

A SATISFACTION AND REPURCHASING INTENTION OF PHYSICIANS TOWARDS MEDICAL EQUIPMENTS IN SOUTHERN DISTRICTS OF TAMIL NADU

Mr. H. Prem Kumar*
Dr. R. Prabusankar**

ABSTRACT

Due to advancements in technology and a growing awareness of one's own health, there is an increasing need for physician-focused medical devices utilised in clinical settings. The purpose of this study is to determine the processes through which particular package attributes influence doctors' likelihood to buy home healthcare equipment. The objective of this research is to pinpoint and evaluate the many factors that led to the need to buy new surgical equipment. A detailed series of hypotheses was developed, and a technique for evaluating questions was presented, based on a thorough examination of the related literature and theoretical model. The respondents are from Southern districts of Tamil Nadu. The data collecting method employed was probability sampling in this research study. The data have been collected from the physicians were analysed in this study. The doctors given the feedback about the topmost re-purchasable surgical medical equipment and devices namely surgical instruments, ostomy care, CPAP, Bi-PAP, Foley Catheter, Nelaton Catheter, Examination Gloves, Urine Bag, Surgical Sutures, Needles and Syringes have been considered for this study. The population for this research study 390 samples were collected from the doctors. Factor Analysis and Kendall Wallis Test have been applied in the analysis part and manipulated from the Software SPSS version 21. It is advantageous to sales division of the business as well as different distributors which are affiliated with medical equipments and devices. This study's goal is to look at the correlations between medical device purchase choice criteria, satisfaction, and intent to repurchase.

Keywords: Medical Devices, Re-Purchasing Intention, Critical, Semi-Critical Medical Devices, Class II Medical Devices.

Introduction

Hospitals, medical equipment, outsourcing, telemedicine, medical tourism, health insurance, and other related industries make up the Indian healthcare industry. In terms of both employment and income, healthcare has surpassed all other industries in our nation today. To meet the demands of the expanding market, the need for medical equipment is also expected to grow substantially. The newest medical technology may significantly increase the productivity, efficiency, and processes as a doctor running his own practise. However, a customer needs to take in mind the following things before making the buying decision.

Medical gadgets that may be reprocessed and used on several patients are referred to as re-purchase devices. Medical instruments that may be repurchase include ostomy care, CPAP, Bi-PAP, Foley Catheter, Nelaton Catheter, Examination Gloves, Urine Bag, Surgical Sutures, Needles and Syringes, surgical forceps. According to the degree of infection risk associated with using the device.

Examining the warranty options before buying medical equipment is a key consideration. The medical devices have to opt for a comprehensive warranty package that includes equipment maintenance coverage. If the machinery or equipment gets break down, the warranty will protect customers from the risk towards high service expenses. The extra costs for this warranty are very reasonable. Nowadays, many doctors are using many brands for their patients for several purposes. Generally, medical equipment is only regulated by ease of use if patients have prescription from their doctors for it. According to the study's findings, hospitals' locations are not a key issue for doctors, who instead place more emphasis on price tactics and the quality of the goods and services. Brand loyalty

* Ph.D. (Part-Time) Research Scholar, D J Academy for Managerial Excellence (An Exclusive B-School), (Affiliated to Bharathiar University), Coimbatore, Tamil Nadu, India.

** Professor, D J Academy for Managerial Excellence (An Exclusive B-School), Coimbatore, Tamil Nadu, India.

grows with brand trust, and the two together produce the desire to repurchase. Those who are better educated and female are more inclined to give items and marketing strategies more thought. Location of services has an impact on high income groups. Private hospital physicians are more devoted, more trustworthy, and intend to return. Also, the engagement of respondents and promotion efforts were the key elements in building brand loyalty and trust for healthcare organisations. As a result, with the aid of effective marketing techniques and employee and doctors satisfaction, hospitals may develop their own brand values and increase their success. Hence, this study made an attempt to conduct the survey about the buying behaviour towards medical appliances for surgical purposive.

To Keep an Eye on the Health Instruments

People now realise how important it is to constantly evaluate their health since doing so can help them prevent significant health complications. Devices that support basic health parameter monitoring can save time and effort by preventing the need for frequent clinic visits. With the advent of telemedicine, patients may now do quick tests at home and communicate the results with their doctors, making the use of medical devices even more crucial. The researcher has identified six medical devices that are essential for keeping track of people's health so that everyone at home is prepared to take the required precautions.

