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# Designing and Validation of the Internal Marketing Questionnaire for Health Care Centers

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**Abstract**

**Introduction:** Providing quality services in different organizations depends on understanding the needs and problems of human resources and responding to them appropriately. This study aimed to design and validate a questionnaire to assess the internal marketing status of health care centers in Persian.

**Methods:** After collecting the related articles and interviewing the experts, we designed the initial questionnaire consisting of 35 questions in 8 different dimensions. For the validity of the instrument, face validity and content validity were used. For checking the reliability, the internal consistency (Cronbach's Alpha) and test-retest (Intraclass Correlation Coefficient) methods were used. All statistical analyses were performed using SPSS-v24 software.

**Results:** Using a panel of 15 experts to evaluate the content validity of the instrument, we found that the optimal value of content validity ratio (CVR) and content validity index (CVI) were 0.49 and 0.79, respectively. Finally, 30 questions in the form of 7 dimensions were kept. Also, the reliability of the instrument was confirmed with Alpha=0.88 and ICC=0.85.

**Conclusion:** This study provided a suitable and reliable instrument in Persian to investigate the internal marketing status of health care centers that can be used by researchers.

**Keywords:** Internal marketing, Health care centers, Employee satisfaction, Internal customers.

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## Introduction

To ensure their competitiveness in the market of services and products, organizations today are required to gain a sustainable competitive advantage, one of which is manpower (1). Manpower, also known as human capital, is one of the most important and essential assets of any organization (2). The organizations should make an attempt to focus on strengthening and developing the organizational culture, and internal customer's satisfaction, which includes the organization's employees, should be considered as important as that of the external customers. Obviously, one of the techniques that can be used in this regard is internal marketing (3). The external customers of the organization are in direct contact with employees, and the idea of internal marketing has well introduced the vital role and importance of employees as internal customers of the organization in the completion of other marketing programs and strategies (4).

According to the definition, internal marketing is a planned, customer-centric effort whose process begins by providing the necessary training, motivation, and satisfaction to employees and ends with the provision of quality services by them (5, 6). According to another theory, internal marketing means recruiting, developing, and motivating employees through the job as a product that can optimally meet their needs (7). Appropriate implementation of this factor causes the employees

to show their best in services provided for recipients and promote their competency (8). Moreover, internal marketing originating from the need to improve the quality of services is offered to external clients through motivation, satisfaction, and the employees' commitment, knowing that an employee who is satisfied and integrated with the business project increases the income and productivity of the organization (9). Another research maintains that internal marketing is a human resource management tool used by organizations to successfully train, educate, and motivate the employees to provide better customer service (10).

Satisfaction and loyalty of the current customers, attraction of new customers, increase in the market share, and improvement of performance, productivity, and organizational profitability are among the benefits and advantages of high-quality services for service organizations (11, 12). Satisfaction of domestic and foreign customers is also taken as the most important issues that organizations face. Therefore, the survival of any organization depends on understanding the wants and needs of customers (13, 14). In other words, the difference between organizations that are successful in general competition and organizations that are not able to survive is attention to the satisfaction of domestic and foreign customers along with having the right marketing system (15, 16). In the health system, the increase in the number and development of health care service centers in recent years, complexity and change in customer needs, and increase in the variety of services have led to a highly competitive environment in which different centers should be able to differentiate themselves from other service providers (17, 18). From an economic point of view, it should be noted that employees are subjected to various training when entering the organization based on their job needs; also, if they leave the organization for any reason, they will cause financial losses, so it can be said that proper internal marketing ultimately reduces the costs of the organization and improves its productivity. Furthermore, in health care, internal marketing is primarily concerned with how the management of the organization develops educational training, explicitly communicates organizational perspectives, and creates reward systems that improve the staff's ability and satisfaction with their work (19).

According to studies by Cooper and Cronin (2000), employee satisfaction has a significant impact on the product quality and ultimately satisfies the external customers of the organization (20). Gounarise et al. (2010) stated that internal marketing was and could be a cultural approach in the organization, used to increase the performance of employees and improve the quality of services of the organization (21). The results of Younesi Far et al.'s (2011) study in Shahid Sadoughi Hospital in Yazd city showed that the average total score of this hospital in the dimension of internal marketing was not satisfactory; on the other hand, there was a direct, positive relationship between internal marketing and staff satisfaction (22). The result of Karimi Niri et al.'s study entitled "The effect of internal marketing and employee-driven work systems on job satisfaction with regard to the job attractiveness at the educational health centers" indicated that internal marketing and job satisfaction played an essential role in the success of the work environment and achievement of its goals (8).

