

Socio-economy of Mobile Phone Ownership in India

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Abstract

This paper examines the socio-economy of mobile phone ownership in India by plotting patterns that have been drawn from National Sample Survey (NSS) 66th round consumption data for 2009-10. While we use the secondary data from Census 2011 and Telecom Regulatory Authority of India (TRAI), the crux of this paper is built around the NSS data, juxtaposing mobile ownership with place of residence, social category, religion, having Internet connection, educational attainment, age, and the state. Moreover, we regress owning mobile phone on the socio-economic characteristics to plot the determinants of mobile phone ownership. The assumption that permeates throughout the paper is that mobile phone is a network good with convergent technologies embedded in it and generates multiple streams of pay-offs and spillovers.

Keywords

Mobile phone ownership, Socio-economic characteristics, Determinants of mobile phone ownership, Network good.

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1. Introduction

This paper embarks on the theme of growing telecommunication penetration in India. The objective of the paper is to understand the scope and magnitude of the expanding telecommunication, and linkages to advances in development. Quite importantly, this paper plots the linkage between demographic and economic factors and mobile phone penetration rates in India. In fact, the exponential growth and rapid dispersion of mobile telephony has far reaching implications for the economic development for emerging economies such as India. The mobile telephony is providing the access and the connectivity to citizens and transforming their life-style and livelihoods, especially in developing regions. It is important to note that in the context of emerging convergent technologies and systems, mobile phones appear to play the pivotal role in sharing the innovative systems, technologies, knowledge and contents with persons, groups, institutions, and societies, capturing the length and breaths of plural micro-meso-macro scales because, foremost mobile telephony is a network good that sets context for multiple streams of spill overs and pay-offs. More importantly, inherently, being a network good the utility of mobile phone to a user may be posited to be dependent on the size of the network; higher the size of the network, higher will be utility to the user. Moreover, in comparison with the landline, the mobile set allows the user to embed multiple forms of data simultaneously, thus, deviating from the conventional simplex network to a sort of multiplex arrangement.

According to Rogers (2003), the spread of a new innovation over time typically follows an S-curve, as the early adopters select the technology first, followed by the majority until an innovation is common. Many researchers have estimated the S-curve for mobile phone diffusion using functional forms such as Bass Model (Bass, 1969). Existing research also includes the studies focusing on the determinants of mobile phone penetration on a broader scale. Donner (2007) provides an extensive survey of such studies. Rouvinen (2006) studied the mobile phone diffusion across developed and developing countries. Most studies concluded that single standard for mobile platform and competition (number of operators) has positive effects on mobile phone adoption. In a study of 29 countries over a period of 1993-2004, Chakravarty (2007) examined the mobile phone penetration rates in Asia, using panel data analysis. His findings indicate that Gross Domestic Product, Per Capita Income, landline density, number of mobile providers and regulatory policy have positive and statistically significant influence on mobile phone penetration rates.

Quite importantly, several studies argue that mobile phones have a positive impact on the economic development of developing countries. Waverman, Meschi and Fuss find that the per capita GDP growth of a developing country with 10 more mobile phones per 100 inhabitants between 1996 and 2003 was 0.59 percent higher than an otherwise identical country (p.2). Furthermore, they estimate that this impact may be only half as large in developed countries. In another macro level study, Sridhar and Sridhar (2006) demonstration that increased mobile phone penetration in developing countries contribute to about 2.5 percent of annual GDP growth on average while landline penetration contribute to about 1.6 percent. Moreover, micro level studies highlight more specific mechanisms and find positive economic impact. Succulently, few studies have highlighted Mobile phones role in improving efficiency in agricultural (Islam & Gronlund 2008; Aker 2008) and fish

markets (Jensen 2007) by providing better market information, allow micro-entrepreneurs to expand business contacts (Donner 2007), and facilitate financial transactions such as processing remittances and obtaining microcredit (Talbot 2008).