- **Ostomy Care:** A stoma, an artificially made hole, is used to redirect effluent (human excrement, urine, or mucous) to the outside of the body when an ostomy is formed surgically from the urinary system or intestines. Stomas often protrude above the skin, are wet, spherical, and pink to red in colour, without any nerve feelings. When a portion of the bowel or urine system needs to be removed due to illness, ostomy procedures are carried out. Effluent is the term for the stoma's outflow, which might be urine, faeces, or mucus.
- **CPAP / Bi-PAP:** One of the most popular treatments for sleep apnea is the use of a CPAP (continuous positive airway pressure) machine. So that you can get the oxygen you need for optimum performance while you sleep, it maintains your airways open. The use of a CPAP machine can greatly enhance sleep quality and lower your chance of developing certain diseases, such as heart disease and stroke.
- **A Foley Catheter:** In urology is a flexible tube that perhaps a doctor inserts into the bladder through the urethra to drain urine. The most typical kind of indwelling urinary catheter is this one.
- **Nelaton Catheters:** The straight Nelaton tip is used for males, hence these male Nelaton catheters are single-use catheters for intermittent catheterization. catheter with a length of 40 cm. Latex-free PVC used in medical applications The pee may be seen through transparent PVC.
- **Sterile Gloves:** During medical operations and exams, personal protection equipment such as medical gloves is used to shield the user and/or the patient from the spread of microorganisms that might potentially result in infection or disease. One element of an infection-control plan is the use of medical gloves.
- **The Pulse Oximeter:** It works is to check the oxygenation level of your blood. During the epidemic, having it was a must. Monitoring blood oxygen levels is critical for individuals with the COVID-19 infection. This device is widely accessible, and some models have a pulse-reading feature that offers extra health-related data.
- **Urine Bag:** Urine is collected and momentarily stored in urine collection bags. The urine is transferred through this tube into the urine bag because it is connected to a catheter (tube) that is connected to the patient's bladder through the urethra. Those who experience urine incontinence or leakage, difficulties urinating, urinary tract infections, during and after specific urological and gynaecological operations, and other illnesses may utilise such devices. There are two types of urine bags: drainage bags and leg bags. The patient may move about freely throughout the day thanks to a Leg urine bag that is secured to their thigh with elastic or Velcro straps.
- **Blood Transfusion Equipment:** Intravenously transferring blood components into a person's circulation is known as a blood transfusion. [1] For a number of medical disorders, transfusions are performed to replenish lost blood components. The blood's components, such as red blood cells, white blood cells, plasma, clotting factors, and platelets, are now frequently utilised in transfusions instead of the entire blood that was used in earlier times.

- **Metabolic and Bariatric Surgery:** Ethicon creates minimally invasive surgical tools used in gastric bypass and sleeve gastrectomy surgeries that can aid in the treatment of various metabolic conditions as well as assist individuals overcome morbid obesity.

Sometime, the physicians and the management can purchase the updated Software diagnostic tools, these are computer applications that may be used inside or outside of a system to identify the root causes of hardware and software issues. Computer diagnosis and repair can need the use of both software and hardware tools.

Objectives of the Study

- To analyse the re-purchase intention of the medical devices for surgical usage.
- To examine the factors influencing the surgical usage.
- To propose different strategies and managerial implications for the medical devices' companies based on the findings.

Methodology

Two sections of the questionnaire have been designed by the researcher. Part A of the questionnaire contains the potential doctor's, gender, age, department, as their demographic information. The part-B includes various topics related to the dependent and independent variables of the study. With 1 being "strongly disagree," to 5 being "strongly agree", each statement was provided as a five-point Likert scaled answer question.

The data sources are either primary or secondary in nature. Hence, the study adopted the methods of analytical and descriptive in nature. The probabilistic random sampling technique has been used for the survey. Medical devices which are being used by clients namely hospitals, and physicians had been the part of the survey process. 390 samples were made up the entire sample. A significant area from Southern districts of Tamil Nadu has been selected for this study. Hospitals (both public and private), physicians make up the sample unit. Initial sample size was 390 considered for the doctors.

Sample Design

There are 38 districts in Tamil Nadu. The researcher has chosen the southern districts of Tamil Nadu which consists of nine districts. It was seen that there were 755 Physicians from the selected nine southern districts. Out of the population of 755 Physicians from the nine districts, 390 samples have been selected using the proportionate random sampling method. The following formula is used to determine the sample size in each district in proportion to the total Physicians.

$$S = (n / N) * s$$

Where,

S = Sample size,

N = Population of within district,

N = Total population size,

S = Identified sample size,

Table - 1 shows the details of the population and sample size drawn from each district.