Employees of health systems like other systems are internal customers of the organization, and the organizations should adopt strategies for the optimal management of human resources from various aspects, such as maintaining human capital and motivating them; in return, this group of customers should help the organization achieve its goals by their optimal performance. In addition, in the health industry, unlike other industries, less attention has been paid to internal marketing and less research has been done on it. The issue of internal marketing is essential and can be examined from the aspects of policy, management, and economics of the health system. The context of each health system is different from others. Therefore, it is necessary to design evaluation tools based on the structure of each system to pave the way for further political and managerial actions at the micro and macro levels. It is also necessary that the health care centers of the country be evaluated in this field, their status be determined, and required policies based on evidence and necessary planning for its improvement be implemented. On the other hand, researchers did not find a comprehensive and reliable Persian tool in this regard. The aim of this study was to design and validate a questionnaire to assess the internal marketing status of health care centers.

## Materials and methods

According to the researchers' evaluation, there was no standard questionnaire in Persian to assess the internal marketing status of health care centers. The available tools were mainly translations of the tools developed by foreign researchers that were designed based on the structure of the health system of other countries. This study was conducted in two general phases: descriptions of tool design steps (first phase)

and tool validation steps (second phase) which were given separately by mentioning the details related to each phase.

### *First Phase*

#### *Initial Questionnaire Design*

Firstly, by reviewing the related literature, interviewing experts, obtaining some samples of the questionnaires used in the health and non-health section studies and modeling them, and finally by holding a few sessions to reach consensus among the main researchers of the present study, the initial questionnaire was designed. Regarding the literature review and checking other available questionnaires (8, 19, 22), the related English and Persian studies that measured internal marketing of the organizations were retrieved through international databases (Medline/PubMed, Scopus, Embase, ScienceDirect, and Google Scholar) and Iranian databases (SID, Magiran, and Irandoc), respectively. Then, the results sections of the studies were reviewed, and the authors extracted the items which were considered effective in the initial design of the tool of the present study. Also, regarding the interviews with experts, researchers who had research projects related to internal marketing in Iran, Tehran, and Shahid Beheshti Universities of Medical Sciences were first identified through a literature review. Then, according to the objectives of the present study, they expressed their views in person and virtually about the different parts and dimensions of the new internal marketing tool following the current structure of the Iranian health system. Overall, these factors will lead to a comprehensive perspective on tool design.

### *Second Phase*

The instrument was then validated during two steps of validity and reliability determination. In the instrument validity step, two methods of face validity and content validity were used; also, in the reliability step, two methods of calculating Cronbach's Alpha (α) and calculating Intraclass Correlation Coefficient (ICC) were used.

#### *Determining Validity*

In connection with the first step, face validity of the instrument was checked in a group of five experts including one health economist, one health management specialist, one health policy specialist, and two Persian language and literature specialists from Tehran and Urmia Universities of Medical Sciences. They were asked to submit their corrective views in writing after carefully studying the instrument. It was also emphasized that in face validity, experts take into consideration the level of difficulty of phrases, ambiguity of phrases, the existence of inadequacies in the meanings of words, the degree of incompatibility of the question with the dimension, Persian grammar, use of appropriate words, importance of questions, placement of questions in their proper place, and the time of completing the designed instrument.

After collecting the experts' opinions, the necessary changes were made in the tool, and its face validity was completed; then, the tool was passed to the following process. Determining the content validity of the tool was done in two forms of qualitative content validity and quantitative content validity by calculating Content Validity Ratio (CVR) and Content Validity Index (CVI) (23). In the present study, the content validity was evaluated quantitatively. For this purpose, CVR was used to ensure that the most important and correct content (necessity of the question) was selected, and CVI was used to ensure that the tool questions were well designed to measure what the study had planned.

To determine the CVR of the questionnaire, the tool was sent to 15 experts from Tehran, Iran, Tabriz, and Urmia Universities of Medical Sciences in the fields of health economics (3 people), health services management (3 people), health policy (3 people), epidemiology (3 people) and biostatistics (3 people) who were selected by the purposive sampling method. They were asked to select one of the options including "necessary", "not necessary but useful" and "not necessary" for each item. The answers were calculated according to the CVR formula and adapted to the Lawshe Table (24). Since the number of participants was 15, scores higher than 0.49 were accepted, and questions whose CVR score was less than 0.49 were removed from the questionnaire.

