

“An Analytical Study On App Based Laundry Logistics Process And Assessing The Performance Of Dry Cleaning Services Providers In Chennai Region”

Mr. A. Appu
Research Scholar, BSMED
Bharathiar University
Coimbatore-641046
Email id: appumiracle@gmail.com

Dr. S.G.Balaji
Associate Professor
MEASI Institute of Management
Chennai-600014
Email id: sgbalaji1975@yahoo.co.in

ABSTRACT:

The annual logistics spending in India accounts for 14% of India's GDP, which amounts to \$270-310 billion as India's GDP is roughly \$3 trillion. According to "India Laundry Care Market Outlook, 2021", the overall laundry care industry is growing with a CAGR of more than 10% from the last five years. The laundry market is largely dominated by offline players, who cater to the premium categories only. However, the price points set by these companies are not the best fit for a massive consumer base. Startups in the online laundry space are trying to fill the gap by offering comprehensive solutions at an affordable price, while challenging themselves to build sustainable business models. The estimated size of the laundry market is Rs. 2,20,000 crore, with the unorganised market which includes dhobis, maid servants, and mom-and-pop stores) valued at Rs. 5,000 crores. The sector is fragmented with 7,67,000 establishments, 98 per cent of which are micro-sized laundries with fewer than 10 workers, says a report by Euromonitor International. During the past days people relied on dhobis and domestic helps to do their laundry which has now become part of the history. The modern life with frantic weekdays and indolent weekends of the working professionals, or bachelors staying away from their homes is a hustle to do the boring and tiring laundry. This has forced the laundry industry in India to just getting bigger and better with an estimated size of the laundry market being 2, 20,000 crore. The main drive of this research paper was to analyze the App Based Laundry Logistics Process and evaluating the performance of Laundromat dry cleaning services providers in Chennai region.

KEYWORDS: Laundrette app, Schedule order, Mapping Location, Route optimization, Mode of transport

INTRODUCTION

The organised section of the laundry sector in India is already estimated to be a billion dollar industry. But this only accounts for about 2-3% of the total laundry sector. Again only 25% of the total organised sector has an online facility. So this whole sector is up for grabs for anyone who would like to try the

unconventional business opportunity. Today, India has many startups that do individual wash; they keep washing machines at the store. Overall this business model is growing and making its success in its own way. Simultaneously, communal laundry systems are also serving a majority of population. Digitalized India is now stepping into every aspect of life and the laundry sector is no exception. Probably India is the only country having thousands of Laundry Apps. Yet again, there are aggregators and service providers in this line. Few failures in aggregation model prove that both Online and Offline presence are required for any Laundry service provider. However, Laundry market in India has always lacked structure and has been lacking in terms of quality and commitment for an average. Laundrize wants to make laundry a hassle-free chore for consumers along with bringing a structured approach to the present market, a market with a 2X growth trend. In recent years, the Laundromats in India have encountered difficult times due to the increasing customer demands, and due to the strong growing internal industry competition development. However, the industry's main concern around the globe is to cater for its customer needs and their desires, which are mostly addressed through personal services.

The present research paper aims to investigate Launderette app based demand laundry service which aims at bringing all the laundry needs of a consumer under one umbrella and measuring the performance of Laundromat dry cleaning services providers in Chennai region.

LITERATURE OF REVIEW

Juan Prado Lopez (2016) in his articles on “laundry and cleaning news” stated that how manufacturers are maximizing the logistics of the laundry process, by integrating individual machines into the workflow and providing a stream of information and data regardless of their size, all laundries need a continuous flow of information about their operation. He said that the first step in developing an integrated system is to organize the laundry's workflow by classifications as each category will require specific processes and then examine the individual laundry processes of the laundry to see how they can be integrated in a solution that includes machines and software.

Karthick Parthasarathy (2017) in his articles on “the News Indian Express ” reports that Technology based Laundry Logistics is the only way forward to keep up with the demand and pace, and not even heavy rains can affect their services, they claim! “The only challenge we face during such situations is transportation. With great demand comes great responsibility and there are challenges, of course. From delivering within 48 hours, mapping locations, route optimization, vehicle scheduling, providing quality service at the assigned rates and making the needs of the customers.

Dr. Ankur Bhatia (2018) in his articles on “the Business world” stated that when the ecosystem is burgeoning with innovative solutions, addressing real challenges driven by entrepreneurs and funded by investors, he , has ventured into a lifestyle garment care mobile app Launderette, wired to help customers place orders, make payments and track pick-up and deliveries.