Table 1: Details of Population and Sample Size Drawn

Sl. No.	Name of the District	Total Population Size Considered for the Study	Calculation of Sample Size for Each Districts	Sample Size
1.	Thirunelveli	67	= 390*(67/755)	35.34305
2.	Madurai	98	= 390*(98/755)	50.23311
3.	Dindugal	120	= 390*(120/755)	62.50993
4.	Virudhunagar	113	= 390*(113/755)	57.92185
5.	Thoothukodi	96	= 390*(96/755)	50.00795
6.	Ramanathapuram	70	= 390*(70/755)	35.88079
7.	Sivagangai	50	= 390*(50/755)	25.62914
8.	Theni	78	= 390*(78/755)	39.98146
9.	Kanniyakumari	66	= 390*(63/755)	32.29272
	Total	755		390

Source: Secondary data collected from the Public and private hospital (2022-2023). The sample size of 390 was collected using the simple random sampling method.

Socio-Economic Status of the Respondents

The profiles of 390 respondents who have purchased usage medical devices were taken for this study. The details of the respondents have been shown in Table - 2.

Table 2: Demographic Profile of the Respondents

Personal Background	Particulars	Number of Respondents	Percentage
Gender	Male	270	69
	Female	120	31
	Total	390	100
Age	30-40 years old	27	6.7
	41-50 years old	64	13.6
	51-60 years old	219	56.2
	Above 61 years old	82	23.6
	Total	390	100
Medical device Brand	Abott Laboratories	23	5.8
	Novartis AG	9	2.3
	IS IndoSurgicals	17	4.3
	Dr Morepen	112	28.7
	Medtronic PLC	146	37.69
	Omran	52	13.3
	Philips	10	2.12
	General Electric	0	0
	Johnson and Johnson	11	2.75
	Meditive	4	1.02
	3M company	2	0.51
	Danaher Corporation	1	0.25
	Baxter International	3	0.76
Total	390	100	

Source: Primary Data

Table - 2 shows that about the majority of the respondents are male (69%) and 31% are the female. The age of the respondents is the majority level (in 56.2%) above the 51-60 years old then next above 61 years old (23.6%) and least level is (6.7%) within 30-40 years old. The experience doctors have given the advancements that they made in medical devices over the past few decades, particularly through the application of complex, flexible, adaptable, as well as occasionally invisible technologies, one might not be as surprised when looking back at the long process that leads from the ancient "divider" to the modern "device."

Usually the medical devices seems that in way of comparison, both deep learning-based and cut off segmentation had incredible performance for a precise CT scoring, abolishing inter-readers' variability and having a significant impact on time-saving for qualified medical personnel. Manual segmentation showed significant limitations, especially in cases of more extensive disease. The doctors were suggested the foremost brand that the medical devices brand is topmost place is kept by Medtronic PLC (37.69%), Dr Morepen (28.7%).

Influencing Factors of Re-Purchase Intention of Medical Devices among the Doctors – Factor Analysis

The researcher has identified 32 items which are influencing the re-purchase intention of medical devices among the doctors in the Southern districts of Tamil Nadu. In order to identify these 32 influencing factors inspired them to do re-purchase the medical equipment, the factor analysis has been applied. It is a multivariate technique that is helpful to reduce the large number of variables into group of factors. Factor analysis extracts maximum common variance from all variables and puts into a common score.

Influencing Factors of Re-Purchase Intention of Medical Devices among the Doctors – Kaiser-Meyer-Olkin (KMO) and Bartlett's Test

The Kaiser-Meyer-Olkin (KMO) and Bartlett's test is applied to measure the adequacy of the sampling. The influence of re-purchase the medical devices by the customers has been tested on 32 attributes.

Table 3: KMO and Bartlett's Test^a

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.743
Bartlett's Test of Sphericity	Approx. Chi-square	24125.228
	DF	496
	Sig.	.000
Based on correlations Source: Primary Data		

Table - 3 In order to test the significance level of the variables, the correlation matrix have been calculated by using Bartlett test and the output of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy is 0.743 which shows that the degree of variance among the variables is quite high. Hence it is determined that the factor analysis can be applied.