After determining and calculating the CVR, the CVI assessment was performed according to Waltz and Bussel's criteria (25). For this purpose, the questionnaire was again referred to 15 experts to calculate the CVI; they were asked to answer three criteria for each question: relevance or specificity, simplicity or fluency, and clarity based on a four-point Likert scale format (1: unrelated, 2: somewhat relevant, 3: relevant, and 4: completely relevant). The criterion for accepting the questions based on the CVI score was higher than 0.79. The questionnaire was passed to the reliability determination step after being evaluated in terms of validity and making appropriate corrections by the researchers.

### *Determining Reliability*

To evaluate the reliability of the questionnaire, two methods of internal consistency and test-retest were used; the first one was calculated through Cronbach's Alpha, and the second one was done through Intraclass Correlation Coefficient (ICC), which indicates the repeatability of an index (23). Cronbach's Alpha is calculated in one step, and the Alpha value must be at least 0.7 for each dimension and for the whole instrument (26). By contrast, the ICC is calculated in two steps, thus expressing how consistent the results of measuring a quantity in a sample at two different times are. The index should be greater than 0.8 for the reliability of the instrument to be confirmed (This method is the most acceptable way to determine the reliability of an instrument) (27).

To calculate these values and coefficients in the present study, the validated version of the questionnaire was completed in a pilot study with the participation of 25 staff members (Cronbach's Alpha calculation), who were selected by simple random sampling from different sections (administrative, medical, support) of a public hospital in Tehran. After two weeks, they were asked to complete the questionnaires again (ICC calculation). Statistical analyses were performed using SPSS-v24 software.

All the instructions of research ethics, from the design stage to the publication of results, were observed by the researchers. The authors declare that with the study is based on the principles of the Helsinki Declaration. In all parts of the present article, the terms tool and instrument are synonymous and can be used interchangeably.

## Results

Similar to the methods section, the results section will be presented in two general phases.

### *First Phase*

After going through the initial questionnaire preparation process, the main researchers of the present study designed a 35-question tool with eight dimensions, including evaluation system (4 questions), reward system (5 questions), staff empowerment (3 questions), providing various training to staff (3 questions), information sharing (5 questions), job security (5 questions), reduction of social class distance between employees (5 questions), and managers' relationship with employees (5 questions); then, the first phase of the research was completed.

### *Second Phase*

In the first step of the second phase (determining the validity of the instrument), the two methods of face validity and content validity were used. Also, in the second step of the second phase (determining the reliability of the instrument), the two methods of calculating Cronbach's Alpha (α) and Intraclass Correlation Coefficient (ICC) were used.

### *Face Validity*

In the face validity determination stage, the experts' opinions were applied in the form of making changes such as changing the difficulty level of the phrases, removing the ambiguity of the phrases and inadequacies in the meanings of the words, observing the Persian grammar, and placing the questions in their proper place in the tool. Moreover, two dimensions that had high similarities between them were merged with each other.

### *Content Validity*

CVR and CVI indices were calculated to determine the instrument's content validity, having 15 experts in the field as the participants. The demographic characteristics of the experts who participated in the study are presented in Table 1.

CVR results showed that the score of all the questions, except two, was equal to or greater than 0.49. Thus, the two questions were removed from the questionnaire, and the remaining questions were kept. This indicates that most of the questions used in this tool were important and necessary to answer the main research question. Then, based on the results of the CVI calculation, all the questions, except three,

**Table 1:** Demographic features of the participants in determining the content validity of the instrument

| Expertise | Degree | No. of Participants | Gender | |
|---|---|---|---|---|
| | | | Male | Female |
| Health Economics | Ph.D. | 3 | 2 | 1 |
| Health Services Management | Ph.D. | 3 | 1 | 2 |
| Health Policy | Ph.D. | 3 | 2 | 1 |
| Epidemiology | Ph.D. | 3 | 3 | 0 |
| Biostatistics | Ph.D. | 3 | 2 | 1 |
| Total | 15 | | | |

