statements of the dimension of personal traits was 4.092, with a standard deviation of 0.4628, indicating an agreement level. The data reveal that the mean values ranged between 3.46 and 4.74. The fourth statement ranked first with a mean of 4.74 and a standard deviation of 0.196, which falls under the "Strongly Agree" level. In contrast, the last statement ranked last with a mean of 3.46 and a standard deviation of 0.702, which is at the Agree level. This indicates that the statements related to the dimension of personal traits are generally in agreement.

**Dimension Two**: "**Communication Skills**": The table above shows that the overall mean of the sample's responses regarding the total statements of the dimension of communication skills was 3.472, with a standard deviation of 0.6878, indicating an agreement level. The data reveal that the mean values ranged between 2.64 and 4.46. The second statement ranked first with a mean of 4.46 and a standard deviation of 0.253, which falls under the "Strongly Agree" level. In contrast, the first statement ranked last with a mean of 2.64 and a standard deviation

of 0.725, which is at the Neutral level. This indicates that the statements related to the dimension of communication skills are generally in agreement.

**Dimension Three**: "**Knowledge Level**": The table above shows that the overall mean of the sample's responses regarding the total statements of the dimension of knowledge level was 4.39, with a standard deviation of 0.24525, indicating a "Strongly Agree" level. The data reveal that the mean values ranged between 4.20 and 4.58. The first statement ranked first with a mean of 4.58 and a standard deviation of 0.249, which falls under the "Strongly Agree" level. In contrast, the third statement ranked last with a mean of 4.20 and a standard deviation of 0.367, which is also at the "Strongly Agree" level. This indicates that the statements related to the dimension of knowledge level are generally in strong agreement.

**Dimension Four**: "**Innovative and Strategic Thinking**": The table above shows that the overall mean of the sample's responses regarding the total statements of the dimension of innovative and strategic thinking was 3.525, with a standard deviation of 0.72025, indicating an agreement level. The data reveal that the mean values ranged between 3.26 and 3.96. The second statement ranked first with a mean of 3.96 and a standard deviation of 0.325, which falls under the "Agree" level. In contrast, the first statement recorded the lowest mean of 3.26 and a standard deviation of 1.053, which is at the "Neutral" level and ranked last. This indicates that the statements related to the dimension of innovative and strategic thinking are generally in agreement.

Fourth: Analysis by Mean Scores of Study Dimensions

**Table (6): Overall Mean and Deviations of Sample Responses Regarding Implicit Knowledge Sharing**

| Number | Dimensions | Mean | Standard Deviation | Rank | Level |
|---|---|---|---|---|---|
| 1 | Capturing Implicit Knowledge | 4.074 | 6038.0 | 2 | Agree |
| 2 | Providing Implicit Knowledge | 4.220 | 0.4577 | 1 | Strongly Agree |
| / | Sharing Implicit Knowledge | 4.147 | 0.53075 | / | Agree |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.

From the table presented above, it is evident that the overall mean of the sample's responses regarding implicit knowledge sharing is at an "Agree" level for the dimension of Capturing Implicit Knowledge, with a mean of 4.074 and a standard deviation of 0.6038. For the dimension of Providing Implicit Knowledge, it is at a "Strongly Agree" level, with a mean of 4.220 and a standard deviation of 0.4577. This indicates a very high level of use of Providing Implicit Knowledge among the doctors in the sample, attributed to the significant contribution of this dimension to implicit knowledge sharing. This is confirmed by the overall mean of

4.174 and a standard deviation of 0.53075 for the sample's responses regarding implicit knowledge sharing, reflecting the positive view of the doctors in the sample towards these dimensions.

Table (7): Overall Mean and Deviations of Sample Responses Regarding Personal Marketing

| Number | Dimensions | Mean | Standard Deviation | Rank | Level |
|---|---|---|---|---|---|
| 1 | Personal Traits | 4.092 | 0.4628 | 2 | Agree |
| 2 | Communication Skills | 3.472 | 0.6878 | 4 | Agree |
| 3 | Knowledge Level | 4.390 | 0.2452 | 1 | Strongly Agree |
| 4 | Innovative and Strategic Thinking | 3.525 | 0.7202 | 3 | Agree |
| / | Personal Marketing | 3.86975 | 0.529025 | / | Agree |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.