Mobile phones also have significant social impact. A substantial body of sociology literature suggests that phones compress the social time and space (Geser 2005). Using survey data from Taiwan, Wei and Lo (2006) examines that mobile phones “strengthen users’ family bonds, expand their psychological neighborhoods, and facilitate symbolic proximity to the people they call” by streamlining communication (p. 53). Quite importantly, phones are especially valuable to women, as they serve as a “liberator” (Rakow 1992). Examining women’s use of phones in a small community setting, Rakow (1992) argues that phones mitigate women’s fear, isolation, loneliness, and boredom by helping them cope better with confinement at home and physical separation from their own family members and friends.

Goodman (2005) emphasis on social capital can be more important concept for emerging economy compared to others, as in many cases, people in the former have less access to formalized structure of support, and may rely on informal connections instead. Exchange of voice or data using mobile phone can be entirely social, economic, or a combination of the two. It is important to note, that the motive toward communicating using mobile phone is less important than the social capital being created, as more and more individuals are able to communicate more freely across greater distances and with greater frequency. Role of social networks and the resulting social capital are neither positive nor negative by nature, but rather a neutral social resource. Quite importantly, Moser (1996) and Narayan (1995) finds that communities having diverse stock of social networks and civic associations are in a stronger position to confront poverty and vulnerability.

Hamilton (2003) explicitly addressed the issue of complementarity or substitution between fixed lines and mobile phones in Africa using a sample of developing countries of Africa. His results suggest that mobile phones are complementary to fixed telephone lines. However, this may be the result of strategic competition within the industry. According to him, “At different stages of cellular development, mobile can play the role of both a substitute for and a complement of main line demand” (pp. 130). Acker and Mbiti (2010), provide a qualitative overview of mobile phone coverage in Africa. In the studies on Africa, population density, per capita income and poor quality of landlines seem to have positive correlation with mobile phone coverage. Thus, the review of existing literature shows that a growing body of research has explored a variety of determinants of mobile phone penetration covering various regions and time periods. Most consistently, the factors such as income, fixed lines, industry competition and regulatory policy emerge as the most important predictors of mobile phone penetration. However, the evidence is mixed whether fixed telephone lines are substitutes or complements for mobile phones.

In this paper, we examine the linkage between owning mobile phones and socio-economic status of households in India. While a large chunk of analysis is based on unit records of 66th round of National Sample Survey (NSS)-Consumption Expenditure, we also use the secondary data obtained from Census, Government of India, 2011 and Telecom Regulatory Authority of India (TRAI). The paper is organised into three sections. Section 2 deals with mobile phone ownership and socio-economic characteristics. Section 3 provides concluding remarks.

2. Mobile Phone Ownership and Socio-economic Characteristics

As shown in table 1, in 2013 there were 868 Million wireless subscribers in India, reporting a teledensity¹ of 71. While, teledensity in the urban is 141, teledensity in the rural is just 40; there is discernable gap between urban and rural teledensity. Quite important, 88 percent of the market is serviced by private operators.

Table 1: Indian Wireless Telecom at Glance

| Wireless Subscribers | Status |
|--|----------------|
| Total Wireless Subscribers | 867.80 Million |
| Urban Subscribers | 525.30 Million |
| Rural Subscribers | 342.50 Million |
| Global System for Mobile Subscribers | 794.03 Million |
| Code Division Multiple Access Subscribers | 73.78 Million |
| Market share of Private Operators | 87.76% |
| Market share of Public Sector Unit Operators | 12.24% |
| Teledensity | 70.85 |
| Urban Teledensity | 140.67 |
| Rural Teledensity | 40.23 |

Source: Telecom Regulatory Authority of India (Data as on 31st March, 2013)

Figure 1 depicts areawise distribution of subscribers in millions. Some of the largest service area includes Uttar Pradesh East (75 million), Tamil Nadu (75 million), Maharashtra (71 Million), Andhra Pradesh (67 million), Bihar (61 million), Karnataka (55 million), Gujarat (53 million), Madhya Pradesh (53 million), and so on. Quite interestingly, while global cities like Mumbai there are 33 million subscribers, the number in the whole North East is just 9 million.