Balachandar (2018) in his articles on “thehindubusinessline” expressed that City-based laundry service provider announced the launch of its first “laundromat store” with the objective of bringing complete laundry services to the neighborhood and provide washing and ironing services at a price range starting from 15 per piece deliverable within 48 hours. It also offers home delivery option, besides accepting orders on call or mobile app. It highlighted Equipped with washing machines, dryers and ironing facilities, the laundromats will allow customers to walk in with their used clothes and get it processed right in front of their eyes. He concluded that online laundry services have tried to take the same path of discounting and forced customer acquisition through cash burn followed by e-commerce companies.

NEED FOR THE STUDY

Laundry is an everyday need and people are investing in it. They have started looking for laundry solutions on their smartphones and there is a huge need of the commercial laundry equipment. In a labor-intensive market like India, all what we need is the right kind of system to make people engaged and retain customers to sustain business. India’s laundry market is expected to grow to \$76 billion by 2020. Unlike start-ups in almost all other sectors witnessing slump, the app-based laundry businesses are basking in prosperity with even global players joining hands with them. With increasing number of entrepreneurs entering the domain to explore and exhaust opportunities in the current market scenario, the competition has become aggressive. For customers, washed and dry-cleaned clothes are delivered to their doorstep. For vendors, the significant real estate component the front-end, an added cost is eliminated. The laundry business has prevailed for a long time. With on-demand, there are value-added services that enhance an existing market. An on-demand laundry service hires delivery professionals and partners with the local dhobis to manage them aggregators. Alternatively, they hire skilled labour and use technical leverage to wash and dry-clean the clothes. The need for the study is to identify the influence of demographic variables on laundry logistics services and measuring the dry cleaning practices through technology based adoption.

STATEMENT OF THE PROBLEM

India is forecast to become the world's fifth largest consumer market in laundry sector by 2025 (value \$1.5 trillion). The simple shift at the more 'traditional' end of the laundry market, away from bar-soaps to more sophisticated hand-washing detergents, is a small but important indicator of India's consumer revolution. In Traditional days, people used to visit laundries having coin operated machines where they could sit, relax, read magazines and even have some snacks to munch on while their clothes were being washed. No doubt, such laundries provided excellent value to customers and did a great business. But people had to spend time and quite often they had to stand in a queue waiting for their turn. Even if someone preferred a dry cleaner over laundry machines, then also they had to take out time to visit the store in order to first drop and then pick up their clothes. All these problems seem to have vanished with the arrival of on-demand app in this space which has disrupted the laundry industry. The present study has been undertaken with a view to identify the delivery system of washed garments through app based laundry logistics services and the customer assessment towards the performance of dry cleaning services providers in Chennai region.

OBJECTIVE OF THE STUDY

- To examine the customer opinion towards app based laundry logistics process and measuring Laundromat dry cleaning services in Chennai region.
- To analyze the direction and magnitude of the effect of those factors on customers overall experience with reference to dry cleaning services in Chennai region
- To identify the factors which influence to place order with Laundromat dry cleaning services providers in Chennai region.
- To identify measures to be taken to improve app based laundry logistics system and Laundromat dry cleaning services providers in Chennai region.

SCOPE OF THE STUDY

This study has been conducted among the customers from various region of Chennai city in utilizing app based Laundromat dry cleaning services. The study reveals that In India, there is more number of working women and this business has got a better scope than it was a decade ago. By the end of 2020, there is estimation that Laundromat services will be needed by more than three million households in a weekly or even daily basis and every year there is a increase of 3.5% in the number of people who are using the laundry service in India. The scope of the study highlights the offering of door to door service for dry cleaning and laundry provides another choice for customers with give the quality or state of being

strong business. The quick and convenient service in order to save a customer's time and offering a special discount for valuable and regular customer's is the strength for the business.

RESEARCH METHODOLOGY

RESEARCH DESIGN

The research design used for the study is descriptive. The major purpose of using such a design is description of the state of affairs as it exists at present.

SAMPLING DESIGN

Population

The population of the study consists of the different customers like hotel linen, hospital linen, Hostelites, and gated Community household. The sample size of the actual study consisted of 80 customers utilizing Laundromat dry cleaning services in Chennai region.

