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QUALITY OF SERVICES IN REHABILITATION CENTERS FROM THE PATIENTS' PERSPECTIVE, USING THE IMPORTANCE-PERFORMANCE ANALYSIS IN AHVAZ, 2015

Mahmood Baboli[1], Farzad Faraji Khiavi[2], GholamHossein Nassadj[3*], Mohammad Hossein Haghighizadeh[4]

[1]MSc. Student of Rehabilitation Management, School of Rehabilitation, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

[2]Associate Professor, Health care Management Department, School of Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

[3]Assistant Professor, Physiotherapy Department, School of Rehabilitation, Musculoskeletal Rehabilitation Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

[4]Instructor, Department of Statistics & Epidemiology, School of Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

Abstract:

Quality of service is a key factor in the success of health care organizations, including the rehabilitation centers. Nowadays, rehabilitation centers are faced with many challenges in the quality of service and there are many differences between patients' expectations and perceptions of the service quality received at these centers. So, this study aimed to determine the quality of services in rehabilitation centers from the patients' perspective in Ahvaz using the importance - performance analysis (IPA). In this analytical-descriptive study, the study population was all patients who referred to the five selected rehabilitation centers in Ahvaz in 2015. In this study, 110 patients were selected as samples by a random sampling method. Using a standard 22- item SERVQUAL questionnaire, the quality of service provided in the centers in 5 dimensions of two parts "importance" and "performance was investigated. Data were analyzed using the SPSS and Excel software. All dimensions of service quality in the centers studied, were in the first area of the importance- performance matrix, namely at optimal levels. A significant difference was seen between scores of the importance and performance of the dimensions of the quality of service at the centers studied (p=0. 001). The highest (-0.75) and the lowest (-0.49) gap was estimated for the dimensions of "tangibility" and "empathy", respectively. Services offered in any of the dimensions were not beyond the expectations of clients and still there is much possibility for improving the process.

Keywords: *Quality of service; Importance-Performance Analysis (IPA); Rehabilitation centers*

Corresponding author:

GholamHossein Nassadj,
Assistant Professor,
Physiotherapy Department, School of Rehabilitation,
Musculoskeletal Rehabilitation Research Center,
Ahvaz Jundishapur University of Medical Sciences,
Ahvaz, Iran. Tel: 061-333743106.

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INTRODUCTION:

