

“A Study On Determinants Of Customer Perception & Factors Driving Customer Satisfaction In Cellular Phone Industry & Service Providers”

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Abstract:

Purpose: The stellar intention of the present research work is to know how far the moderate variables impact on the study of cell phone user perception towards service quality among telecom service providers. Further, the study conducted to probe factors driving customer satisfaction in cellular phone industry, and factors determining the choice of cell phone service providers and respondents level of perception on cellular service providers. Connectivity with everyone is crucial in today's cyber world and mobile service is one among them. Cellular phone service providers should understand the innovative needs of consumer connectivity.

Design / Approach: A well designed questionnaire which was previously known was administered properly to gather the required data. The respondents were interviewed in their workplace and personally the researcher conducted interview to collect the necessary data. Interview method aims at collecting data with more confidence, truthful and useful as the interviewer establishes more intimacy with respondents after clarifying objectives of the study.

Findings: The study reveals that socio economic characteristics are impacting on the study on cell phone users perception towards service quality among telecom service providers with high degree of relationship. Further, the study reveals that factors like price sensitiveness, internet connection and good voice quality are driving customer satisfaction in cellular phone industry. Factors deciding the choice of cell phone service providers includes service quality, call quality and new technology use. Further, the study also found about the level of perception on cellular service providers and they include cost of living is increasing day by day, the new technology enhances demand and spending and lowers are not enough to cover the whole area etc.

Keywords: Coverage, voice quality, price sensitiveness, bonus, call rate, customer relationship, reliability.

Introduction:

Reliance Jio is the leading company with wireless telecom subscriber base of over 406 million across India as of September, 2020 (Girish et al., 2021). In Bengaluru the most preferred cellular phone is Reliance Jio. There are 25 private companies providing mobile services in 19 telecom circles across the country. (Girish Taneja, 2007). There are two types of mobile service networks; Global system for mobiles (GSM) and Code Division Multiple Access (CDMA). Major players operating in India in GSM are: BSNL, MTNL, Bharati Telecom, Hatch Essar, Aditya Birla Group while those of CDMA are Tata and Reliance. The telephone industry in India is offering three types of services, viz., fixed line, wireless and cellular services. Because of its nature of use cellular service is also called as mobile service networks. The telecom industry in India is facing severe competition. Cell phone operators competitively are operating with offer which are different in nature in order to survive. Cell phone service providers must understand at present situation of buyer market, the customers perception about company and its different offerings. They should stop switch over to other companies in the pretext of unsatisfactory service. Withhold of customers is better than acquiring new customers. Further, attracting customers through innovative offerings may not bring long term loyalty from

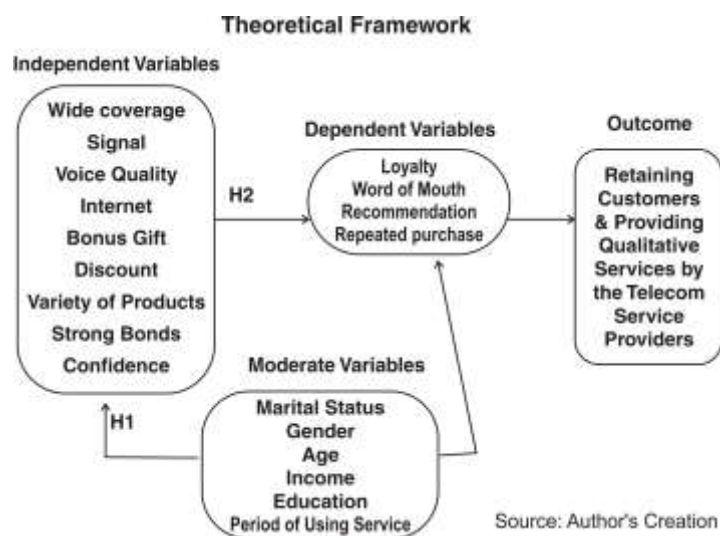
customer base as they are operating in a buyer market. They should well understand the needs and influencing factors before designing.