¹ Teledensity refers to number of telephone connection for every 100 individuals live with in an area.

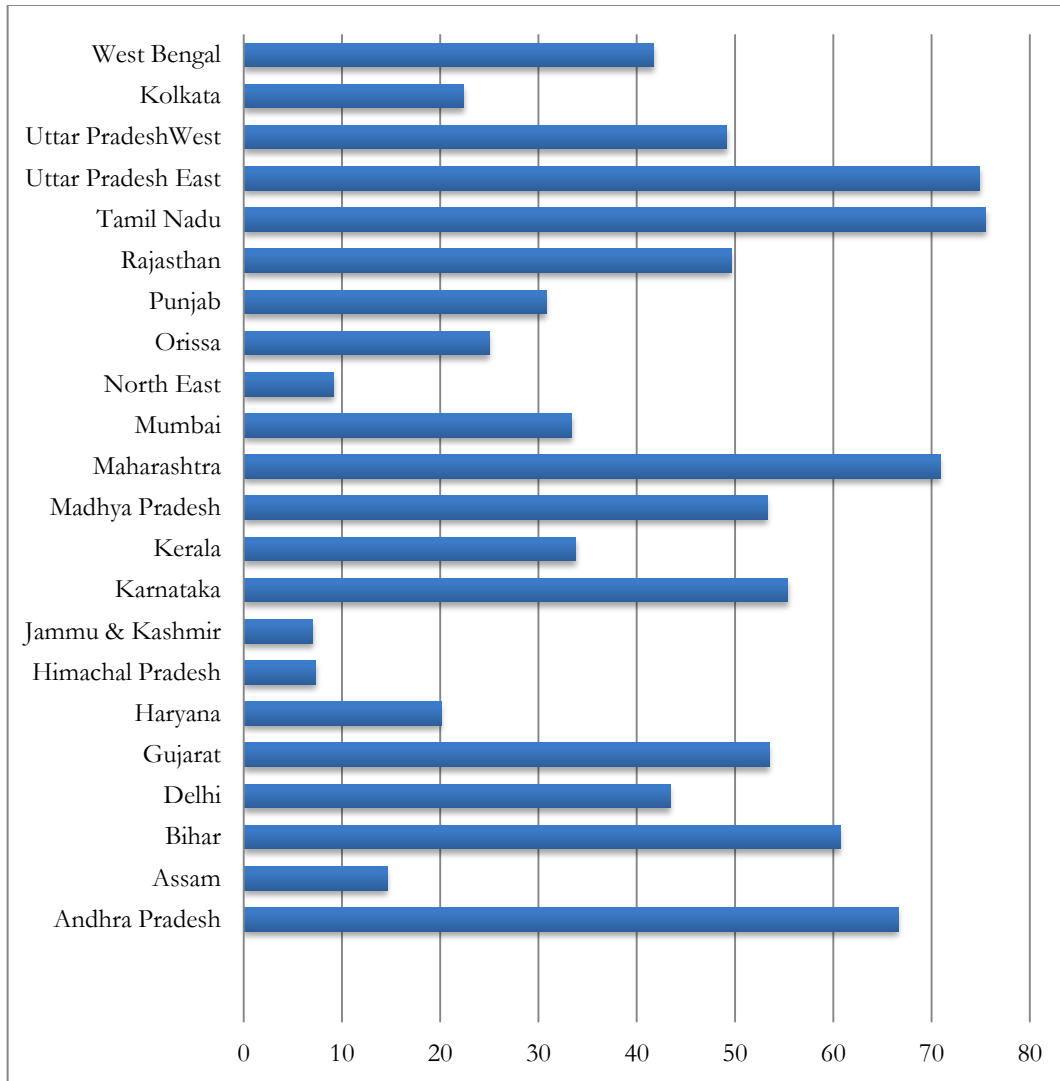


Figure 1: Areawise Distribution of Subscribers in Millions
Source: Telecom Regulatory Authority of India (Data as on 31st March, 2013)