From the table presented above, it is evident that the overall mean of the sample's responses regarding personal marketing is at an "Agree" level for all its dimensions, except for the Knowledge Level dimension, which is at a "Strongly Agree" level, with the highest mean value of 4.390 and a standard deviation of 0.24525. This indicates a high level of use of the Knowledge Level among the doctors in the sample, attributed to their primary focus on acquiring a high level of knowledge that enables them to practice personal marketing. This is confirmed by the overall mean of 3.86975 and a standard deviation of 0.529025 for the sample's responses regarding personal marketing, reflecting the positive view of the doctors in the sample towards the dimensions of this variable.

**Interpretation and Discussion of Study Results:**

This section will address the study's issue by clarifying the level of implicit knowledge sharing and personal marketing, as well as the correlation and impact between them among the doctors in the sample. Additionally, it will examine whether there are statistically significant differences regarding the effectiveness of personal marketing attributed to functional variables through conducting tests to accept or reject the study's hypotheses.

**Linking and Interpreting Results with Hypotheses:**

**1. Testing the First Hypothesis:**

The hypothesis states that there is a high level of implicit knowledge sharing among the doctors in the sample.

**Table (8): One-Sample T-Test**

| One-Sample T-Test | | | | |
|---|---|---|---|---|
| | Sample Size | Mean | Standard Deviation | Standard Error |
| Implicit Knowledge Sharing | 50 | 3.8600 | 0.31929 | 0.04515 |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.
From the table, we observe that the mean value is 3.8600, the standard deviation is 0.31929, .the standard error is 0.04515, and the sample size is 50.

Table (9): One-Sample T-Test

| One-Sample T-Test | | | | | | |
|---|---|---|---|---|---|---|
| Test Value = 1 | | | | | | |
| | t Value | Degrees of Freedom | Sig Value | Difference of Means | Confidence Interval %95 of the Difference | |
| | | | | | Minimum Value | Maximum Value |
| Implicit Knowledge Sharing | 85.485 | 49 | 0.000 | 3.8600 | 3.7693 | 3.9507 |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.

From the results in the table above, we observe that the t value is 85.485, and the degrees of freedom are 49, with a significance level of 0.000, which is less than 0.05. Therefore, it can be said that there is a high level of implicit knowledge sharing among the doctors in the sample. Additionally, the difference of means is 3.8600, and the minimum and maximum values are 3.7693 and 3.9507, respectively. Thus**, the hypothesis is validated.**
The hypothesis states that there is a high level of personal marketing application among the doctors in the sample.

Table (10): One-Sample T-Test

| One-Sample T-Test | | | | |
|---|---|---|---|---|
| | Sample Size | Mean | Standard Deviation | Standard Error |
| **Personal Marketing** | 50 | 4.4174 | 0.31892 | 0.04510 |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.
From the table, we observe that the mean value is 4.4174, the standard deviation is 0.31892, the standard error is 0.04510, and the sample size is 50.

**Table (11): One-Sample T-Test**

| One-Sample T-Test | | | | | |
|---|---|---|---|---|---|
| Test Value = 1 | | | | | |
| | t Value | Degrees of | Sig Value | Difference | Confidence Interval %95 |

| | | Freedom | | of Means | of the Difference | |
|---|---|---|---|---|---|---|
| | | | | | Minimum Value | Maximum Value |
| **Personal Marketing** | 91.950 | 49 | 0.000 | 4.14714 | 4.0565 | 4.2378 |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.

From the results in the table above, we observe that the t value is 91.950, the degrees of freedom are 49, and the significance level is 0.000, which is less than 0.05. Therefore, it can be said that there is a high level of personal marketing usage among the doctors in the sample. Additionally, the difference of means is 3.05510, and the minimum and maximum values are 4.0565 and 4.2378, respectively. Thus, **the hypothesis is validated.**

**3. Testing the Third Hypothesis:**

The hypothesis states that there is a positive direct relationship between implicit knowledge sharing and the effectiveness of personal marketing among the doctors in the sample. We use Pearson's correlation coefficient to calculate the correlation coefficient value when the variables to be correlated are quantitative, and the number of cases for each variable is equal. It is used in the study to confirm internal consistency validity and to demonstrate that the measure assesses what it is intended to measure.
This is done by calculating the correlation of each statement with the total score of the statements within its axis, through computing the Pearson correlation coefficient between the score of each statement and the total score of the statements in that axis.
Thus, we will establish the following hypotheses:

**Hypothesis H0:** There is no correlation, meaning [1, -1] ≠ r
**Hypothesis H1:** There is a correlation, meaning [1, -1] = r

**Table (12): Correlation Coefficients between the Independent Variable and the Dependent Variable**

| | | Implicit Knowledge Sharing | Personal Marketing |
|---|---|---|---|
| Implicit Knowledge Sharing | Pearson Correlation Coefficient | 1 | **0.407 |
| | Sig Value | - | 0.03 |
| | N | 50 | 50 |
| Personal Marketing | Pearson Correlation Coefficient | **0.407 | 1 |
| | Sig Value | 0.03 | - |
| | N | 50 | 50 |
| **Statistical Significance at the 0.01 Significance Level | | | |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis.

From the results in the table above, we observe that the Pearson correlation coefficient between the independent variable, implicit knowledge sharing, and the dependent variable, personal marketing, is below average, with a value of 0.407, which is at a significance level of 0.03. This indicates a positive linear (direct) correlation of 40.7% between the independent variable and the dependent variable. Since the values are within the range of -1 to 1, we reject the null hypothesis H0 and accept the alternative hypothesis H1.

**Table (13): Results of the simple regression analysis of the effect of implicit knowledge sharing on personal marketing**

| Model | | Sum of Squares | Degrees of Freedom | Mean Square | Calculated F | Significance Level |
|---|---|---|---|---|---|---|
| Implicit Knowledge Sharing | regression | 0.827 | 1 | 0.827 | 9.521 | 0.003 |
| | residuals | 4.168 | 48 | 0.087 | / | / |
| | total | 4.995 | 49 | / | / | / |
| R= 0.407 $R^2$= 0.166 | | | | | | |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis

The results in the table above indicate a below-average correlation between implicit knowledge sharing and personal marketing, with a Pearson correlation coefficient of **R = 0.407**. The coefficient of determination is **$R^2$ = 0.166**, meaning it explains **16.6%** of the variance in the dependent variable. The calculated F value is **9.521**, which is statistically significant at the significance level ($\alpha \leq 0.05$), confirming the significance of the effect of implicit knowledge sharing on personal marketing.

The table (14): Results of the multiple regression analysis of the effect of implicit knowledge sharing on personal marketing

| Model | B | Standard Error | β | t Value | Significance Level |
|---|---|---|---|---|---|
| constant | 2.171 | 0.549 | / | 3.954 | 0.000 |
| Implicit Knowledge Sharing | 0.407 | 0.132 | 0.407 | 3.086 | 0.003 |
| Regression Model Equation: Y = 2.171 + 0.407x | | | | | |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis

The results in the table above indicate a significant effect of implicit knowledge sharing on personal marketing. The constant term was estimated at 2.171 with a significance level of 0.000, which is less than the 5% significance level, indicating that the constant is statistically significant at $\alpha = 0.05$.

The calculated t value is 3.086, which is statistically significant at the significance level ($\alpha \leq 0.05$). Regarding the effect size B, its value is 0.407, meaning that a one-unit increase in the level of implicit knowledge sharing leads to an increase in the effectiveness of personal marketing among doctors by 0.407. Therefore, **the hypothesis is supported**.

**4. Testing the Fourth Hypothesis:**

The purpose of this analysis is to validate the study model and the obtained results by performing a one-way ANOVA. We assume that there are differences in the study sample's responses regarding personal marketing attributed to their functional variables, at a significance level less than 0.05. To confirm the presence or absence of these differences, we test the following hypotheses at a significance level of 0.05:

H0: No differences (Sig > 0.05)

H1: Differences exist (Sig < 0.05)

The hypothesis states that there are statistically significant differences in the study sample's responses regarding the effectiveness of personal marketing, attributed to their functional variables (gender, age, specialization, seniority).