Customer satisfaction may be defined as the perceived values among the users of cell phone services. A business starts operating with customers and hence the buyers doing persons must treat customers as the kings of market. The future events of companies are depending upon quantum of profits earned, and in turn it decides future expression programs, status and image and hence much importance should be given to customer satisfaction. Consumer satisfaction is critical as it is the leading indicator of consumer purchase intentions and loyalty. Services are deeds, process and performance is (Zeithml & Bitnor, 2003). Delivering service quality is considered as significant strategy for attaining success and sustainability in today's competitive environment (Dawkims and Reichhold, 1990). The issue before service providers today involves understanding the influence of service quality on profit and other financial outcomes of the organisation (Greising, 1994). Service include all economic activities which are unseen, not touchable. The output is not a physical product which provides value added in forms like convenience, amusement, timeliness and comfort which are essentially intangible for its first buyer (Quinn Baruch et al. 1987). For service providers the tagging along of service quality is essential for competitiveness and gaining momentum (Seth et al. 2007). Some authors like Parasuraman., Zeithml., & Berry (1985) and Carmann (1990) agree that service quality is an abstract concept, difficult to define and measure. But it can be defined as a degree and direction of discrepancy between consumer perception and the expectations in terms of the different but relationship important dimensions of quality which can affect the future of the business.

Statement of the problem

The change in socio economic conditions impacts the living style of the people and people wants to satisfy their need in everyday life. Technology has played an instrumental role in the living patterns of people. At present the cellular phone industry is facing a tough and fierce competition and it is a

buyer market. In order to compete well in the severe competition the companies are offering different varieties of offers. Cellular phone service providers should clearly understand consumer behaviour, through it is difficult for their sustainability in the competitive market. More offering of different packages may not always ensure a large base of consumers. The service providers must identify the needs and impacting factors before designing any service or offer. It is the service provider who stays long in the market who understands better consumer behaviour and designing a suitable produce ensure effective sales than focussing solely on lucrative offers.



Review of Literature

Kesavan, N. et al. (2021) study focused that perception of customers towards services of cellular providers in Ramanathapuram district. The perception levels analysed through examining the significant mean difference in perception on cellular services with regard to selected variables of the customers. These variables are probed by performing ANOVA with the help of developed hypothesis from the opinion of selected customers in the study area. The study reveals that the customers respond that cost of phoning is increased day-by-day in the family expenditure and it has shifted to basic needs. The ANOVA concluded that there is a significant mean difference in perception on cellular services with regard to age, educational qualifications, annual income, employment status and period as customer.

Anand Shankar Raja, M. (2009) conducted a study to know whether customer receive the service in time and it is fulfilling their needs to the defined levels. The study is highly intensified on primary data only. The needed collected through questionnaire directly by contacting respondents. The study concludes that the most of the customers are satisfied by the service provided by the BSNL. The dissatisfaction is due to poor signal and also network coverage.

The study by Somabhushana Janakiballav Mishra et al. (2021) reveals that consumer prefers plans instead of post paid plans and all most every customer treat their mobile phone as a necessity. Further, the researchers stated that consumers generally use their mobile phone for their personal use and for both incoming and outgoing calls as well as internet. Further, the study reveals that Jio is the most preferred mobile phone service provides followed by Airtel and VI. Most of the respondents expressed that they happy with the service provided by their mobile service providers.

Suguanthi Meena & Shanthi, K. (2017). in their research their research study that they have framed a questionnaire and data collected on 100 respondents who were selected conveniently for the study. A customer perception model was developed including variables like responsiveness, reliability, assurance, tangibility, empathy, perceived network quality. The study found relationship between responsiveness and tangibility.

Objectives of the study

1. To study the demographics impact on the study.
2. To analyse the factors driving customer satisfaction in cellular phone industry.
3. To study the factors determining the choice of cellular service providers.
4. To study the level of perception on cellular service providers.

Hypotheses

1. There exists no significant variation in the socio economic characteristics of respondents.
2. There are no factors driving customer satisfaction in cellular phone industry.
3. No factors are existing to decide factors determining the choice of cellular service providers.
4. Respondents have no perception level on cellular service providers.

Research Questions

1. To what extent the demographics impact on the study?
2. What are the factors driving customer satisfaction in cellular phone industry?
3. Which factors decide the choice of cellular service providers?
4. What is the level of perception on cellular service providers?