Influencing of Re-Purchase Intention among Physicians - Principal Components Analysis

The principal component analysis has been administered for grouping the factor of purchase intention. It is a method of data reduction. Moreover, the proportion of variance of the particular item becomes a common factor and it called communalities. As per the principal component analysis the value of communality is consider as one. Each variable is placed in compound column. The extraction columns have the communalities value. The attributes have the value less than 0.5 which defined the variables are not fit for the factor solution and if possible, may be dropped from analysis. Communalities are extracted by using this formula,

$$H_i^2 = l_{i1}^2 + l_{i2}^2 + \dots + l_{im}^2$$

(where $i = 1, 2, \dots, p$ and l = matrix of factor loadings)

Table 4: Influencing of Re-Purchase Intention of Medical Devices among the Physicians- Principal Component Analysis

Particulars	Raw	
	Initial	Extraction
It would be recommended it to buy once again	1.000	6.33
To recommend to all the inter department doctors	1.000	7.58
It helps to regulate routine work process	1.000	6.77
The patient observe / changes in the efficacy of the undertaken the medical device	1.000	5.98
To feel security in use it	1.000	5.32
The dimensions of the devices are adjusted when the patients are in medication or in bed	1.000	9.66
It allows the patients observe / report adverse reactions of the dispensed medical device	1.000	9.54
It helps to regulate work easily	1.000	7.21
To facilitates the performance of patients tasks.	1.000	8.55
Patients can adjust or operate the medical device own	1.000	8.74
Easy removable	1.000	8.33
The Warranty and Guarantee attached with the devices	1.000	7.21
Clear instruction and explanation about the devices is given	1.000	9.63
The medical devices are good brand and standardised with ISO.	1.000	7.64
Clear instruction and explanation about the devices will be needed more	1.000	8.36
Affordable price	1.000	9.11
Reliability and durability	1.000	5.17
To have positive changes with pain(patients)	1.000	5.39
It is not associated with large error possibility in its use	1.000	9.47
Ease, comfortable and simple to use	1.000	6.72
It is comfortable to wear the straps, buckles and pads	1.000	5.31
Requires few steps to accomplish to nurse work	1.000	4.98
It Allows to recover the mistakes easily and safely	1.000	6.01
To be More Effective and efficient	1.000	7.63
Are you satisfied with device overall	1.000	6.71
It ensures the patient safety	1.000	6.98

To learn about the device easily and quickly	1.000	6.28
To easily remember how to use it	1.000	6.27
To become a skilful with it	1.000	7.21
The weight of the device is adjusted	1.000	5.33
The appearance of the device is adjusted	1.000	6.87
To using the device increases the patients willingness	1.000	5.69

Source: Primary Data

Table - 4 shows the variance of the 32 variables ranging from 0.5 to 0.9. It indicates that 32 variables exhibit considerable variance. Hence, it is concluded that all these 32 variables can be acceptable of segmenting themselves based on predominant value as well as with respect of influence factors of the purchase intention of the customers.

Influencing Factors of the Re-Purchase Intention among Physicians – Total Variance Explained

This step explains the number of factors to be derived. The role of thumb is applied for choosing the number of factors for "Eigen values" is greater than the unity is taken by using Principal Component Analysis method. When a correlation matrix is used, the variance proportion explained by the jth factor is calculated as follows

$$\frac{\hat{l}_{1j}^2 + \hat{l}_{2j}^2 + \hat{l}_{pj}^2}{\text{tr}(R)} = \frac{\lambda_j}{\text{tr}(R)}$$

When a covariance matrix is used, the proportion of variance explained by the jth factor is calculated as follows:

$$\frac{\hat{l}_{1j}^2 + \hat{l}_{2j}^2 + \hat{l}_{pj}^2}{\text{tr}(S)} = \frac{\lambda_j}{\text{tr}(S)}$$

Notation: l - matrix of factor loading, λ_j- jth Eigen value, tr (R)- trace of correlation matrix, tr (S) - trace of correlation matrix.

The number of extracted factors, whose total should be equal to the number of items submitted to factor analysis, is actually represented by eigen value. The list of factors that may be extracted from the analysis is shown next, along with each factor's eigen values.

The Eigen value table has been divided into three sub-sections:

- Initial Eigen Values
- Extracted Sums of Squared Loadings
- Rotation of Sums of Squared Loadings.

For the analysis and data interpretation drives the researcher has concerned only with Initial Eigen values as well as the Extracted Sums of Squared Loadings. The presence of Eigen values greater than 1 is necessary to determine how many components or factors are expressed by a certain set of variables.