**Table (15): Results of the differences test for the study sample's responses regarding personal marketing attributed to functional variables**

| | | sum of squares | Degrees of Freedom | Mean Square | F Value | Significance Level |
|---|---|---|---|---|---|---|
| **Functional Variables** | Between groups | 5.135 | 14 | 0.367 | 4.640 | 0.000 |
| | Internal groups | 2.766 | 35 | 0.079 | | |
| | total | 7.901 | 49 | | | |

**Source:** Prepared by the researchers based on the outputs of SPSS statistical analysis

From the table, we observe that there are statistically significant differences in the study sample's responses regarding the dependent variable "personal marketing," attributed to their functional variables. This is evident from the Sig value of 0.00, which is less than 0.05, thus confirming the hypothesis. This means that changes in the functional variables collectively will impact the effectiveness of personal marketing.

**Discussion of the Study Results**

After analyzing the questionnaire and testing the study hypotheses using appropriate statistical methods, as well as conducting several interviews with some doctors from the study sample, and presenting the field results obtained to analyze certain variables, this section will discuss these results according to the study hypotheses on one hand, and relate them to theoretical concepts on the other hand. The following conclusions were reached:

**First: The Reality of Implicit Knowledge Sharing Among the Study Sample Doctors**

From the results of the statistical analysis concerning the dimensions of implicit knowledge sharing, we observe that the overall mean of the sample members' responses about implicit knowledge sharing was high, reaching (4.147) with a standard deviation of (0.53075). This reflects the positive outlook of the study sample doctors towards this dimension of the variable and indicates their commitment and interest in implicit knowledge sharing, whether with their colleagues or patients. Their perspective was as follows:

**Dimension of implicit knowledge granting:**

We find that the overall mean of the sample members' responses regarding this dimension is the highest, reaching (4.220) with a standard deviation of (0.4577). This indicates a very high level of implicit knowledge sharing among the study sample doctors. This high level is attributed to their primary focus and interest in sharing implicit knowledge, particularly in providing and exchanging information with colleagues and allocating time for them. This helps them develop their implicit knowledge and solve problems more quickly, especially in making sound decisions based on the implicit knowledge possessed by the doctor. This is reflected in the high average score for the seventh statement ("I make sound decisions based on my knowledge"), which ranked first with a score of (4.64) and a standard deviation of (0.235). Additionally, doctors also focused on building stronger relationships with patients using their knowledge, as reflected in the high average score for the third statement ("I build stronger relationships with patients using my knowledge"), which ranked second with a score of (4.48) and a standard deviation of (0.540). This is due to doctors' interest in communicating with patients to ensure the accuracy of diagnoses, the soundness of decisions made, and to monitor health status and the effectiveness of treatment.

**Dimension of capturing tacit knowledge:**

The results of the statistical analysis show that the overall mean of the sample members' responses regarding this dimension was (4.074) with a standard deviation of (0.6038). This indicates a high level of application, reflecting doctors' interest in acquiring and receiving implicit knowledge, particularly through discussions with colleagues. This is evident from the very high average score for the third statement ("I find discussions with colleagues enhance my medical knowledge"), which ranked first with a score of (4.60) and a standard deviation of (0.367). This is aimed at utilizing the acquired implicit knowledge in the workplace in general and improving health performance specifically, for accurate and effective diagnosis of various medical conditions, as well as a better understanding of the work environment to adapt to different circumstances. Conversely, a neutral level was observed regarding the sixth statement ("I can use unofficial information shared by colleagues as a form of knowledge if it suits my work"), which ranked last with a mean score of (3.16) and a standard deviation of (1.035). This reflects doctors' reservations about acquiring and using unofficial information in their work.

**Second: The Reality of Personal Marketing Among the Study Sample Doctors**

From the results of the statistical analysis, we observe that the overall mean of the sample members' responses regarding personal marketing is high, at (3.86975) with a standard deviation of (0.529025). This reflects the satisfaction and positive outlook of the study sample doctors towards the dimensions of this variable, as well as their diligence and interest in practicing personal marketing. Their perspective was as follows:

**Dimension of knowledge level:**

We find that the overall mean of the sample members' responses regarding this dimension is the highest, at (4.39) with a standard deviation of (0.24525). This indicates a very high level of application for this dimension, as study sample doctors primarily rely on their knowledge and experience in practicing personal marketing, while emphasizing continuous education and staying updated with the latest developments in their field to positively impact their outstanding performance. This is confirmed by the very high average score for all statements related to this dimension, with the first statement ("I keep up with all the latest knowledge and advancements in my specialty") ranking first with a mean score of (4.58) and a standard deviation of (0.249).