Research Methodology:

The study adopted a descriptive survey research design in collecting and analysing data from the respondents. According to Cooper and Schindler (2007) descriptive survey design discovers and measures cause and effect relationships among variables. It enables the researcher to collect the in dept data about the population under study. This design was preferred because it ensures a complete description of the situation, after confirming there was minimum bias in the research process (Kothari, 2008). A well designed research methodology navigates successfully in attaining the objectives of the research. The research design being a blue print and the pre projected activity for the future should be managed properly so that a clear picture of research and fulfilment of research objectives.

Questionnaire design: A questionnaire containing a stated number of questions which are previously known framed especially for collating the desired data. The data collected by the researcher in a realistic setting on while the respondents were busy with their duties or regular work. Curve was exercised while framing the questions.

Universe of the study: The study is confined to Bengaluru Urban. Respondents like students, employees, business start-up entrepreneurs, retired persons and housewives.

Sampling Design: A sampling frame consist of a list of items frame which the sample has to be drawn (Kothari, 2004). A sample is drawn from the stated universe Bengaluru Urban. 100 different respondents were taken from the universe and they represent different areas and stated above.

Method of Analysis: The study performed χ^2 , contingency co-efficient, weighted arithmetic mean and extent of choice index and Kendall's co-efficient of concordance.

Study variables: The dependent variable like loyalty, favourable word of mouth, recommendation from friends, repeated purchase. The independent variables include wide coverage, signal, voice quality, internet, bonus gift, discount, variety of products, strong bonds, confidence, enjoyment. The moderate variables includes, gender, marital status, education, occupation, monthly income, number of mobile use.

Extent of Benefits Index:

$$ECI = ECI_{SA} + ECI_A + ECI_{SWA}$$

Where ECI_{SA} = Extent of choice of Index strongly agree

ECI_A = Extent of choice of Index agree.

ECI_{SWA} = Extent of choice of Index somewhat agree.

Survey findings:

Table-1 show up the details of socio economics of respondents. There are 79 males and 88 are married out of 100. The age details reveal that 52 belongs to the age group of 36-45 years followed by 21 in between 46 – 50, 15 > 51 years. 40 are graduates, 22 technical degree holders, 15 PG, 10 professional degree holders, 8 PUC and 5, 10th standard. The occupation details reveals that 53 are employees, 12 retired 10 business people, 9 students, 8 each start-up entrepreneurs and housewives. The monthly income data

reveals that 35 are getting income in between 31 – 40K, followed by 28 in between 21 – 30K, 23 > 40K, 11 in between 11 – 20K, and 3 < 10K. The period of using services reveals that 62 are using services < 5 years, 23 in between 5 – 10 years and 15 > 17 years. 82 respondents are using 1 mobile and 18 are using more than 1 mobile. All the demograhpics show significant variation with high degree of relationship.

Table-2 expose to view about factors driving customer satisfaction in cellular phone industry. To measure this weighted arithmetic mean was performed. Likert 5 point scale varying from “SA to SWA” in along with corresponding weights varying from 5 to 1 considered. The opinion of respondent is defined as “f” and weights as “w”. The sum of fw is divided by the sum of “w” i.e., $5 + 4 + 3 + 2 + 1 = 15$ to get “WA”. Based on the strength of WA ranking is awarded. The first rank was awarded to the factors price sensitiveness, the second rank good voice quality and the third rank to the signal. The remaining factor are ranked depending upon “fw”.

Table – 3 expose to view about the factors determining the choice of cell phone service provider. To measure these factors of deciding the choice, Extent of Choice Index (ECI) was framed. The extent of choice is measured through 3 point Likert Scale varying from “Strongly Agree to Somewhat Agree”. The factors are ranked based on ECI and the first rank was awarded to service quality, the second rank was awarded to cell quality and the third rank was given to new technology use. All the factors show significant variation with high degree of relationship. The remaining factors are ranked depending upon the size of ECI.

Table – 4 let drop details about respondent level of perception on cellular service providers. 70 respondents out of 100 expressed strongly agree, 18 agree and 12 somewhat agree. 30 respondents voted cost of planning is increasing day by day etc., 16 favoured new technology and 11 felt about towers are not enough to cover the whole area. “W” fails to accept H_0 and accepts H_1 and hence it is concluded that there exist significant relationship between and perception level of customers.