While the previous pattern depicts areawise subscription of mobile phone services, it is important to figure out proportion of households owning at least one landline or mobile set, not provisioning for multiple subscriptions, to arrive at teledensity for every state or union territory in India. We calculate teledensity from Census 2011. Among states, Kerala reports highest teledensity (0.21), followed by Goa (0.20), Tamil Nadu (0.19), Punjab (0.16), Andhra Pradesh (0.16), Karnataka (0.15), Sikkim (0.15), Mizoram (0.15), Maharashtra (0.15) and so on (Table 2). On the other hand, Chhattisgarh reports the lowest teledensity (0.1). States such as Bihar, Uttar Pradesh, Nagaland, Madhya Pradesh, and Jharkhand belong to cluster of states having noticeably lower teledensity. There appears to be a direct relation between teledensity and human Development Index (HDI) (figure 2).

Table 2: Teledensity and Human Development Index (HDI)

| State | Tele Density | HDI 2006 | State | Tele Density | HDI 2006 |
|---------------------------|--------------|----------|----------------|--------------|----------|
| Andaman & Nicobar Islands | 0.205 | 0.708 | Lakshadweep | 0.155 | 0.697 |
| Andhra Pradesh | 0.157 | 0.585 | Madhya Pradesh | 0.095 | 0.529 |
| Arunachal Pradesh | 0.091 | 0.647 | Maharashtra | 0.146 | 0.689 |
| Assam | 0.098 | 0.595 | Manipur | 0.113 | 0.702 |
| Bihar | 0.101 | 0.507 | Meghalaya | 0.078 | 0.629 |
| Chandigarh | 0.199 | 0.784 | Mizoram | 0.147 | 0.688 |
| Chhattisgarh | 0.068 | 0.549 | Nagaland | 0.107 | 0.700 |
| Dadra and Nagar Haveli | 0.134 | 0.677 | Orissa | 0.092 | 0.537 |
| Daman and Diu | 0.214 | 0.700 | Puducherry | 0.195 | 0.725 |
| Delhi | 0.181 | 0.740 | Punjab | 0.160 | 0.668 |
| Goa | 0.197 | 0.764 | Rajasthan | 0.130 | 0.541 |
| Gujarat | 0.139 | 0.634 | Sikkim | 0.153 | 0.665 |
| Haryana | 0.148 | 0.643 | Tamil Nadu | 0.192 | 0.666 |
| Himachal Pradesh | 0.177 | 0.667 | Tripura | 0.110 | 0.663 |
| Jammu & Kashmir | 0.112 | 0.590 | Uttar Pradesh | 0.110 | 0.528 |
| Jharkhand | 0.090 | 0.574 | Uttarakhand | 0.148 | 0.652 |
| Karnataka | 0.154 | 0.622 | West Bengal | 0.108 | 0.642 |
| Kerala | 0.207 | 0.764 | Total | 0.130 | 0.614 |