**Personality trait dimension:**

The results of the statistical analysis show that the overall mean of the sample members' responses regarding this dimension is (4.092) with a standard deviation of (0.4628). This indicates a high level, reflecting the positive personal attributes possessed by the doctors, which are crucial for practicing personal marketing effectively. Particularly, attention to external appearance, which is the first impression when dealing with patients, plays a significant role in conveying comfort or discomfort. This is evident from the very high average score for the fourth statement ("I pay attention to my external appearance to be appropriate for work"), which ranked first with a score of (4.74) and a standard deviation of (0.196). Additionally, doctors also emphasized relying on methods and arguments for persuasion, as reflected in the very high average score for the third statement ("I have the necessary methods and arguments to persuade the other party"), which ranked second with a score of (4.38) and a standard deviation of (0.444). This is attributed to doctors' focus on effectively marketing themselves using acceptable methods and arguments that help patients choose the right doctors.

**Dimension of innovative and strategic thinking:**

The results of the statistical analysis show that the overall mean of the sample members' responses regarding this dimension is (3.525) with a standard deviation of (0.72025). This indicates a high level of availability for this dimension. This is attributed to the fact that the study sample doctors exhibit serious and perceptive behaviors, which they use to generate new and innovative ways of thinking that contribute effectively to self-marketing. They also possess a forward-looking vision that helps them choose methods aligned with plans and goals aimed at achieving mutual benefit with their patients. This is reflected in the high average scores for the second and third statements. The second statement ("My responses to others' questions are carefully considered 'I do not react quickly'") ranked first with a mean

score of (3.96) and a standard deviation of (0.325). Conversely, a neutral level was observed regarding the first and fourth statements, which is due to doctors' reservations about taking initiative, avoiding risks, and the evident routine work in their field. This indicates that they did not see the importance of these aspects in personal marketing effectiveness.

**Dimension of communication skill:**

We find that the overall mean of the sample members' responses regarding this dimension is the lowest, at (3.472) with a standard deviation of (0.6878). This indicates a high level of availability for this dimension. This is due to the fact that the study sample doctors possess the necessary skills to convey information, meanings, and ideas to patients in the best possible ways and means, influencing and persuading their thoughts. With strong communication, doctors can understand what the patient wants and vice versa through talking, thinking, listening, persuasion, and non-verbal communication. This is reflected in the very high average score for the second statement ("I can handle more than one person at the same time"), which ranked first with a mean score of (4.46) and a standard deviation of (0.253). Conversely, a neutral level was observed regarding the first, third, and fourth statements, due to doctors' reservations about listening attentively to others and using social media platforms for communication with patients and appearing on them. This indicates that they did not perceive the importance of these aspects in personal marketing effectiveness.

**The Relationship between the Study Variables:**

The study results, based on statistical analysis using Pearson's correlation coefficient, show a statistically significant relationship between the independent variable of implicit knowledge sharing and its dimensions (knowledge capture, knowledge provision) and the dependent variable of personal marketing and its dimensions (personal attributes, level of knowledge, communication skills, and innovative and strategic thinking) among the study sample doctors. The correlation coefficient value was 0.407 at a significance level of 0.03, indicating a positive (direct) linear relationship of below-average strength between the independent variable and the dependent variable. This means that a one-unit increase in the level of implicit knowledge sharing leads to a 40.7% increase in the effectiveness of personal marketing among doctors, which represents the strength of the correlation.

Using the multiple regression model to measure the impact of implicit knowledge sharing on personal marketing effectiveness, the results showed a significant effect of implicit knowledge sharing on personal marketing. The constant term was estimated at 2.171 with a significance level of 0.000, which is less than the 5% significance level, indicating that the constant term is statistically significant at the 0.05 level. Additionally, using the simple regression model to measure the impact of implicit knowledge sharing on personal marketing effectiveness, the coefficient of determination was $R^2 = 0.166$. This means that 16.6% of the variation in personal marketing effectiveness is explained by implicit knowledge sharing and its dimensions, while the remaining variation is attributed to other factors or random variables not included in the regression model. This suggests that implicit knowledge sharing occurs spontaneously and without intent, and is influenced by various and differing factors. It also

indicates that implicit knowledge sharing is one of the key requirements for achieving effectiveness in practicing personal marketing among the study sample doctors.