**Table 2:** Dimensions of internal marketing status determination questionnaire for health care centers

| Row | Dimension | Number & code of each item in the dimension | Cronbach's alpha | ICC (95% CI) |
|---|---|---|---|---|
| 1 | Evaluation system | 3 (1-3) | 0.68 | 0.83 (0.78-0.87) |
| 2 | Reward system | 5 (4-8) | 0.81 | 0.88 (0.82-0.94) |
| 3 | Employee empowerment and providing a variety of training | 5 (9-13) | 0.75 | 0.91 (0.87-0.0.96) |
| 4 | Information sharing | 4 (14-17) | 0.74 | 0.85 (0.80-0.89) |
| 5 | Job security | 5 (18-22) | 0.77 | 0.84 (0.79-0.0.90) |
| 6 | Reducing the social gap between employees | 4 (23-26) | 0.71 | 0.80 (0.75-0.86) |
| 7 | Managers' relationship with employees | 4 (27-30) | 0.80 | 81 (0.77-0.89) |
| Total | 7 | 30 | 0.88 | 0.85 (0.80-0.91) |

obtained a CVI score higher than 0.79 and were, therefore, deemed appropriate; the three unacceptable questions were removed from the questionnaire. Therefore, after making the required changes during this process, the first step of the second phase of the study was completed.

### *Internal Consistency*

Concerning the first method of reliability determination, Cronbach's alpha coefficient was calculated for the whole questionnaire as well as for each dimension. The reliability for the instrument was 0.88 using the internal consistency method and Cronbach's Alpha, and in the range of 0.68 and 0.81 for different dimensions (well above acceptable threshold), indicating the internal consistency of the questions.

### *Test-Retest*

In the second method used to determine the reliability of the instrument (Test-Retest), the ICC value for the entire questionnaire was calculated to be 0.85, ranging from 0.80 to 0.91 in different dimensions. The reliability of the tool was also evaluated and confirmed using the second method. Hence, after doing this process, the second step, as well as the second phase of the study, was completed.

### *Validated Questionnaire*

Finally, after the initial designing of the tool and validation process, a valid and reliable questionnaire with 30 questions in seven different dimensions of the evaluation system (3 questions), reward system (5 questions), staff empowerment, and providing various training (5 questions), information sharing (4 questions), job security (5 questions), reduction of social class distance between employees (4 questions), and managers' relationship with employees (4 questions) were finalized (the information on dimensions, number of questions in each dimension, Cronbach's Alpha, and ICC values for each dimension is presented in Table 2). The scoring scale for the questions was of the Likert-scale type, having five choices (strongly disagree, disagree, no opinion, agree, and strongly agree).

## Discussion

In the current status of the health system and the existence of the COVID-19 pandemic, health workers need more attention in various fields. Moreover, human resource management is considered to be one of the important goals in any organization, and one of the important measures which should be taken to provide quality services to foreign customers (service recipients) is to satisfy domestic customers (employees) (8). In other words, paying enough attention to all organizational employees and taking action to solve their problems is a win-win process for the organization and employees. The purpose of this research, which is the first comprehensive national study in this field, was to design a standard questionnaire in Persian and evaluate its validity and reliability in order to assess the internal marketing status of health care centers. After the initial design of the tool, its validity (face validity, content validity) and reliability (internal consistency, test-retest) were examined to achieve this purpose. As expected, most of the questions received scores higher than 0.49 in terms of CVR and higher than 0.79 in terms of CVI; thus, the validity of the instrument was confirmed. In terms of reliability, the value of Cronbach's Alpha and that of Intraclass Correlation Coefficient (ICC) for the whole instrument were 0.88 and 0.85, respectively; also, the reliability of the instrument was confirmed. Finally, a valid and reliable tool with 30 questions in seven different dimensions was made.

Among previous studies, Santa Cruz et al. (2020) in a study entitled "Analysis of the internal marketing dimensions in social economy organizations: study applied to co-operativism In Ecuador," using structural equations, revealed that internal marketing was a multi-dimensional construct and

could be measured in six dimensions, including identifying value exchange (IVE), internal market segmentation (IMS), internal communication (IC), management concern (MC), training (TR), and work/family balance (WFB). In this study, the validity and reliability of the instrument were determined by factor analysis (exploratory factor analysis and confirmatory factor analysis) and Cronbach's alpha coefficient, respectively (28).

In a cross-sectional survey by Tsai and Wu (2011) entitled "Using internal marketing to improve organizational commitment and service quality," with the participation of nursing staff from three regional teaching hospitals in Taiwan, the researchers used a 2-dimensional scale, containing human resource management dimension (10-Item) and vision and development dimension (4-Item) to assess the internal marketing status of the mentioned medical centers (19). This instrument was initially designed and developed in 1996 by Money and Foreman (29, 30). Another cross-sectional study was conducted with this instrument in 2014 on 200 nurses working in either a medical center or a regional hospital in Taichung City, Taiwan (31).