Source: HDI from UNDP and Teledensity from Census 2011

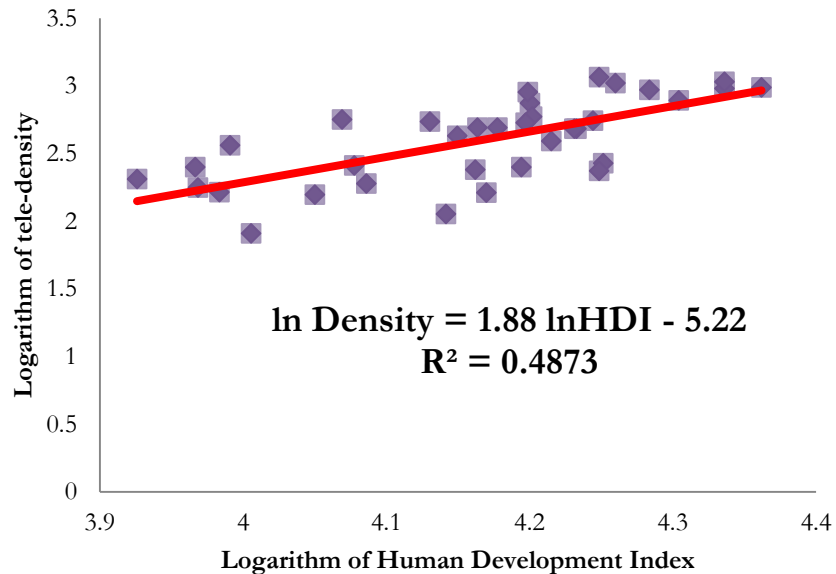


Figure 2: Teledensity and Human Development Index (HDI)

Source: *Estimated from the author using UNDP and Census 2011 data.*

As shown in figure 3, albeit noticeably lower teledensity, states like Uttar Pradesh and Bihar appear to form a large chunk of the mobile telephone market; Uttar Pradesh accounts for nearly one sixth of the total market while Bihar's share is 6 percent. Other prominent market includes Maharashtra (10 percent), Tamil Nadu (8 percent), West Bengal (8 percent), Karnataka (6 Percent), Madhya Pradesh (6 percent), Gujarat (5 percent) and so on.