Discussion:

Customers expect better services from the cell phone service providers because they pay for it. Innumerable benefits can be availed from the development of cellular service industry and those benefits are not only restricted to agriculture, health and financial sector but also education administration, law services etc., The study conducted at Bengaluru urban reveals that all demographics are significantly varying with high degree of relationship. Further the study revealed that factors like price sensitiveness, good voice quality and signal are the factors driving customers satisfaction. Factors like service quality, call quality and new technology use are the determinants of choice of cell phone service providers. The study also found the level of perception on cellular service providers. They include cost of planning is increasing, the new technology in cell phones will increase demand and toners are not sufficient to cover the whole area. The collected data was presented in the tabular form and suitable statistical tools were performed to present the data.

Conclusion:

Bengaluru is nicknamed is “silicon valley” and “science center”. It is a wonderful metro offering all services to all people of the nation. The demand for qualitative cell phones is on the increase. But at present the industry is facing severe competition from among the service providers in offering service to cell phone users. Government and private service providers are offering competitive products to the customers. The study found consumers at Bengaluru prefer Reliance Jio due to better coverage and quality. The study found all the demographics significantly varying with high degree of relationships. Further, factors like price sensitiveness, good wise quality and signal are the factors driving customer satisfaction. The factors like service quality, call quality and new technology use are the determinants of choice of cell phone service providers. Also the study proved the level of perception by the respondents on cellular service providers. These perceptions include cost of planning is increasing day by day, new technology in the cell phone will increase demand as well as cost of living and towers are not enough to cover the whole area.

Table – 1: Socio economic characteristics of respondents

Demographics	χ^2	TV@0.05	df	result of χ^2	"c"	Result of 'C'
Gender	23.64	3.841	1	Significant	0.50	High Degree
Marital status	57.76	3.841	1	Significant	0.60	High Degree
Age	40.50	7.815	3	Significant	0.53	High Degree
Education	49.86	11.070	5	Significant	0.57	High Degree
Occupation	95.66	11.070	5	Significant	0.70	High Degree
Monthly income	33.40	9.488	4	Significant	0.50	High Degree
Period of using services	37.95	5.991	2	Significant	0.52	High Degree
Using mobile more than 1 occupation	40.96	3.841	1	Significant	0.53	High Degree