In recent decades, applying quality management measurements has been expanded sharply by manufacturers and service providers [1]. In today's competitive environment, service quality is the main factor in the success of an organization and any decline in customer satisfaction due to poor quality of service is a worrisome [2]. On the other hand, due to population growth and the continued incidence of disability caused by accidents and other unpredicted factors, the need for treatment and rehabilitation services in the community is growing. So, if the quality of service in this sector is low, disability and disability in society will be increased [3]. In today's world, the quality of health care and rehabilitation is faced with plenty of challenges. One of the most important of these challenges is the low quality of services. For example, a study conducted in New York City healthcare organizations showed that out of every 25 people attending these centers, one person is injured due to the care provided and 13.6% of the cases lead to death due to the poor quality of service [4]. Pioneers of the quality have recommended different definitions for it. Deming sees the quality as customer satisfaction and reducing changes in performance of processes. Juran defines quality as the fulfillment of the intended target [5]. And as defined by Parasuraman et al., service quality is the difference between customers' expectations and perceptions of service that is called as the gap between expectations and perceptions [6]. Service quality refers to not only caring aspects in health system but also to any other aspects, including physical, managerial and organizational aspects as well as the relationship between the patient and provider. it is assessed directly through the perspective of clients [7]. Providing high quality services is an important strategy for success and survival in today's competitive environment. So, understanding, creating and maintaining service quality is one of the main concerns of health care providers [8]. Hence, in such a competitive situation, improving service quality is the most appropriate strategy for organizations [9]. Service quality problems are occurred often in organizations that do not focus the understanding and meeting the needs and demands of their customers. A service providing organization should walk in its customers' shows and establish its own policies based on their views [2]. One reason for the lack of attention to the issue of quality in the services sector is its intangible characteristics [10]. In recent years the customer-oriented approach has entered the field of health services, including prevention, treatment, and rehabilitation. So that nowadays, customers' opinion is considered as a basis for evaluating processes and a way of empowerment of the people involved in both providing and receiving services and ensures their presence and participation in the areas of service delivery and decision making. In rehabilitation services, this subject is emphasized, because it is in line with the ideals of participation, empowerment, efforts for equal opportunities and integration [11]. To ensure optimal quality of services, organizations should be aware of the perspective of clients and their satisfaction. This is vital in rehabilitation services because the rehabilitation is a time-consuming and continuous process and rehabilitation-seekers' satisfaction and dissatisfaction with the quality of service is effecting their behavior in the continuation of the rehabilitation program [12]. Two essential elements in ensuring the quality are pathology and assessing the existing level of quality in order to develop an appropriate strategy to improve the desirable level. In the process, identifying improvement priorities for the optimal allocation of resources is crucial in order to focus corrective actions. In this field, IPA model enjoys the appropriate capabilities. When attempting to increase the quality of service and customers' satisfaction, IPA is an effective and useful tool for prioritizing the indicators of service. The growing importance of the IPA in pathology and determine the strengths and weaknesses of the system and its effectiveness in identifying priorities and strategies to improve cause to employ the model in the various research and operational fields, including health, financial contexts, information systems and training [13]. IPA is aimed to examine the clients' satisfaction and its findings provide valuable information for managers in order to provide programs to improve the quality of service in line with the clients' expectations [14]. Obtaining feedback from clients is one of the basic steps to meet and improve the quality. Feedback obtained from customers helps to areas in which there is a need for continuous improvement, to be identified and prioritized [15]. Today, rehabilitation centers are faced with many challenges in quality of services and there are many differences between clients' expectations and perceptions of service quality received in these centers [3, 16]. In addition, the quality of rehabilitation services similar to most services will change over time. Since the improvement of the quality of service requires its measurement, so assessing the quality of services helps to improve services. Despite the importance of quality in the services sector, but studies have shown that less attention has been paid to the quality of services in the field of rehabilitation. Therefore, this study was conducted to assess the quality of services provided by rehabilitation centers from the

perspective of clients in the city of Ahvaz using IPA model.

MATERIALS AND METHODS:

This analytical-descriptive cross-sectional study was conducted in 2015. The study population was all the recipients of the services in Ahvaz selected rehabilitation centers, including two university polyclinics, two private hospitals, and one public hospital. To determine the required sample size, a pilot study was conducted and a sample size of 110 was calculated. By referring to the cited centers and proportionate to the volume of patrons and the rehabilitation services in the studied centers, a random sampling was conducted. Inclusion criteria included Persian language knowledge, having a proper cognitive function, patients experience at least 2 visits and receive rehabilitation services from the rehabilitation center, and the desire to participate in the study. SERVQUAL standard questionnaire was used to collect data. The SERVQUAL standard questionnaire is validated and conventional models for measuring service quality introduced by Parasuraman and Zeithaml. The questionnaire consists of two parts. The first part was related to the socio-demographic profile of the respondents. The second part consisted of 22 statements developed based on the IPA. Five dimensions of service quality, including physical and tangible services (6 statements), the service validity (4 statements), accountability of service providers (5 statements), the service assurance (4 statements), empathy of staff (3 statements) from two important aspects (client expectations of the desired service or position) and performance (clients' perception of the services provided or status quo) were evaluated from the respondent's perspective. This questionnaire has been used in different studies and its validity has been reviewed and verified by the relevant experts and professors. Its reliability and stability have been verified by Lotfi by calculating a Cronbach's alpha of 0.91 [17]. In this study, Cronbach's alpha was calculated to be 0.936. Scoring was done using a 5-point Likert scale. In each dimension, scores of all the statements were added together and the results were divided by the number of statements in each dimension; thus, scores from 1 to 5 was obtained respectively for perception and expectation in each dimension. To determine the quality gap (Quality Gap) in any dimension, expected scores of expectation the perception score (Expectation) have been deducted (QG=E-P). In the interpretation of data relating to the importance of the questionnaire, scores were considered as follows: between 4 to 5 as "very important", 3 to 4 as "important ", 2 to 3 as "slightly important", and 1 to 2 as" very slightly

