

A COMPARATIVE STUDY OF ORGANIZED & UNORGANIZED PHARMACY RETAIL STORES WITH SPECIAL REFERENCE TO MUMBAI & PUNE REGION: PILOT STUDY

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ABSTRACT

Without doubt, the COVID-19 pandemic endures to put massive pressure on the country's healthcare system. Pharmacists are presently among the health care professionals on the front lines serving to provide care during a very tough time, and when so doing as frontline providers, pharmacists are actually one of the more reliable and extremely trained health care professionals and they're certainly playing a critical role towards patient care. During this crisis in public health services, these pharmacists are frontline providers serving their societies by offering important services, and in various cases, pharmacists have to modify their regular mode of running business. A research study was carried comparing dimensions of organizational structure, management functions, customer perception and customer satisfaction of retail pharmacy stores from the organized and unorganized sectors. Before carrying the full-fledged study a pilot study was carried by sampling 40 retail pharmacy stores from the organized and unorganized sectors. This paper presents details of the pilot study.

Keywords: Organizational Structure, Management Functions, Customer Perception and Customer Satisfaction, Organized Retail in Pharmaceuticals, Unorganized Retail in Pharmaceuticals.

1. Introduction

A pilot study seeks to determine if the research can be done, should the researchers proceed with the same, and if so, in what manner. A pilot study also has unique design features. It is carried on a much smaller scale than the full-scale main or study (In, 2017). As a precursor to the main study, this pilot study was undertaken with the following goals:

- a. To understand critical aspects in data collection
- b. To put to the test the use of the survey questionnaire
- c. To check if the hypotheses get duly tested as per the research methodology
- d. To test the validity and reliability of the survey questionnaire

2. Methodology

2.1 Population and sample for the main study

Pharmacy retail stores: The total number of retail pharmacies in India are estimated to be 850,000. (moneycontrol.com, 2019).

Top players in the organized pharmacy have the following population:

- a. Apollo Pharmacy – 3000 (Apollo Pharmacy, 2021)
- b. Medplus- 2000 (MedPlus Health Services, 2021)
- c. Patanjali – 5000 (Patanjali Ayurved, 2021)

We add roughly another 2000 stores for the other retail chain companies. Thus, the PAN India population of the organized retail pharmacy stores is estimated to be around 12,000. Mumbai and Pune are amongst the top cities in the country and can easily account for at least 20% of the PAN India number, that is, 2400 organized retail pharmacy stores. (Only Mumbai has more than 700 stores of Apollo Pharmacy alone (Justdial.com, 2021)). Thus, for Mumbai and Pune region, the estimated organized retail pharmacy stores are estimated to be around 2,400.

Customers: The entire population of the Mumbai and Pune region can be considered a large population (>10,000.)

Sample Sizes

Organized Pharmacy Retail Stores: The sample size using 95% Confidence Level with 5% Confidence Interval is 331. It was rounded off to 400 to be on the safer side.

Figure 1: Sample Size Calculator (Source: Survey Systems, 2019)

Unorganized Pharmacy Retail Stores: For a large population and pegged at 10,000, the sample size using 95% Confidence Level with 5% Confidence Interval is 370. It was rounded off to 400 to be on the safer side.

Customers: The sample size using 95% Confidence Level with 5% Confidence Interval is 370. It was rounded off to 400.

2.2 The sample size for a pilot study

10% of the total population was subject to a minimum of 30 (Statistics Solution, 2019), 40 organized and unorganized retail stores each, and 40 customers were selected for the pilot study. The convenience sampling method was used.

2.3 Questionnaire for a survey

Three questionnaires were designed for the study. Two questionnaires pertained to organized and unorganized retail stores. Both had two sections – OS and MF. Responses were taken on a 5-point Likert scale. Moreover, a questionnaire was designed for the

customers. It had two sections – Customer perception (Organized and Unorganized) and Customer satisfaction (Organized and Unorganized). Responses were taken on a 5-point Likert scale. The questionnaires were tested for validity and reliability as under:

2.4 Test of validity

The hypotheses, hypotheses testing method, questionnaire, etc., were validated by the Guide and other experts in the field to ensure that the measurement was adequate and accurate in terms of the desired direction. Responses sought were duly controlled to ensure that only valid input data is collected.