Source : Field Survey

Note : χ^2 = chi-square

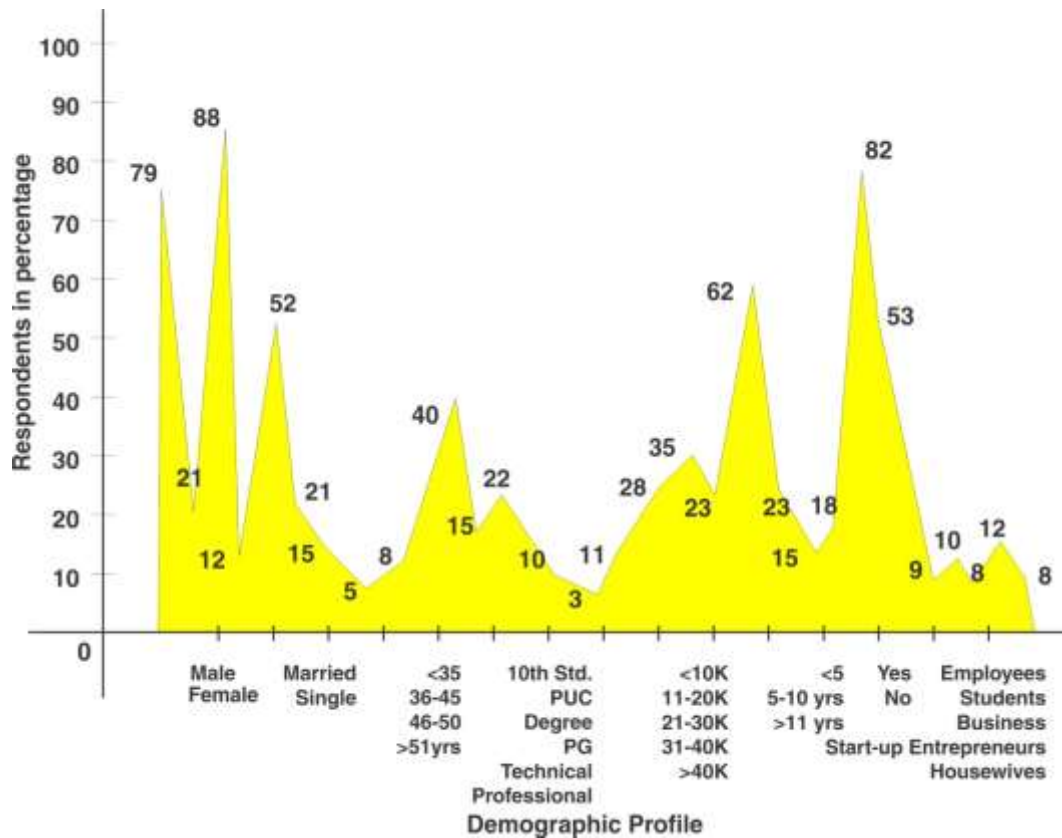
$$'c' = \sqrt{(\chi^2 / \chi^2 + N)}$$

Where 'c' = contingency coefficient

N = Number of observations

When the value 'c' is equal or near 1, it means there is high degree of association between attributes. Contingency coefficient will be always to be less than 1. High degree is considered here if 'c' is 0.50 and above.

Fig – 1: Demographic profile of respondents



Table–2: Factors driving customer satisfaction in cellular phone industry

Factors driving customer satisfaction	Weight	5	4	3	2	1	T	WA
	Likert Scale	SA	A	N	DA	SDA		
Wide coverage	f	70	20	5	3	2	100	VII
	fw	350	80	15	6	2	453	30.20
Signal	f	76	24	-	-	-	100	III
	fw	380	96	-	-	-	476	31.73
Good voice quality	f	78	22	-	-	-	100	II
	fw	390	88	-	-	-	478	31.87
Frequently dropped calls and instantaneous connection	f	70	10	8	4	8	100	XV
	fw	350	40	24	8	8	430	28.67
Internet connection	f	80	15	-	3	2	100	IV
	fw	400	60	-	6	2	468	31.20
Special package discount	f	71	9	8	7	5	100	XIII
	fw	355	36	24	14	5	434	28.93
Save because of promotion	f	65	14	6	8	7	100	XVIII
	fw	325	56	18	16	7	422	28.13
	f	71	9	5	9	6	100	XI

Use more because of promotion	fw	375	36	15	18	6	450	30.00
Price sensitiveness	f	82	18	-	-	-	100	I
	fw	410	72	-	-	-	482	32.13
Bonus Gift	f	65	15	10	6	4	100	XIV
	fw	325	60	30	12	4	431	28.73
New Technology	f	72	20	-	6	2	100	VI
	fw	360	80	-	12	2	454	30.27
Service and creative ideas	f	75	15	-	6	4	100	IX
	fw	375	60	-	12	4	451	30.06
Variety of products & services	f	70	20	5	3	2	100	VII
	fw	350	80	15	6	2	453	30.20
Good response to 4 & 5G	f	67	18	6	4	5	100	XII
	fw	335	72	18	8	5	438	29.20
Product and service differentiation	f	69	20	5	5	1	100	IX
	fw	345	80	15	10	1	451	30.06
Predicting customers purchase intention	f	55	18	10	9	8	100	XXI
	fw	275	72	30	18	8	403	26.86
Strong bonds with customers	f	61	22	5	6	6	100	XVI
	fw	305	88	15	12	6	426	28.40
Enhanced confidence	f	64	18	-	5	10	100	XX
	fw	320	72	-	10	10	412	27.47
Experienced enjoyment	f	60	19	5	7	9	100	XIX
	fw	300	76	15	14	9	414	27.60
Brand image	f	65	20	-	8	6	100	V
	fw	325	80	-	16	6	427	30.50
Contribution for the society	f	60	22	5	9	2	100	XVII
	fw	300	88	15	18	2	423	28.20