Table 5: Influence Factors of the Re Purchase Intention of the Doctors – Total Variance Explained

Initial Eigen Values ^a			Extraction Sums of Squared Loadings		
Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
49.358	62.226	62.226	49.358	62.226	62.226
12.845	16.194	78.420	12.845	16.194	78.420
6.423	8.098	86.518	6.423	8.098	86.518
1.658	2.090	88.607	4.587	24.141	54.777
1.426	1.798	90.405	4.368	22.990	76.768
1.048	1.322	91.727	2.825	14.869	92.671
.817	1.030	92.757	1.880	15.667	76.093
.653	.823	93.581	1.572	13.098	92.191
.491	.620	94.200			
.457	.576	94.776			
.430	.543	95.319			
.418	.527	95.846			
.366	.462	96.307			

.331	.418	96.725			
.294	.370	97.095			
.291	.367	97.462			
.248	.313	97.775			
.222	.280	98.055			
.199	.251	98.306			
.188	.237	98.543			
.176	.222	98.764			
.159	.201	98.965			
.138	.174	99.139			
.130	.164	99.303			
.107	.135	99.438			
.098	.124	99.562			
.084	.106	99.667			
.074	.093	99.760			
.066	.084	99.844			
.061	.077	99.921			
.035	.044	99.964			
.029	.036	100.000			

Source: Primary Data

The table - 5 indicates that 32 variables are reduced into eight predominant factors with individual variances. Cumulative variable of the 32 variables is 92.191 Percent. It should be more than 50 percent. Hence it shows that the factor analysis is meaningful.

Re-Purchase Intention among Physicians - Rotated Component Matrix

The cumulative percentage of rotation's sum of square for the factors influencing of buying behaviour of the customers is 92.191. Hence the factorization is more suitable for the factors.

Reducing the number of variables on which the variables under inquiry have large loadings is the purpose of rotation. Although rotation doesn't truly alter anything, it makes it simpler to understand the analysis. The availability of a product and its price are heavily influenced by Factor (Component 2, 4, 5), as seen in the table below. Contrarily, Factor 2 is massively skewed in favour of the product's popularity, expertise with the product, and quantity. Variable loading can occur on two components or more at times. As a result, it is necessary to examine the factor loading value. Table - 6 displays the values of the rotated component matrix of the factors influencing the purchase intention.

For one of the components, the value might be taken into consideration for further analysis if it is less than the minimum value of 0.5 or the predetermined limit (which could also be 0.6 depending on the researcher's requirement to include the desired factor loading). However, because this variable represents eight components when there is a loading of greater than 0.5 (or 0.6) in more than one component, it is ineffective for assessing a particular category. Therefore, they must be excluded. Experience with the product and product quality, which measure more than one component as shown in Table - 6, cannot be taken into consideration for further analysis. Therefore, additional processing, such as impact analysis or any other statistical analysis, takes into account all factors the variables of the product quality and familiarity with the product (Table - 6).

Table 6: Purchase Intention of the Customers – Rotated Component Matrix

Rotated Matrix	Components				
It would be recommended it to buy once again	.519				
To recommend to all the inter department doctors	.621				
It helps to regulate routine work process	.512				
The patient observe / changes in the efficacy of the undertaken the medical device	.743				
To feel security in use it	.696				
The dimensions of the devices are adjusted when the patients are in medication or in bed	.493				
It allows the patients observe/report adverse reactions of the dispensed medical device		.727			
To using the device increases the patients willingness		.867			
To facilitates the performance of patients tasks		.381			

Patients can adjust or operate the medical device own		.598						
Easy removable		.576						
The Warranty and Guarantee attached with the devices			.871					
Clear instruction and explanation about the devices is given			.957					
The medical devices are good brand and standardised with ISO			.724					
Clear instruction and explanation about the devices will be needed more			.621					
Affordable price				.768				
Reliability and durability				.568				
To have positive changes with pain (patients)				.547				
It is not associated with large error possibility in its use				.538				
Ease, comfortable and simple to use					.482			
It is comfortable to wear the straps, buckles and pads					.574			
Requires few steps to accomplish to nurse work					.511			
It Allows to recover the mistakes easily and safely					.866			
To be More Effective and efficient						.921		
Are you satisfied with device overall						.725		
It ensures the patient safety						.581		
To learn about the device easily and quickly							.497	
To easily remember how to use it							.577	
To become a skilful with it							.874	
The weight of the device is adjusted								.981
The appearance of the device is adjusted								.652
It helps to regulate work easily								.781

Source: Primary Data

The table - 6 explained that each variables were segregated by eight groups and the predominant constructs are purchase intention such as Purchase Intention (6), Purchase Experience (5), Technology advancement (4), Perceived Brand and Quality (4), perceived behaviour control (4), satisfaction (3), Effectiveness of the Product (3), Support (3).