2.5 Test of reliability

Cronbach's Alpha tests were applied on the questionnaire using "Siegle Reliability Calculator," an excel program, and the results are summarized as under:

Table 1: Reliability scores of the questionnaire

Section No.	Section Title	Cronbach's Alpha
1	Org. Retail Stores	0.89
2	Un-organized Retail stores	0.84
3	Customers	0.81

As all Cronbach's alpha scores were more than 0.70, the questionnaire was considered as reliable.

2.6 Hypotheses formulation:

The hypotheses formulation is presented below:

Table 2: Hypotheses formulation

Sr. No.	Area of study	Null hypothesis	Alternate hypothesis
1	Organization Structure and Management Functions	There is no difference between OS and MF of organized and unorganized retail pharmacy stores.	There is a difference between OS and MF of organized and unorganized retail pharmacy stores.
2	Customer perception	There is no significant difference in the perception of customers.	There is significant difference in the perception of customers.
3	Customer satisfaction	There is no significant difference in the level of satisfaction among customers.	There is significant difference in the level of satisfaction among customers.

2.7 Conceptual model

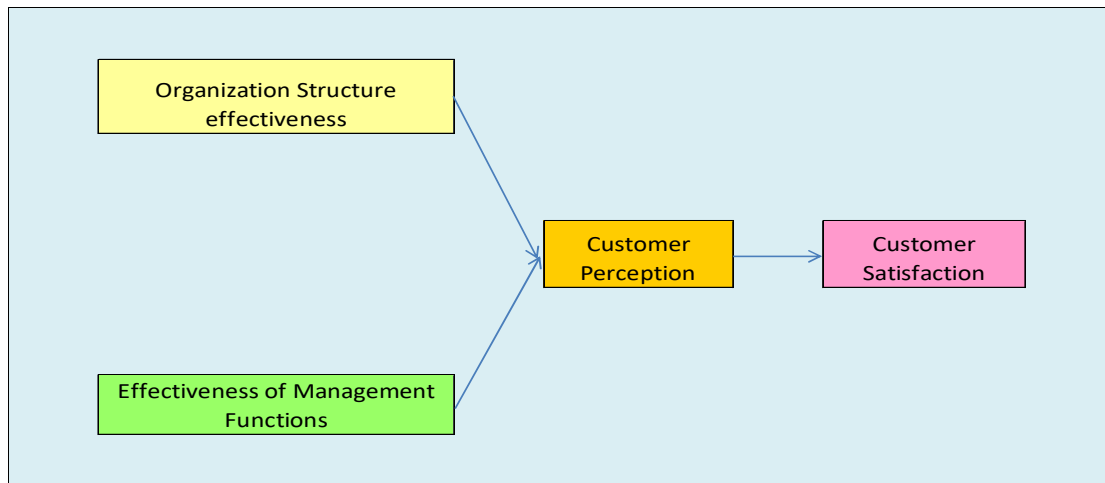


Figure 2: Conceptual model for the research

2.8 Scheme formed for testing of hypotheses

- Three questionnaires were designed to test the hypotheses – two for organized and unorganized retail stores and one for customers.
- The assessment was carried on a 5-point Likert scale.
- The responses for each of the sections were averaged for the ten statements in that section.
- While calculating the sample means, for bipolar scales, weights of 2 were used to value extreme responses and distinguish them from moderate (somewhat) responses. For instance response option completely agree was assigned a weight of 2 and somewhat agree was assigned a weight of 1.
- For testing hypotheses 1, the following scheme was used:
 - The average agreement/effectiveness ratings for the two variables organization structure and management functions for both the types of pharmacy stores – organized and unorganized, were calculated.
 - Two-sample means tests were used to test the 1st hypothesis at a 95% confidence level.