important". Similarly, in the interpretation of data related to the performance of the questionnaire, the scores were considered as follows: 4 to 5, 3 to 4, 2 to 3, and 1 to 2 as "very good", "good", "weak" and "very weak", respectively. Data were analyzed based on the IPA model. The model was introduced first by Martilla & James [18]. In this model, each component of the quality is measured from both dimensions: "importance" and "performance". The average scores given to the importance and performance of rehabilitation centers were used for each dimension of quality in order to draw two-dimensional matrix of importance -performance on the axes of the coordinate system. In this matrix, the axis of X represents the importance of service quality dimensions and the axis of Y represents the performance of any of these dimensions. Combining the two factors of importance and performance creates four different areas to help in choosing strategies in order to improve service. The location of each of the five dimensions of service quality in the homes of the matrix indicates and performance the extent of the importance and performance of the factor [19](Figure 1). Exposure to each dimension in the first area indicates that the dimension in terms of importance and satisfaction is at the highest level. Service providers already have handled these features well and must maintain current performance. Exposure to dimensions of quality in the second area means that the respondents consider these features as important, but they are not satisfied with their performance. This area is an important one that decision-makers should focus on it. If any of the dimensions be placed in the third area, it means that they have low importance and performance and are of less attention. Exposure to each dimension in the fourth area also reflects the low importance but high performance. The service providers must transfer the resources allocated to these items to other places in which they are weak. In the current study, to analyze the data, descriptive statistics (mean and standard deviation of the score of each dimension) were used. The data were normally distributed. To investigate the relationship between variables, independent T-test, and analysis of variance (ANOVA) was used and paired T-test were used to compare mean values. The SPSS version 22 was used for analyzing data, and Excel software was used to plot the quad matrix of the quality of service. Confidence coefficient in all tests was considered as 95%.

FINDING:

The results showed that the mean age of respondents on average was 41.20 ± 13.61 years, with a range of 17 to 78 years. And most participants were between 31 and 50 years. Fifty percent of patients were male

and 50% were female. In terms of education, 50%, 20%, 26.36, and 3.64 had a high school diploma degree or less than diploma degree, associate degree, bachelor degree, and master degree or higher, respectively. Similarly, 18.18% and 81.82% were single and married, respectively. In relation to employment status, 46.36% and 53.64% of respondents were employed and unemployed, respectively. In relation to the percentage of insurance coverage, respectively was 94.55 and 5.45% of the respondents were respondents with insurance coverage and without insurance coverage, respectively. Furthermore, 90 percent of patients living in urban areas and 10% lived in rural areas. The results showed that the time interval of participants from the rehabilitation centers was between 5 and 120 minutes and patients were at a time interval on average of 33.55 ± 26.03 minutes (median 30 minutes) to the rehabilitation centers. Moreover, spatial intervals of participants to the rehabilitation centers were between 1 to 200 km and respondents were on average at a 27.93 ± 37.22 km (median: 15 km) to the rehabilitation centers. Tests analyzing the demographic and contextual variables did not show a statistically significant relationship between different groups in these variables and the quality of services offered. There was a significant difference between education levels with their expectations.The location of each of the five dimensions of service quality in the IP matrix in rehabilitation centers has been shown in Figure 2. In order to analyze the IPA, importance - performance matrix was formed. According to Table 1, in terms of the importance, the mean score of all dimensions of the quality was between 4 and 5 and all were considered as "very important". In terms of the performance, with respect to the placement of the