Figure 1: Construct Model of the Re-Purchasing Intention of Medical Devices among the Physicians



Source: Primary Data

Here the variables are effectiveness of the products, perceived brand quality, ease of use, convenient, instruction, support will influent the purchase intention of the customers and finally it will increase the consuming the product again and again. The convergent validity has satisfied with the variables.

- Purchase Intention:** It would be recommended it to buy once again (.519), To recommend to all the inter department doctors (.641), It helps to regulate routine work process (.542), The patient observe / changes in the efficacy of the undertaken the medical device (.743), To feel security in use it (.636), The dimensions of the devices are adjusted when the patients are in medication or in bed (.563). Above the statements are said to be "Purchase Intention".
- Re-Purchase Intention:** It allows the patients observe/report adverse reactions of the dispensed medical device (.747), To using the device increases the patients willingness (.967), To facilitates the performance of patients tasks (.781), Patients can adjust or operate the medical device own (.598), Easy removable (.576). The segregation of this item is said to be as "Re-Purchase Intention".
- Technology Advancement:** The Warranty and Guarantee attached with the devices (.871), Clear instruction and explanation about the devices is given (.957), The medical devices are good brand and standardised with ISO (.724), Clear instruction and explanation about the devices will be needed more (.621). The variables are get constructed and to be named as "Instruction".

- **Perceived Brand Price and Quality:** Affordable price (.768), Reliability and durability (.568), to have positive changes with pain (patients) (.547), It is not associated with large error possibility in its use (.538).
- **Perceived Behaviour Control:** Ease, comfortable and simple to use (.482), It is comfortable to wear the straps, buckles and pads. (.574), Requires few steps to accomplish my work (.511), It Allows to recover the mistakes easily and safely (.866).
- **Satisfaction:** To be More Effective and efficient (.921), Are you satisfied with device overall (.725), It ensures the patient safety (.581).
- **Effectiveness of the Product:** To learn about the device easily and quickly (.497), To easily remember how to use it (.577), To become a skilful with it (.874).
- **Support:** The weight of the device is adjusted (.981), the appearance of the device is adjusted (.652), It like to use it frequently and perform my work (.781).

Table 7: Model Fit Indices

Chi-square Value	P-Value	GFI	CFI	RMR	RMSEA
4.109	0.050	0.94	0.83	0.06	0.03

Source: Primary Data

The Chi-square value is 5.746 and it is significant elucidating that the model has excellent fit. GFI (Goodness of Fit Index) is 0.94 and CFI (Comparative Fit Index) is 0.83 that reveal excellent fit. RMR (Standardized Root Mean Residual) is 0.06 and RMSEA (Root Mean Square Error of Approximation) is 0.03 that show excellent fit.

The Doctors Opinion about Re-Purchase Intention - Kendalls Wallis Test

In order to examine the opinion of doctors about purchasing intention of the medical devices, the researcher has categorized 13 variables to often use this product, product quality, medical devices design, effectiveness, ease of use, purchase intention, purchase experience, price, result outcome, instruction, after purchase, support and fit to their health conditions, customer satisfaction. In order to analyse the doctor's opinion about to often use this product, product quality, medical devices design, effectiveness, ease of use, purchase intention, purchase experience, price, result outcome, instruction, after purchase, support and fit to their health conditions, doctors satisfaction. The respondents have given their responses by means of rank. In order to assess the respondents' priority for these variables the researcher has administered the Kendalls Wallis Test.

Table 8: The Doctors Opinion about Purchase Intention - Kendalls Wallis Test

Particulars	N	Mean	Standard Deviation	Mean Rank	Asy Sig.
To often use this product	390	3.6000	1.598	6.92	0.00
Product Quality	390	3.6744	1.521	7.09	
Medical Devices Design	390	3.5923	1.527	6.91	
Effectiveness	390	3.5769	1.575	7.34	
Easy to use	390	3.5103	1.541	6.73	
Purchase intention	390	3.5590	1.594	7.74	
Purchase Experience	390	3.7205	1.537	7.49	
Price	390	3.6256	1.56	6.98	
Result Outcome	390	3.6205	1.57	7.26	
Instruction	390	3.5872	1.574	5.89	
After Purchase	390	3.8923	1.478	7.52	
Support and fit to their health condition	390	3.6590	1.5239	6.09	
Overall Customer Satisfaction	390	3.6641	1.542	7.02	

Source: Primary Data

Table - 8 indicates that P value of 0.00 which is less than the ideal p value of 0.05 and the null hypotheses is rejected at five percent significance level. Hence it is concluded that there is a significant difference between the mean ranks towards the doctors' opinion. Based on the mean rank, it is found that respondents have the importance of "after purchase the medical device", followed purchase experience is good with the medical device".