For testing hypothesis 2 & 3, the following scheme was used:

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- The average customer perception and satisfaction ratings for the two types of pharmacy stores were calculated: organized and unorganized.
- Two-sample means test were used to test the 2nd and 3rd hypotheses at a 95% confidence level.

3. Data analysis and interpretation

3.1 Descriptive analysis

Organized Retail Stores

A total of 40 organized retail stores were surveyed. Eighteen belonged to the Apollo chain, and 18 were part of the NetMeds group, while four belonged to others. In terms of gender, 34 were male, and six were female. Of the total 40, 10 were less than 30 years of age, 14 were 30-40 years, and 16 were >40 years of age. In terms of the stores' standing, 36 stores were less than five years, and 4 were in the 5-10 years bracket. Out of the total 40, 20 were diploma holders, 17 had a graduate degree while 3 had masters qualification. In terms of number of employees working in the store, 3 had <3 employees, 26 had between 3-5 employees, and 11 had >5 employees. Moreover, three stores had sales <50 lacs in terms of sales, 21 had sales between 50-100 lacs, and 16 had sales >100 lacs.

The above data has been tabulated as under.

Table 3: Descriptive statistics: Organized Retail Stores

	Organized	Unorganized	Total	
Type	40	0	40	
	1	2	Others	Total
Store name	18	18	4	40
	Male	Female	Total	
Gender	34	6	40	
	<30 years	30-40 years	>40 years	Total
Age	10	14	16	40
	<5 years	5-10 years	>10 years	Total
Standing of Retail Store	36	4	0	40
	Diploma	Degree	Masters	Total
Education	20	17	3	40
	<3	3-5	>5	Total
No of employees	3	26	11	40
	<50 Lacs	50-100 Lacs	>100 Lacs	Total
Sales	3	21	16	40

Un-organized Retail Stores

A total of 40 unorganized retail stores were surveyed. In terms of gender, 36 were male, and four were female. Of the total 40, 4 were less than 30 years of age, 21 were 30-40 years, and 15 were >40 years of age. In terms of the stores' standing, four stores were less than five years, and ten were in the 5-10 years bracket, and 26 were >10 years. Out of the total 40, 11

were diploma holders, 24 had a graduate degree while 5 had masters qualification. In terms of the number of employees working in the store, 28 had <3 employees, ten had between 3-5 employees, and 2 had >5 employees. Moreover, in sales, 23 stores had sales <50 lacs, 10 had sales between 50-100 lacs, and 7 had sales >100 lacs.

The above data has been tabulated as under:

Table 4: Descriptive statistics: Unorganized Retail Stores

	Organized	Unorganized	Total	
Type	0	40	40	
	1	2	Others	Total
Store name	NA	NA	NA	NA
	Male	Female	Total	
Gender	36	4	40	
	<30 years	30-40 years	>40 years	Total
Age	4	21	15	40
	<5 years	5-10 years	>10 years	Total
Standing of Retail Store	4	10	26	40
	Diploma	Degree	Masters	Total
Education	11	24	5	40
	<3	3-5	>5	Total
No of employees	28	10	2	40
	<50 Lacs	50-100 Lacs	>100 Lacs	Total
Sales	23	10	7	40

Customers

A total of 40 customers were surveyed. In terms of gender, 22 were male, and 18 were female. Of the total 40, 12 were less than 30 years of age, 15 were 30-40 years, and 13 were >40 years of age. In terms of the visit to the

store since eight were in the <3 years bracket, 12 were in 3-5 years bracket, and 20 were in the >5 years group. Twenty were from Mumbai, and 20 were from Pune. 7 were using technology for purchase, while 33 were not using the online channel.