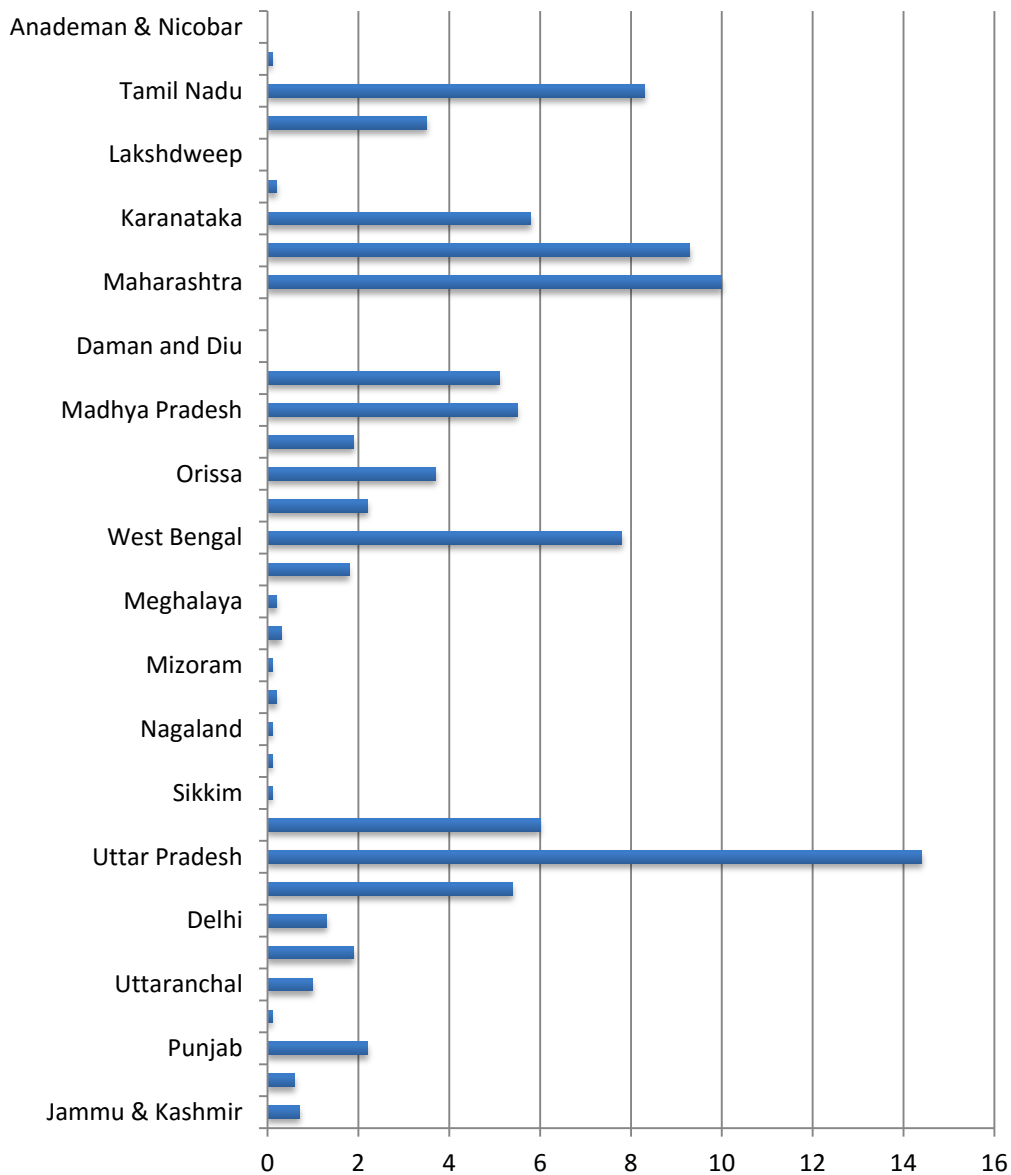


Figure 3: Distribution of Mobile Ownership

*Source: Estimated from the Unit Records, NSS 66th Round on Consumption Expenditure (2011),
Number of observation = 94311*

Table 3 presents proportion of households owning mobile phone in 2009-10, for both the rural and the urban. Among states Kerala reports highest proportion of rural households owning the mobile phone (79 percent), Chhattisgarh reports the least (26 percent). Quite important, other cases of noticeably lower ownership rates in the rural include Orissa (34 percent), Arunachal Pradesh (39 percent), Jharkhand (35 percent), West Bengal (40 percent), Bihar (48 percent), and Meghalaya (49 percent). Overall, in India share of households who own mobile phone is 55 percent, while 81 percent of rural India owns the mobile set.

Table 3: Proportion of Households owning Mobile Phone

| State | Rural | Urban | State | Rural | Urban |
|-------------------|-------|-------|----------------------|-------|-------|
| Jammu & Kashmir | 74.6% | 83.3% | West Bengal | 40.4% | 76.3% |
| Himachal Pradesh | 78.2% | 88.0% | Jharkhand | 34.9% | 73.7% |
| Punjab | 75.8% | 80.8% | Orissa | 33.9% | 71.9% |
| Chandigarh | 91.5% | 93.1% | Chhattisgarh | 25.8% | 72.9% |
| Uttaranchal | 75.0% | 87.2% | Madhya Pradesh | 44.2% | 79.6% |
| Haryana | 76.2% | 85.1% | Gujarat | 64.4% | 85.1% |
| Delhi | 78.4% | 88.5% | Daman and Diu | 76.9% | 95.0% |
| Rajasthan | 71.5% | 85.3% | Dadra & Nagar Haveli | 60.4% | 97.2% |
| Uttar Pradesh | 55.4% | 78.4% | Maharashtra | 52.6% | 83.6% |
| Bihar | 47.7% | 75.6% | Andhra Pradesh | 55.1% | 80.2% |
| Sikkim | 66.7% | 94.6% | Karnataka | 58.4% | 84.1% |
| Arunachal Pradesh | 38.6% | 74.5% | Goa | 68.0% | 86.6% |
| Nagaland | 68.4% | 90.0% | Lakshadweep | 79.4% | 88.9% |
| Manipur | 54.9% | 74.8% | Kerala | 78.5% | 85.2% |
| Mizoram | 58.7% | 90.7% | Tamil Nadu | 64.7% | 79.4% |
| Tripura | 55.0% | 85.4% | Pondicherry | 70.5% | 84.6% |
| Meghalaya | 48.6% | 82.3% | Andaman & Nicobar | 78.0% | 94.0% |
| Assam | 49.9% | 85.0% | India | 54.8% | 81.4% |