mean scores in the range of 3 to 4 of overall quality was considered as the "good". The mean importance and performance of each of the quality dimensions have been shown in Figure 2. Results of importance and performance matrix (Figure 2) showed that all five dimensions of quality of services provided are in the first matrix, i.e., the importance and satisfaction of each dimension of service are high and users are satisfied with these services and have assessed it as desirable. The results of the scores of 5 dimensions of service quality and other data of measurement of service quality (Table 1). Evaluation of the quality gap between consumers' expectations and perceptions of rehabilitation services provided showed that there was a significant difference in all dimensions between the expectations and perceptions of service (P=0.001). In this study, it was observed that there was a negative quality gap in all dimensions of quality. The highest and the lowest the gap was observed in expectations of tangibility (-0.75) and empathy (-0.49), respectively. In addition to both maximum and minimum gaps, other information of service quality measurement has been shown in Table 1. The quality gap in this study was -0.61. According to the data in Table 1, in any dimension, clients' perception of the quality did not show consistent with their expectations and rehabilitation centers in the study have met the expectations of clients in none of the dimensions. Accordingly, expectations of clients in all dimensions were higher than their perception. The highest and the lowest mean score in expectations was related to the dimensions of tangibility (4.62) and empathy (4.44), respectively. In the perceptions, the highest and the lowest score was related to the dimensions of the assurance (4.02) and tangibility (3.87), respectively (Table 1).
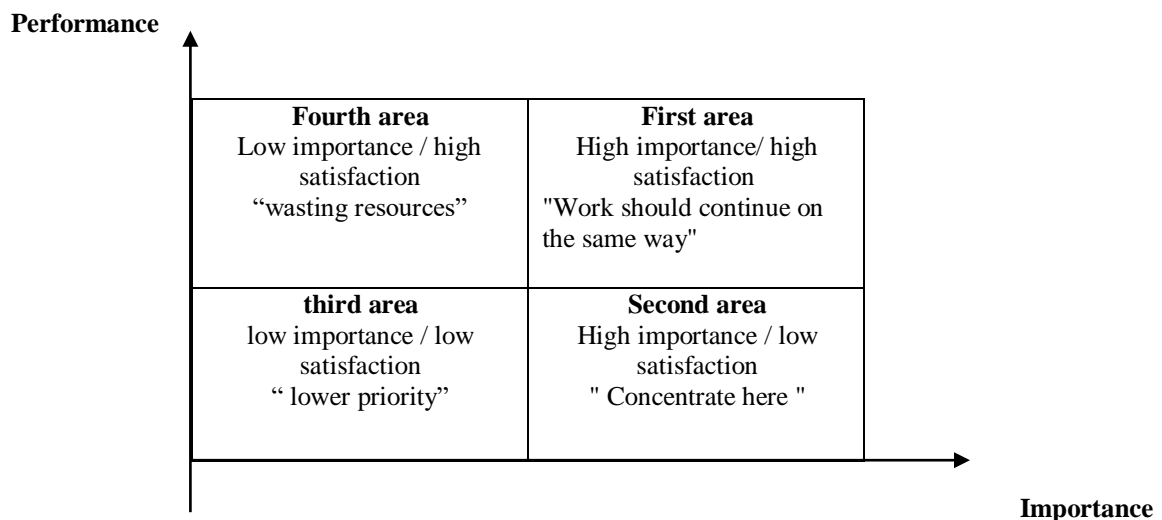

Fourth area Low importance / high satisfaction "wasting resources"	**First area** High importance/ high satisfaction "Work should continue on the same way"
third area low importance / low satisfaction " lower priority"	**Second area** High importance / low satisfaction " Concentrate here "

Performance (vertical axis)   **Importance** (horizontal axis)

Fig 1: Zoning of Importance - Performance Quad Matrix
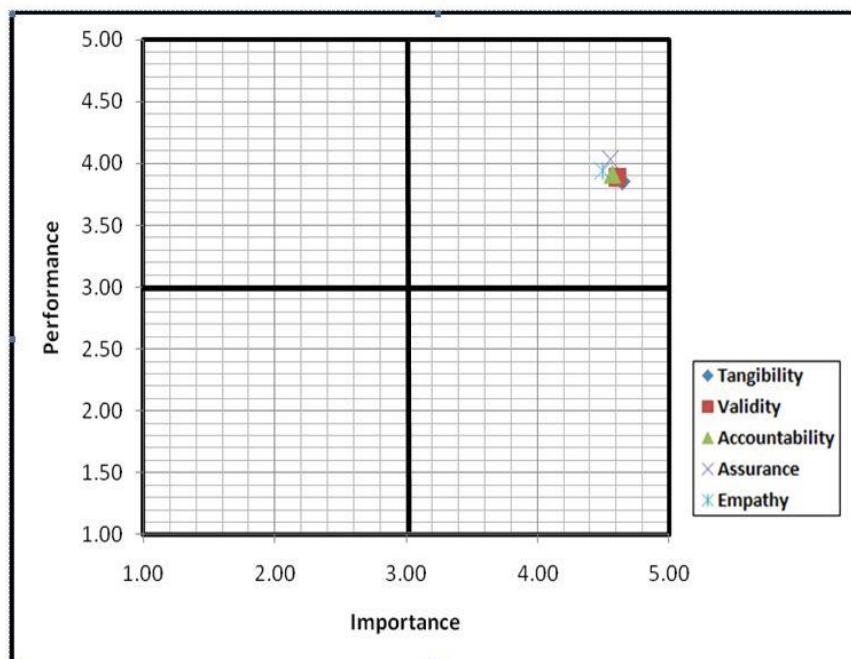
Fig 2: IP matrix in Ahvaz rehabilitation centers