Table 5: Descriptive statistics: Customers

	Male	Female	Total	
Gender	22	18	40	
	<30 years	30-40 years	>40 years	Total
Age	12	15	13	40
	<3 years	3-5 years	>5 years	Total
Visiting the Store since	8	12	20	40
	Mumbai	Pune	Total	
Region	20	20	40	
	Yes	No	Total	
Use of Tech	7	33	40	

3.2 Inferential analysis (Testing of hypotheses at 95% confidence level)

Hypothesis 1

Ho1: There is no difference between OS and MF of organized and unorganized retail pharmacy stores

Ha1: There is a difference between OS and MF of organized and unorganized retail pharmacy stores

Methodology (OS): Responses for OS were obtained on a 5-point Likert scale (0 - Cannot say, 1 – Somewhat agree, 2 – strongly agree, 3 – somewhat disagree, and 4 – strongly disagree) from 40 organized 40 unorganized retail stores. The ten statements were:

- a. The structure is simple (Relationships are few and straight-forward)
- b. It is flexible (Rigidity in roles is not there)
- c. It provides for continuity (Shop can run for generations to come)

- d. Lines of authority are clear (People know what exactly they can do)
- e. Delegation of authority is proper (People have the power to take decisions)
- f. There is a unity of command and direction (No clash of orders)
- g. Staffing is adequate (No problems with high work-load)
- h. The structure is flat rather than tall (Lesser levels)
- i. It is adaptive (For example, it can adapt to situations like Covid-19)
- j. It operates at optimum cost (Not too heavy and also permitting efficiency)

Weights of two were applied for the extreme responses and distinguished them from moderate (somewhat) responses. Average scores were calculated for these ten statements for 40 respondents each. Means of these two groups (organized and unorganized) were compared using a two-sample t-test, and the results were as under:

Summary statistics:

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Avg.OS Org	40	0	40	-1.700	2.000	1.168	0.962
Avg. OS Unorg	40	0	40	-2.000	1.100	-0.930	0.842

t-test for two independent samples / Two-tailed test:

95% confidence interval on the difference between the means: [1.695,2.500]

Difference	2.098
t (Observed value)	10.379
t (Critical value)	1.991
DF	78
p-value (Two-tailed)	< 0.0001
alpha	0.05

Test interpretation:

As the computed p-value is lower than the significance level $\alpha=0.05$, one should reject the null hypothesis H_0 , and accept the alternative hypothesis H_a .

Methodology (MF): Responses for MF were obtained on a 5-point Likert scale (0 - Cannot say, 1 – Somewhat effective, 2 – Highly effective, 3 – Somewhat ineffective, and 4 – Highly ineffective) from 40 organized and 40 unorganized retail stores. The ten statements were:

- a. Long-term/Strategic planning (planning for 3-5 years)
- b. Operational planning (planning for weeks/months)
- c. Quantity and quality of staff (Adequate and efficient staff)
- d. Direction from the leaders (owners/managers)

- e. Motivating staff (owners/managers motivate staff to work hard/smart)
- f. Professional approach in working (No ad-hocism in work)
- g. Financial controls (Proper accounting, Control over receivables)
- h. Operational controls (Control over the stocks)
- i. Physical organization of the stores (Ease in the identification of items)
- j. Legal compliances (Shop Act, Tax returns, etc.)

Weights of two were applied for the extreme responses and distinguished them from moderate (somewhat) responses. Average scores were calculated for these ten statements for 40 respondents each. Means of these two groups (organized and unorganized) were compared using a two-sample t-test, and the results were as under:

Summary statistics

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Avg. MF Org	40	0	40	-1.100	2.000	0.715	0.795
Avg. MF Unorg	40	0	40	-2.000	2.000	-0.715	0.906

t-test for two independent samples / Two-tailed test:
 95% confidence interval on the difference between the means: [1.051,1.809]

Difference	1.430
t (Observed value)	7.506
t (Critical value)	1.991
DF	78
p-value (Two-tailed)	< 0.0001
alpha	0.05

Test interpretation:

As the computed p-value is lower than the significance level $\alpha=0.05$, one should reject the null hypothesis H_0 and accept the alternative hypothesis H_a .