In another study (2007) entitled "Effects of internal marketing on nurse job satisfaction and organizational commitment: example of medical centers in southern Taiwan," Chang and Chang designed a questionnaire to answer their research primary objective after reviewing related articles and negotiating with experts. They assessed its validity through content validity and reliability through factor analysis and calculating Cronbach's alpha coefficient. The researchers of this paper introduced five main dimensions of management support, human resources management, external communication, internal communication, and education training to evaluate the internal marketing condition of studied organizations (32). In a study by Cerqueira et al. (2018) in a Brazilian healthcare company, data collection instrument was a structured questionnaire, which followed the model used by Gounaris (2006); the primary dimensions and sub-dimensions of internal market concept measuring were internal market intelligence generation on employees (identification of the exchange of value expectations of employees, being aware of market labor conditions, segmenting internal market, targeting internal segments), internal intelligence dissemination (communication between managers and employees, communication between managers) and response intelligence (job description, remuneration system, management concern, training) (33).

"Perceptions of internal marketing and organizational commitment by nurses" was the title of another research with cross-sectional design by Chang and Chang (2008), which was done on the hospital nurses. In the data collection step, first researchers reviewed other instruments in this field and then modified them according to their research purpose and the features of the health industry. Second, the initial questionnaire was administered to three professors with industry experience, two medical specialists and five nurses with long-term clinical experience. Then, the questionnaire was further revised. For the instrument validation phase, factor analysis was used for validity determination, and Cronbach's alpha coefficient was used for reliability determination. Eventually, three primary dimensions of employee-oriented measures, external activity, and communication management were finalized to assess the internal marketing variable (34).

Regarding the studies of the non-health sector, Nart et al. (2019) conducted a study on the hotel industry. After reviewing different models and perspectives, three indicators, including internal communication, training, and internal market research, were used to form their model for assessing the internal marketing practices among hotel customer-contact employees (35). These indicators in the bank industry were empowerment, reward system, communication, training, and development. Narteh first developed this scale in 2012; since then, the instrument has been tested and validated in developing countries (36).

In the present study that focused on the health industry and its specific features, the dimensions considered to measure the internal marketing status of health care centers had 30 questions in seven different sections, including the evaluation system, reward system, staff empowerment and provision of various training, information sharing, job security, reduction of social class distance between employees, and managers' relationship with employees.

There are several possible explanations for the study discrepancies related to the final version of the designed and validated tool. The dimensions considered to measure the internal marketing status of the centers can be different based on the main objectives of each study, perspective of the study researchers, and the method of designing and validating the tools. On the other hand, whether the analysis is done in the health sector or non-health sector can affect these dimensions as well.

The production of reliable evidence is one of the requirements of evidence-based policymaking in the health system (37-40). The present study was the

first comprehensive, national study in the field of instrument designing and its validation in Persian for assessing the internal marketing status of health care centers. The initial layout of the instrument in the present study was according to different approaches and methods like reviewing the related literature, having interviews with experts, and checking other pre-designed tools in the health and non-health sectors. This can be expressed as the first strength compared to other designed instruments for assessing the internal marketing status of health care centers. After the initial designing of the tool, the researchers measured its validity in two ways, including face validity and content validity by calculating the CVR and CVI indices. Its reliability was also measured in two ways, including Cronbach's Alpha (α) calculation and Intraclass Correlation Coefficient (ICC). In many studies, only one method is used in each step of determining validity and reliability, while in the present study, two methods were used in each of these steps; therefore, this case is considered to be another strength of this research.

Like any other research, the present study had some limitations, including the lack of construct validity, which requires extensive sampling for factor analysis to determine the components of the instrument. It is suggested that this should be addressed in future research and the instrument be further developed. Another limitation that should be mentioned is the national context of the study. In other words, the introduced instrument was designed and finalized based on the context and structure of the Iranian health system, which might be different from other health systems, and probably needs some changes to be used.

## Conclusion

The internal marketing status evaluation questionnaire of health care centers with 30 questions in seven different dimensions has good validity and reliability and can be used by researchers. Regarding the validity of the questionnaire, face validity and content validity methods were used, and the present tool was confirmed using the above methods. Moreover, checking the reliability of the instrument in terms of internal consistency showed that all questions had almost the same role in the total score, and if one was removed, Cronbach's Alpha coefficient would not increase significantly; therefore, all items in the questionnaire have acceptable reliability and do not need to be changed. Lastly, the reliability of the instrument was confirmed by the test-retest method as well.

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## Ethical Considerations

This study was approved by the ethics committee of Iran University of Medical Sciences with the ethics code IR.IUMS.REC.1399.553.

**Conflict of Interest:** None declared.

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