Table 9: Re-Purchase Intention among the Physicians – Test Statistics

Test Statistics	
N	390
Kendall's W ^a	.219
Chi-Square	628.217
Df	12
Asymp. Sig.	.000
a. Kendall's Coefficient of Concordance	

Source: Primary Data

Table - 9 indicates the result of Kendall's test. The value of Kendall's W is 0.219 which means there is moderate intention of repurchase the brand. Since the P-value is less than the Kendall's W value, the null hypothesis is rejected. However, it is concluded that the opinion of the re-purchase intention among the doctors in the same brand.

Findings and Suggestions

Equipment used in surgical settings to aid with challenging operations is referred to as a surgical medical device. A number of medical diseases can be diagnosed, prevented, treated, and cured with the use of these gadgets. Medical instruments for surgery come in a variety of forms, such as hand-operated tools and surgical robots. It is crucial to rely on key medical gadgets to monitor the fundamental health indicators that can warn the customers on any irregularity in the physical state in addition to frequently assessing themselves with medical professionals. For instance, if they have the correct tools, the consumers may quickly prevent and identify significant non-communicable chronic illnesses including arterial hypertension, cardiac arrhythmias, and diabetes mellitus. Additionally, they must have the bare minimum of medical supplies to provide first aid or determine whether a trip to the hospital is necessary for consultation. About the doctors opinion listed out from the above tables, it is simple to use the equipment which is completely automated, collects their data and maintains track of their health condition whenever they like. This can monitor rapidly and conveniently measures. Medical equipment used by healthcare workers for their own safety and well-being as well as to enhance patient care. Since they enable medical professionals to perform intricate, life-improving treatments that would not be feasible without them, surgical medical devices are crucial to the healthcare industry. Hence, surgical medical gadgets increase surgeons' productivity and patient outcomes. The goal of our department is to provide resources and chances for skill development since surgeons are naturally creative problem solvers. The study's straightforward objectives are to develop surgical practise and enhance patient care. Being the pioneers in surgical innovation in the country, we work on a variety of fronts, including the development of innovative equipment, diagnostics, and treatments as well as new digital and information technologies and their clinical application. There are many brands being recommended by the doctors through word of mouth namely Dr Morepe, Omron, Philips and ease to use.

Conclusion

According to the survey, the respondents choose branded products with a strong social reputation when purchasing medical equipment. Price is not a significant factor for the responders in this study, though it may have been. The responses are from the same people who were utilising pricey equipment for different purpose. Additionally, our responders included hospitals and private doctors who could readily afford surgical devices. Compared to others who receive treatment at a hospital, patients might feel more at ease and convenient. Due to advancements in technology, care receivers can continue to be autonomous and mobile. For instance, remote viewing and communication with patients getting home care is made possible via telemedicine and wireless monitoring systems. The advancement of robotics and technology has made it feasible to provide care more autonomously and with fewer human interactions. Because of the use of medical equipment in the bed and the specific challenges posed by the environment's fundamental differences from the clinical context, many of which have the potential to impair patient safety, it is sometimes necessary to consider the safety of the patient. A gadget used has to be appropriate for the caregiver's and care patient's educational background, emotional stability, physical and psychological capabilities, way of life, and surroundings. Medical professionals routinely recommend equipment for home usage. The optimum brand or model of a machine for a certain patient in his or her ward setting may not be taken into account by a doctor, or the doctor may lack the necessary expertise to make this kind of judgement.