Thus, in both cases, OS & MF, there is a significant difference between the organized and unorganized retail pharmacy stores.

Hypothesis 2

H_{o2} : There is no significant difference in the perception of customers towards organized and unorganized retail pharmacy stores

H_{a2} : There is a significant difference in the perception of customers towards organized and unorganized retail pharmacy stores

Methodology: Responses for CP were obtained on a 5-point Likert scale (0 - Cannot say, 1 – Highly negative perception, 2 – negative perception, 3 – positive perception, and 4 – highly positive perception) from 40 organized and 40 unorganized retail stores. The ten statements were:

- a. Availability of the product
- b. Quality of product (fresh stock)

- c. Quality of service
- d. Effective pricing
- e. Convenience in buying
- f. Convenience in payment
- g. After-sales issues
- h. Trust and reliability
- i. Help in selection of products
- j. Ambience and shop environment

Weights of two were applied for the extreme responses and distinguished them from moderate (somewhat) responses. Average scores were calculated for these ten statements for 40 respondents each. Means of these two groups (organized and unorganized) were compared using a two-sample t-test, and the results were as under:

Summary statistics

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Avg CP Org	40	0	40	-1.000	2.000	1.058	0.860
Avg CP Unorg	40	0	40	-1.900	1.800	-0.540	0.965

t-test for two independent samples / Two-tailed test:
 95% confidence interval on the difference between the means: [1.191,2.004]

Difference	1.598
t (Observed value)	7.816
t (Critical value)	1.991
DF	78
p-value (Two-tailed)	< 0.0001
alpha	0.05

Test interpretation

As the computed p-value is lower than the significance level alpha=0.05, one should reject the null hypothesis H0 and accept the alternative hypothesis Ha.

Thus, there is a significant difference in customers' perception towards organized and unorganized retail pharmacy stores.

Hypothesis 3

Ho3: There is no significant difference in the level of satisfaction among customers towards services provided by organized and unorganized retail pharmacy stores

Ha3: There is a significant difference in the level of satisfaction among customers towards services provided by organized and unorganized retail pharmacy stores

Methodology: Responses for CS were obtained on a 5-point Likert scale (0 - Cannot say, 1 – Highly negative satisfaction, 2 – negative satisfaction, 3 – positive satisfaction, and 4 –

highly positive satisfaction) from 40 organized and 40 unorganized retail stores. The ten statements were:

- a. Availability of the product
- b. Quality of product (fresh stock)
- c. Quality of service
- d. Effective pricing
- e. Convenience in buying
- f. Convenience in payment
- g. After-sales issues
- h. Trust and reliability
- i. Help in selection of products
- j. Ambience and shop environment

Weights of two were applied for the extreme responses and distinguished them from moderate (somewhat) responses. Average scores were calculated for these ten statements for 40 respondents each. Means of these two groups (organized and unorganized) were compared using a two-sample t-test, and the results were as under:

Summary statistics:

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
Avg CS Org	40	0	40	-2.000	2.000	0.948	1.077
Avg CS Unorg	40	0	40	-2.000	1.000	-0.908	1.010

t-test for two independent samples / Two-tailed test:

95% confidence interval on the difference between the means: [1.390,2.320]

Difference	1.855
t (Observed value)	7.947
t (Critical value)	1.991
DF	78
p-value (Two-tailed)	< 0.0001
alpha	0.05

Test interpretation

As the computed p-value is lower than the significance level alpha=0.05, one should reject the null hypothesis H0 and accept the alternative hypothesis Ha.

Thus, there is a significant difference in customer satisfaction towards services

provided by organized and unorganized retail pharmacy stores.