Table 1: Mean scores of importance and performance and quality gaps in five dimensions of services provided in Ahvaz rehabilitation centers

Dimensions of quality Importance	Mean ± SD	Mean ± SD	Gap	P- value
Tangibility	4.62±0.39	3.87±0.60	-0.75	P<0.001
Validity	4.57±0.46	3.90±0.69	-0.67	P<0.001
Accountability	4.56±0.49	3.92±0.66	-0.64	P<0.001
Assurance	4.54±0.50	4.02±0.69	-0.52	P<0.001
Empathy	4.44±0.60	3.95±0.71	-0.49	P<0.001
Total quality	4.54±0.41	3.93±0.60	-0.61	P<0.001

DISCUSSION:

In the present study, using the IPA model, quality of service of five rehabilitation centers in Ahvaz was investigated. According to the results, the level of quality of services in terms of the two dimensions of importance and satisfaction with performance in all dimensions of quality were placed in the first area of IPA matrix, i.e., "desirable". This situation indicates that all dimensions of the quality of service in terms of importance and satisfaction with the performance are at the highest level. This means that service providers already have managed these features well and the strategy proposed to the managers of the centers is that according to the four areas of the IPA matrix "working should be continued in the same way". But this does not mean that the managers of these centers should be indifferent toward programs to improve the quality of services, because with the passage of time and the advancement of technology and increase public awareness, the concept of quality of services is also changing. It should be noted that in all aspects of service quality, the mean scores of expectations were higher than the mean scores of perception and there was a negative quality gap in all dimensions of the quality of rehabilitation services provided by the centers studied. This finding means

that the needs and expectations of clients in rehabilitation centers studied have not been met, and there was a gap between the expectations of clients and their perceptions of the service that this, in turn, is the result of different problems, including lack of financial and human resources and equipment, lack of appropriate planning by authorities, improper use and distribution of resources, little attention from service providers to demands of service recipients, to be unaware authorities of the demands of clients and the high expectations of clients. In this regard, several studies have been conducted in the field of health and hospital system at home and abroad. The results of this study are consistent with the results of Ranjbar Ezatabadi et al. [6], Aghamollaie et al. [10], Bani Asadi et al. [16], Nabilou et al. [20], Zarei et al. [21], Kebriaei et al. and several similar research performed in other cities and universities in the country. All these studies have acknowledged the negative gap between the patients' expectations and perceptions of the quality of services provided in the centers studied. Among the foreign studies, Scardina's study [23], to assess patients' satisfaction with nursing services using SERVQUAL model, Lim and Tang's study [24], to assess the perceptions and expectations of patients in hospitals in Singapore, the Karassavidou et al.'s study (25) using SERVQUAL model in hospitals in Greece, the Baker et al.'s study [26], in university hospitals in Turkey, as in this study, have pointed out the gap between perceptions and expectations of patients in all dimensions of the quality of services. The largest gap in the current study was related to the dimension of tangible factors that shows the rehabilitation centers studied did not pay enough attention to the physical dimensions and the infrastructures of providing health care. The dimension of tangibility denoted the appropriate and modern equipment of rehabilitation centers, personal hygiene, and appearance of personnel, physical condition and clean and proper environment of the centers, appropriate facilities for patients and attendants, the centers' ability to fulfill their promises and provide services in accordance with professional obligations. The results of this study showed that use of proper equipment, change of physical conditions and creating an attractive environment for consumers' comfort and their companions and provide the appropriate hotline services of the Hoteling in the rehabilitation centers is important. Hence, more attention to tangible factors can have important effects in improving the overall quality of services provided and the consumers' evaluation of the quality of services and reducing the gap between the existing situation, and the expected situation in this dimension. In Gholami's study in the city of Nishabur [27], as this study, the largest gap was in the