Sampling Technique

The sampling technique used was non-probability sampling method is adopted in this study. It refers to the technique where the probability of each case being selected from the total population is known. The sampling technique used was judgement sampling where sample units are selected from special group of the customers placing order through Laundromat

Data Collection Method

Data was collected only through primary source. Primary data was collected through questionnaires, which were administered through face-to-face interview of the customers. To analyze the trends of Laundromat dry cleaning services, secondary data has been collected from the websites, journal and reports.

DATA ANALYSIS

RELIABILITY TEST

Reliability Statistics

Cronbach's Alpha	N of Items
.962	30

Inference: The Cronbach's alpha coefficient for 30 items is 0.962 suggesting that the items have high level of internal consistency.

MANN –WHITNEY TEST

Null hypothesis (H₀): There is no significant difference between the placing of order for a laundry services and the gender group.

Alternate hypothesis (H₁): There is significant difference between the placing of order for a laundry services and the gender group.

Ranks

	Gender	N	Mean Rank	Sum of Ranks
How often you place an order for laundry?	Male	56	47.89	2682.00
	Female	24	23.25	558.00
	Total	80		

Test Statistics^a

	How often you place an order for laundry?
Mann-Whitney U	258.000
Wilcoxon W	558.000
Z	-4.683
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: Gender

Inference: Since $p\text{-value} = 0.023 \leq 0.05 = \alpha$, we reject the null hypothesis. At the $\alpha = 0.05$ level of significance, there exists enough evidence to conclude that there is a difference between the placing of order for a laundry services and the gender group.

ONE WAY ANOVA ANALYSIS

Null hypothesis (H₀): There is no significant difference between the customer age group and their perception towards Laundry and Dry cleaning service provider.

Alternative hypothesis (H₁): There is significant difference between the customer age group and their perception towards Laundry and Dry cleaning service provider.

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Laundrette app	Between Groups	26.095	3	8.698	37.875	.000
	Within Groups	17.455	76	.230		
	Total	43.550	79			
Schedule order	Between Groups	98.406	3	32.802	195.040	.000
	Within Groups	12.782	76	.168		
	Total	111.188	79			
Pick up and Drop services	Between Groups	110.418	3	36.806	218.848	.000
	Within Groups	12.782	76	.168		
	Total	123.200	79			
Wash and dry cleaning quality	Between Groups	36.115	3	12.038	35.362	.000
	Within Groups	25.873	76	.340		
	Total	61.988	79			
On time delivery	Between Groups	44.157	3	14.719	193.099	.000
	Within Groups	5.793	76	.076		
	Total	49.950	79			

Inference:

Here p values is lesser than 0.05. So reject null hypothesis. There is significant difference between the customer age group and their perception towards Laundry and Dry cleaning service provider.

FRIEDMAN TEST

Null hypothesis (H_0): There is no significant between the factors influence to order a laundry logistics services.

Alternate hypothesis (H_1): There is significant between the factors influence to order a laundry logistics services.

Ranks

	Mean Rank
Mapping Location	4.13
Mode of transport	3.08
Availability of trucks	2.59
Vehicle scheduling	3.38
Trolley transport	4.16
Route optimization	3.68

Test Statistics^a

N	80
Chi-Square	82.922
df	5
Asymp. Sig.	.000

a. Friedman Test

Inference:

Here p value is 0.00 which is less than 0.05. Hence Reject Null hypothesis. There is significant between the factors influence to order a laundry logistics services.

MULTIPLE REGRESSION ANALYSIS

Influence of independent variables on overall experience of the Launderette app of Dry cleaning service provider. The influence of independent variables Age, Gender, Marital Status, income, type of customer on Launderette app of Dry cleaning service provider is shortly estimated through multiple regression analysis and the results are presented below:

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.869 ^a	.756	.739	.379

a. Predictors: (Constant), Annual Income, Marital Status, Gender, Type of Customer, Age

From the above table, it is found that R Square Value is 0.756 and adjusted R Square is 0.739 with the standard error of estimate as 0.379. It implies that all the independent variables explain 7.5% and regression fit is verified in the following ANOVA table:

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32.920	5	6.584	45.836	.000 ^b
	Residual	10.630	74	.144		
	Total	43.550	79			

a. Dependent Variable: Laundrette app

b. Predictors: (Constant), Annual Income, Marital Status, Gender, Type of Customer, Age

From the above table, it is found that $f = 45.836$, $p = 0.000$ are statistically significant at 5% level. This implies that the regression fit is significant and concludes that the cumulative influence of independent variables on reliability is statistically significant. Hence the independent influence of these variables on reliability is analyzed in the following table:

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.663	.305		8.741	.000
	Gender	-.611	.156	-.379	-3.923	.000
	Age	-.282	.079	-.364	-3.575	.001
	Marital Status	.231	.101	.133	2.274	.026
	Type of Customer	.818	.103	.764	7.942	.000
	Annual Income	.171	.120	.212	1.426	.158

a. Dependent Variable: Laundrette app

Inference:

From the above table, it is found that the age of the customers ($t = -3.575$, $p = 0.001$) and gender ($t = -3.923$, $p = 0.000$) statistically significant at 5% level. Therefore it can be concluded that the Customer overall experience of the Laundrette app of Dry cleaning service provider depends on Age and gender group of the customers.

FINDING OF THE STUDY

- The Cronbach's alpha coefficient for 30 items is 0.962 suggesting that the items have high level of internal consistency.
- Using Mann Whitney test it is found that there is a difference between the placing of order for a laundry services and the gender group.
- Using One Way Anova Analysis it is found that there is significant difference between the customer age group and their perception towards Laundry and Dry cleaning service provider.
- Using Multiple Regression Analysis it is estimated that the overall experience of the Launderette app of Dry cleaning service provider depends on Age and gender group of the customers.
- Using Friedman test, it reveals that p value is less than 0.05, the null hypothesis is rejected at 5 percent level of significance. Hence it is concluded that there is significant between the factors influence to order a laundry logistics services.

SUGGESTIONS

On the basis of the findings of the Study the researcher proposes following suggestions to the Launderette app Dry cleaning service provider

- It is suggested that the Launderette Dry cleaning service provider should have better logistics facility for making reach the garments at customer door at a right time.
- It is recommended that Social networking of Launderette Dry cleaning service provider must be effectively used for building relations with the customers. The social networks are accessible, user friendly, interactive and have a great reach. Consumer communities can also be used to generate product advocates by sharing their good experiences through the consumer communities.
- It is recommended that Launderette Dry cleaning service provider can also engage in post-purchase activities with its customers like writing a thank you" mail and invitation to join the loyal customers" club, online communities and liking the social networking sites pages of marketer.
- It is recommended that Radio Frequency ID Tags Change the Logistics of Laundry and Dry cleaning service.

CONCLUSION

The Indian online on-demand laundry service market is expected to grow at a CAGR of close to 37% during the forecast period. Companies offering online on-demand laundry services have integrated laundry and dry-cleaning services with the on-demand business model. This has revolutionized the laundry care market as it provides convenience for users by reducing their burden of washing clothes at homes, taking them to a public coin-operated machine, or traveling across streets in search of a dry cleaner. The Indian online on-demand laundry providers are adopting technology to automate the laundry and delivery processes and decrease the turnaround service time. Most vendors promise to wash and deliver the clothes in an impressive turnaround time of 24 hours. To achieve this efficiency, service providers are leveraging the use of technology. For instance, a technology developed by cleanly helps the cleaner's batch, sort, and label the updates via a dashboard. This software is built in-house and helps to achieve the turnaround time of 24 hours. This also enables drivers to scan the tagged bags and deliver the right clothes to the right customer. Hence Launderette Dry cleaning service provider should adopt IOT technology based app in rendering the services in Chennai city.

REFERENCES

- Jack T. 2013. *Laundry routine and resource consumption in Australia*. *International Journal of Consumer Studies*, 37(6): 666–674. DOI: 10.1111/ijcs.12048.
- Pink S., Mackley KL, Morosanu R. 2013. *Hanging out at home: Laundry as a thread and texture of everyday life*. *International Journal of Cultural Studies* 18(2): 209-224. DOI: 10.1177/1367877913508461.
- Donald, M., J. 2011. *An Investor Guide to Coin Laundry*. Alliance Laundry Systems. "Coin Laundries – Road to Financial Independence: A Complete Guide to Starting and Operating a Profitable Self-Service Laundries" by Emerson G. Higdon.
- <http://bwhotelier.businessworld.in/article/Bird-Group-Introduces-Launderette-Laundry-Service-on-Mobile/14-03-2018-143352/>
- <http://www.newindianexpress.com/cities/chennai/2016/may/26/Spin-rinse-dry-and-deliver-laundry-at-your-doorstep-908035.html>
- <http://www.thehindubusinessline.com/specials/emerging-entrepreneurs/doing-the-laundry-is-just-an-app-away/article9231245.ece>