Summary of inferential analysis

Summary of the testing of all the four hypotheses along with their interpretation is given below:

Table 6: Summary of inferential analysis

Sr. No.	Null Hypotheses	p-value	Decision	Interpretation
1	There is no difference between OS and MF of organized and unorganized retail pharmacy stores	OS <0.0001 and MF <0.0001	Reject Null	There is a significant difference between OS and MF of organized and unorganized retail pharmacy stores
2	There is no significant difference in the perception of customers towards organized and unorganized retail pharmacy stores	<0.0001	Reject Null	There is a significant difference in the perception of customers towards organized and unorganized retail pharmacy stores
3	There is no significant difference in the level of satisfaction among customers towards services provided by organized and unorganized retail pharmacy stores	<0.0001	Reject Null	There is a significant difference in the level of satisfaction among customers towards services provided by organized and unorganized retail pharmacy stores

4. Key findings and conclusions

The Organization Structure and Management Functions are significantly different for organized and unorganized pharma retail stores. For Organization Structure, the mean for organized stores is 1.168, and for

unorganized stores it is -0.930, and the difference was statistically significant. For Management Functions, the mean for organized stores is 0.715, and for unorganized stores it is -0.715, and the difference is statistically significant. Moreover, Customer

Perception is significantly different for organized and unorganized pharma retail stores. The mean for organized stores is 1.058, and unorganized stores is -0.540, and the difference is statistically significant. Further, Customer Satisfaction is significantly different for organized and unorganized pharma retail stores. The mean for organized stores is 0.948, and unorganized stores is -0.908, and the difference is statistically significant.

In conclusion, there are several differences in terms of organizational structure and management functions of the organized and unorganized pharma retail stores. The organized stores are relatively large in scale and are professionally managed. As such, this

difference is not surprising. Moreover, the customer perception and satisfaction levels are meaningfully different, highlighting the better run organized retail stores. It is imperative for the retail stores in the unorganized sector to quickly emulate their counterparts from the organized sector to survive in the long-run.

Data collection is possible with reasonable comfort if respondents are assured of confidentiality. It is comfortably possible to processing the data into variables required for inferential data analysis. The hypotheses is duly tested as per the research methodology. The questionnaire prepared for primary data collection tests well for reliability.

Bibliography

1. Apollo Pharmacy. (2021). About Us. Apollopharmacy.in. Retrieved 24 January 2021, from <https://www.apollopharmacy.in/about-us>.
2. Donald R Cooper & Pamela S Schindler & J K Sharma (2012). Business Research Methods, Tata McGraw –Hill, 11th ed.
3. Grover, R., Vriens, M. (2006). The Handbook of Marketing Research: Uses, Misuses, and Future Advances. United States: SAGE Publications.
4. Gupta, S. (2004). Marketing Research. India: Excel Books.
5. In, J. (2017). Introduction of a pilot study. Korean journal of anesthesiology, 70(6), 601.
6. Justdial.com (2021). Retrieved 24 January 2021, from <https://www.justdial.com/Mumbai/Apollo-Pharmacy/nct-12004505>.
7. MedPlus Health Services. (2021). Welcome to MedPlus Health Services Pvt. Ltd - India's Largest Retail Pharmacy Omni Channel. Medplusindia.com. Retrieved 24 January 2021, from <https://www.medplusindia.com>
8. Panneerselvam, R. (2014). Research Methodology. India: PHI Learning.
9. Patanjali Ayurved. (2021). Online Shopping: Shop Online for Food, Herbal cosmetics, Juices, Ayurvedic medicines, Books, CD, DVD - Patanjaliayurved.net. Patanjaliayurved.net. Retrieved 24 January 2021, from <https://www.patanjaliayurved.net/store-locator>.
10. Siegle-reliability-calculator - Educational Research Basics by researchbasics.education.uconn.edu › uploads › sites › 2015/06 ›
11. Statistics Solutions. (2019). Sample Size Formula - Statistics Solutions. Statistics Solutions. Retrieved from <https://www.statisticssolutions.com/sample-size-formula>