At finally the author has concluded in his study that medical equipment is increasingly being used in surgery. The use of medical equipment in the operation theatre and after the usage has given patients a number of advantages, including enhanced quality of life and financial savings. However,

home usage also comes with certain hazards and difficulties. The Food and Drug Administration (FDA) is actively ensuring the safety and secure use of medical devices at medical device iii in surgical instruments

References

1. Al-Nahdi, T. S., Habib, S. A., & Albdour, A. A. (2015). Factors influencing the intention to purchase real estate in Saudi Arabia: moderating effect of demographic citizenship. *International Journal of Business and Management*, Vol. 10, No. 4, pp. 35-37.
2. Chang, Y., Dong, X., & Sun, W. (2014). Influence of characteristics of the Internet of Things on consumer purchase intention. *Social Behaviour and Personality: an international journal*, Vol. 42, No.2, pp. 321-330.
3. Çelik, K. (2021). The effect of e-service quality and after-sales e-service quality on e-satisfaction. *Business & Management Studies: An International Journal*, 9(3),1137–1155.<https://doi.org/10.15295/bmij.v9i3.1898>
Curtis, T., Abratt, R., Dion, P., Rhoades, D., Beach, D., Abratt, R., Huizenga, H. W., & Rhoades, D. (2011). Customer Satisfaction, Loyalty and Repurchase: Some Evidence from Apparel Consumers. *Review of Business*, 32(1), 47–58. <http://search.proquest.com/docview/924069469?accountid=44787>
4. Dapas, C. C., Sitorus, T., Purwanto, E., & Ihalauw, J. J. O. I. (2019). The Effect of Service Quality and Website Quality of Zalora.com on Purchase Decision as Mediated by Purchase Intention. *Quality - Access to Success*, 20(169), 87–92.
4. Dodds, W. B., Monroe, K. B. & Grewa I, D (1991), "Effects of Price, Brand, and Store Information on Buyers Product Evaluation, *Journal of Marketing Research*, Vol. 28, No.3, pp. 307-319.
5. Fandos, C., Flavian, C., (2006). Intrinsic and extrinsic quality attributes loyalty and buying intention: an analysis for a PDO product, *British Food Journal*, Vol. 108, No. 8, pp.646-662.
6. Ghane, S., Fathian, M., & Gholamian, M. R. (2011). Full Relationship among e- quality, and e-loyalty : The case of Iran e-banking. *Journal of Theoretical and Applied Information Technology*, 33(1), 1–6.
7. Hajipour, B., Bavarsad, B., and Zarei, S.E. (2013)., Effect of Marketing Factors on Brand Relationship Equity and Affects the Customers" Purchase Intention *Journal of Management Research* Vol.5, No.1, pp. 11-19.
7. Han, M. C. (2014). How Social Network Characteristics Affect Users" Trust and Purchase Intention. *International Journal of Business and Management*, Vol. 9, No. 8, pp. 122-124.
8. <http://www.khalmart.com/Blog/best-5-gluco-meter-devices-in-india>
9. Huang, R., & Sarigöllü, E. (2012). How brand awareness relates to market outcome, brandequity, and the marketing mix, *Journal of Business Research* Vol. 65, p. 92
10. Hu, L., Bentler, P.M. (1999), "Cut off Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria versus New Alternatives SEM", Vol. 6, No.1, pp. 1-55.
11. <https://www.herofincorp.com/blog/keep-these-7-points-in-mind-before-purchasing-medical-equipment>
12. <https://www.india.com/health/6-must-have-medical-devices-you-should-keep-handy-for-health-emergencies-5285651/>
13. Hanafi, M. (2017). Evaluation of e-Service Quality, Perceived Value on Customer Satisfaction and Customer Loyalty : A Study in Indonesia. *International Business Management*, 11(11), 1892–1900. <https://doi.org/10.3923/ibm.2017.1892.1900>
14. Hawkins, D. I., & Mothersbaugh, D. L. (2010). Building Marketing Strategy Consumer Behavior. Hellier, P. K., Geursen, G. M., Carr, R. A., & Rickard, J. A. (2003). Customer Repurchase Intention: A General Structural Equation Model. *European Journal of Marketing*, 37(11/12), 1762–1800. <https://doi.org/10.1108/03090560310495456>
15. Izogo, E. E. (2016). Structural equation test of relationship quality: Repurchase intention – willingness to recommend framework in retail banking. *International Journal of Emerging Markets*, 11(3), 374–394. <https://doi.org/10.1108/IJOEM-07-2015-0130>
16. Johns, M. M. E., Barnes, M., & Florencio, P. S. (2003). Restoring Balance to Industry-Academia Relationships in an Era of Institutional Financial Conflicts of Interest: Promoting Research while Maintaining Trust. *Jama*, 289(6), 741–746. <https://doi.org/10.1001/jama.289.6.741>.