It was also found that there are statistically significant differences regarding the effectiveness of personal marketing attributed to the functional variables among the study sample doctors, as the p-value was 0.00, which is less than the significance level of 0.05. This means that variations in the combined independent functional variables of the doctors will affect the effectiveness of their personal marketing in a varying manner for each individual when controlling for the effects of other factors. This was anticipated in the fourth hypothesis of the study.

## Conclusions:

In this study, we aimed to examine the impact of implicit knowledge sharing on the effectiveness of personal marketing among a sample of private doctors in the provinces of Ouargla, El Oued, Tipaza, Blida, and Algiers. We addressed the research problem, which concerns the extent to which implicit knowledge sharing affects personal marketing effectiveness. To assess this impact, we conducted a field study that applied theoretical and practical insights from the literature on implicit knowledge sharing to the personal marketing of private doctors under study. We arrived at hypotheses testing, a set of results, suggestions, and future prospects, which are outlined as follows:

**First: Hypothesis Testing**

Based on the results obtained in this study, we can test the hypotheses as follows:

**Hypothesis 1:**

The hypothesis states that there is a high level of implicit knowledge sharing among the study sample doctors. Based on the results obtained, we found that the overall mean of the sample members' responses regarding implicit knowledge sharing was high, at (4.147) with a standard deviation of (0.53075). Therefore, we can conclude that the first hypothesis is confirmed, indicating a high level of implicit knowledge sharing among the study sample doctors.

**Hypothesis 2:**

The hypothesis states that there is a high level of personal marketing use among the study sample doctors. Based on the results obtained, we found that the overall mean of the sample members' responses regarding personal marketing was high, at (3.86975) with a standard deviation of (0.529025). Therefore, we can conclude that the second hypothesis is confirmed, indicating a high level of personal marketing use among the study sample doctors.

**Hypothesis 3**:

The hypothesis states that there is a positive linear relationship between implicit knowledge sharing and personal marketing among the study sample doctors. Based on the results obtained, the correlation coefficient was found to be 0.407 at a significance level of 0.03, indicating a positive (direct) linear relationship. Therefore, we can conclude that the third

hypothesis is confirmed, demonstrating a positive linear relationship between implicit knowledge sharing and personal marketing among the study sample doctors.

**Hypothesis 4:**

The hypothesis states that there are statistically significant differences in the responses of the sample individuals regarding personal marketing effectiveness attributable to their functional variables. Based on the results obtained, the p-value was 0.00, which is less than the significance level of 0.05, indicating that there are statistically significant differences in the responses of the sample individuals regarding personal marketing effectiveness attributed to their functional variables. Therefore, we can conclude that the fourth hypothesis is confirmed, with statistically significant differences in the responses of the sample individuals regarding personal marketing effectiveness attributed to their functional variables (gender, age, specialization, and seniority).

**Second: Results Obtained from the Study**

- Through conducting this study, we reached several findings, which are as follows:

A high level of personal marketing dimensions, including (personal traits, communication skills, innovative and strategic thinking), and an extremely high level of knowledge among the study sample doctors.

- A statistically significant, positive but below-average correlation between the dimensions of implicit knowledge sharing and personal marketing among the study sample doctors. The observed correlation pertains specifically to the sample and cannot be generalized to the entire population.
- Statistically significant differences in the responses of the sample doctors regarding personal marketing effectiveness attributed to their functional variables (gender, age, specialization, and seniority).

**Based on the results, the authors suggest the following:**

Doctors should pay more attention to improving their communication skills with patients to enhance the effectiveness of personal marketing.

There is a need for greater emphasis on creative and strategic thinking throughout doctors' professional careers.

Doctors should make better use of social media platforms for marketing to expand their personal marketing reach, as these platforms are among the most accessible and widely used for showcasing medical services.

Continuous learning and expanding one's knowledge base should be prioritized, along with staying updated on the latest developments in their field through various methods and sources.

Doctors should encourage new colleagues in their field to share their implicit knowledge, as it significantly impacts enhancing the effectiveness of personal marketing.

Provide all necessary tools and resources to improve the level of implicit knowledge transfer among doctors and their colleagues in their specialized field.
Create dedicated spaces for doctors to facilitate easier sharing of their implicit knowledge.
Incorporate personal marketing activities into doctors' routines to promote themselves as a service within their professional practice.

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