Source : Field Survey

Note : SA – Strongly Agree, A = Agree, DA = Disagree, = SDA
= Strongly Disagree

T = Total

WA = Weighted Average

WA = T / Sum of Weights

Table – 3 : Factors determinants of cell phone service providers

Factors driving determinants of choice of cell phone service providers	Extent of Choice			ECI	R	χ^2	Result of χ^2	“c”	Result of C
	SA	A	SWA						
Call quality	79	18	3	100	II	348.70	Significant	0.88	High Degree
	237	36	3	216					
Call drop rate	63	31	6	100	IX	205.25	Significant	0.81	High Degree
	189	62	6	257					
Geographical coverage	65	27	8	100	IX	221.63	Significant	0.83	High Degree
	195	54	8	257					
Service quality	77	21	2	100	I	285.07	Significant	0.86	High Degree
	231	63	2	296					
Call forwarding and writing	65	28	7	100	VIII	221.30	Significant	0.82	High Degree
	195	56	7	258					
Short message service	64	29	7	100	IX	213.14	Significant	0.82	High Degree
	192	58	7	257					
Mobile entertainment	66	28	8	100	IV	223.53	Significant	0.83	High Degree
	198	56	8	262					
New technology use	70	26	4	100	III	256.02	Significant	0.84	High Degree
	210	52	4	266					
Calling rate	67	27	6	100	V	237.20	Significant	0.83	High Degree
	201	54	6	261					
Promotional offers	61	32	7	100	XIV	190.47			

	183	64	7	254			Sig nifi can t	0.8 0	High Degree
Product range	65	30	5	100	VI	220.55	Sig nifi can t	0.8 2	High Degree
	195	60	5	260					
Complaint solving	58	38	14	100	XIV	210.97	Sig nifi can t	0.8 2	High Degree
	174	76	4	254					
Customer relationship	61	30	9	100	XVI	190.48	Sig nifi can t	0.8 0	High Degree
	183	60	9	252					
Innovativeness	68	24	8	100	VI	247.48	Sig nifi can t	0.8 4	High Degree
	204	48	8	260					
Restoration capabilities	53	34	13	100	XVII	135.92	Sig nifi can t	0.7 5	High Degree
	159	68	13	240					
Reliability	64	28	8	100	XIII	213.50	Sig nifi can t	0.8 2	High Degree
	192	56	8	256					
Responsiveness	66	25	9	100	IX	230.70	Sig nifi can t	0.8 3	High Degree
	198	50	9	257					

Source : Field Survey

ECI = Extent of Choice Index

R = Rank

df = degree of freedom = 2

Chi-square Table Value = 5.991

Table – 4 : Respondents level of perception on cellular service providers – Kendall's co-efficient of concordance

Respondents levels of perception on cellular services	SA	A	SWA	RT	RT ²
Making availability of network in rural areas is a challenge one.	6	1	1	8	64
Providing good connections with good voice quality will improve the service performance	5	1	1	7	49
Cost of planning is increasing day by day and it has been shifted to basic needs	20	6	4	30	900
Products & plans of all cell phone service providers are not generalised	7	2	1	10	100
Offers of the service providers in the recharge coupon are highly competitive	6	1	-	7	49
Data packs sold highly in the market during the festive season	4	-	-	4	16
The new technology in the cell phones will increase demand as well as the cost of living and spending with regard to mobile services	10	4	2	16	256
Collaboration of technology between nations has been taking a good promotion in the area of telecom industries	5	1	1	7	49
Telecom towers are not enough to cover the whole area of distribution and its necessities.	7	2	2	11	121
Total	70	18	12	100	1604

Source : Field Survey

Note : SA - Strongly Agree, A - Agree, SWA - Somewhat Agree, RT - Row Total

$$SSR = \sum RT^2 - (\sum RT)^2 / N$$

$$= 1604 - (100)^2 / 9 = 1604 - 10000 / 9 = 1604 - 1111.11 = 492.89$$

Use the sum of squares (SSR) in the following formula to obtain Kendall's W.

$$\begin{aligned}W &= 12 \times \text{SSR} / K^2 N (N^2 - 1) \\&= 12 \times 492.89 / 9 \times 9 (81 - 1) \\&= 5914.68 / 6480 = 0.91\end{aligned}$$

Test the significance of "W" by using the chi-square statistic.

$$\begin{aligned}x^2 &= k (n-1) w \\&= 3 (9-1) 0.91 \\&= 3 \times 8 \times 0.91 = 21.84\end{aligned}$$

Decision : At 8 d.f. with 0.05 level of significance the TV = 15.507. But the calculated value being 21.84 higher than the TV. Therefore 'w' fails to accept H_0 and accepts H_1 . Therefore, it is concluded that there exist high degree of relationship between the perception level and cellular service.

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