tangibility dimension. In studies conducted by Kebriaei [22] in Kashan, Ali Mohammadi in Zanjan [28], Lim and Tang in Singapore [24], compared to the results of this study, the smallest gap was in the tangibility dimension. In the present study, the smallest gap was seen in empathy dimension. The empathy was to understand and respect the needs and demands of clients, respect for the cultural beliefs and values of clients, special treatment to each client according to their psychological features, so that service recipients be convinced that their organizations have recognized them. In Gholami's study in Urmia [29] and in Gholami's study in the city of Nishabur [27], the smallest gap, like this study, has been observed in empathy dimension. But in Zarei et al.'s study in hospitals in Tehran [21], Compared to this study, the gap was in empathy dimension. In this study, the overall quality gap is -0.61 that is lower than the quality gap observed in Kebriaei's study [22], and the overall quality gap observed in Aghamolaei's study [10]. The differences in the results of this study and other studies may be due to differences in study population because generally, expectations of different people in different communities and with different conditions are not the same. In other studies, highest and lowest gap resulting in some cases are consistent with and sometimes inconsistent with the results of this study so that in Zarei et al.'s study [21], completely on the contrary our research, the highest and the smallest gap have been achieved in empathy and tangibility, respectively. In Kebriaei's study [22], the greatest gap was in the accountability and the smallest gap was in the tangibility dimension. In Aghamolaei's study [10], the greatest gap was in empathy and the smallest gap was in assurance. In Gholami's study in the city of Nishabur [27], the greatest gap was in the tangible and the smallest gap was in empathy, which is fully consistent with the study's results. In Nabiloo's study [20] in the health centers in selected cities of West Azerbaijan, accountability had the maximum gap and empathy had the smallest gap in terms of perceptions and expectations of the customers. Due to the cross-sectional studies and depending on the time and different geographical environment and lack of uniformity in the different people's expectations and perceptions of quality of service in different societies, these differences may be justified. Similarly, in the present study, the relationship between demographic and contextual variables with different dimensions of service quality was studied. The results of tests that analyze the demographic and contextual variables did not show statistically significant differences between different groups of variables and quality of services provided. There was a significant difference between education

and the level of their expectations. Moreover, a comparison between the results of this study with other studies conducted in Iran and in the world showed that the quality gap in the different aspects of the service from the perspective of various social and ethnic groups is different with each other. Therefore, for compiling the quality improvement program in their organization, managers should look at the differences. According to the largest gap of services in terms of tangibility, validity, accountability, assurance, and empathy, the following operational message will be useful for managers and planners of the rehabilitation centers: the centers should be equipped with efficient and modern equipment; services should be offered at the promised time and in the shortest time to the customers; employees and service providers should be available when referring customers; they should be aware with contemporary knowledge and skills to meet the needs of clients on and understand the customers' values and emotions. In this study, there were limitations. One of the most important limitations of the study was that the quality of the services provided can be different at different times, for example, times of peak demand, Influenced by other variables such as personnel deficiency. Obviously, in order to reduce the impact of these factors, we tried to the subjects be questioned at various times, such as the working different shifts or holidays and working days. In addition, it should be noted that in studies such as this study, patients' inability in the accurate assessment of the technical quality of services may affect the level of expectations or even their perceptions of quality. Another restriction was the complexity of the data collection tool so that the researcher was forced to fill the questionnaire in an interview format, i.e. by questioning patients and recording data.

Conclusion:
Despite the level of optimum importance and performance of service quality in rehabilitation centers studied a significant gap was observed in all aspects of service quality between importance and performance. Based on the results of this study, to enhance performance and improve service quality, managers and planners of rehabilitation centers are recommended to review the structures and work processes in the centers, and identify gaps in quality of service, and prioritize the highest gap for planning and quality improvement. Considering that according to the results of the study, a negative quality gap in different dimensions is very small and close together, it seems that all dimensions have the almost equal importance and attention should be given to all dimensions.

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