*Source: Estimated from the Unit Records, NSS 66th Round on Consumption Expenditure (2011),
Number of observation = 94311*

Table 4 cross-tabulates proportions of households by age interval. We categories head of households age to three categories: 34 and below, 35-59 and 60 and above. Overall, in India a two third of households in the age group 35-59 own the mobile phone, while ownership rates for 34 and below and 60 and above are 61 percent, 59 percent, respectively. Interestingly, this pattern is not valid in states like Tamil Nadu where ownership rate falls with age; while ownership rate in respect of 34 and below is 77, ownership rates for 35-59 and 60 and above are 76.5 percent and 50.5 percent, respectively. On the contrary in West Bengal there appears to be a direct relation between ownership percentage and age.

Table 4: Proportion of Households owning Mobile Phone (Rural + Urban) by age interval

| State | 34 and below | 35-59 | 60 and above | State | 15-34 | 35-59 | 60 and above |
|-------------------|--------------|-------|--------------|----------------------|-------|-------|--------------|
| Jammu & Kashmir | 72.6% | 77.8% | 76.4% | West Bengal | 43.4% | 50.8% | 58.2% |
| Himachal Pradesh | 86.4% | 80.0% | 73.7% | Jharkhand | 41.7% | 42.6% | 46.0% |
| Punjab | 65.3% | 83.9% | 71.5% | Orissa | 33.7% | 40.3% | 47.8% |
| Chandigarh | 89.6% | 94.1% | 98.4% | Chhattisgarh | 30.2% | 36.2% | 41.8% |
| Uttaranchal | 85.6% | 76.4% | 68.3% | Madhya Pradesh | 50.8% | 55.3% | 49.3% |
| Haryana | 74.2% | 81.3% | 77.4% | Gujarat | 68.8% | 76.4% | 65.4% |
| Delhi | 84.1% | 91.6% | 90.7% | Daman and Diu | 88.0% | 86.9% | 69.4% |
| Rajasthan | 68.8% | 78.9% | 71.1% | Dadra & Nagar Haveli | 64.6% | 75.2% | 95.3% |
| Uttar Pradesh | 58.0% | 62.5% | 57.5% | Maharashtra | 64.8% | 70.9% | 57.4% |
| Bihar | 50.5% | 50.6% | 53.6% | Andhra Pradesh | 64.0% | 67.2% | 49.8% |
| Sikkim | 68.1% | 74.0% | 64.9% | Karnataka | 72.2% | 67.8% | 71.0% |
| Arunachal Pradesh | 49.9% | 49.5% | 22.2% | Goa | 41.3% | 81.1% | 77.3% |
| Nagaland | 78.3% | 78.6% | 50.5% | Lakshadweep | 98.7% | 84.0% | 84.3% |
| Manipur | 48.2% | 59.7% | 69.6% | Kerala | 80.3% | 84.4% | 72.5% |
| Mizoram | 58.7% | 78.7% | 75.1% | Tamil Nadu | 77.3% | 76.5% | 50.5% |
| Tripura | 51.6% | 63.0% | 66.9% | Pondicherry | 69.5% | 88.8% | 69.1% |
| Meghalaya | 46.7% | 54.9% | 69.4% | Andaman & Nicobar | 84.6% | 84.3% | 87.0% |
| Assam | 44.7% | 55.5% | 61.2% | India | 60.7% | 65.2% | 59.4% |

Source: Estimated from the Unit Records, NSS 66th Round on Consumption Expenditure (2011)
Number of observation = 94311

In table 5 the proportion of households owning mobile phone is computed with respect to social category; there are four social categories-Scheduled Tribes (ST), Scheduled Castes (SC), Other Backward Classes (OBC), and Others. In 2009-10, in India, while the proportion of ST households owning the mobile phone is the least (42 percent) compared to other social categories the category others reports the highest category (75 percent). It appears most of the major states in terms of the size of the mobile ownership show more or less same pattern. However, in some union territories the above-mentioned pattern appears to be not valid; rather a topsy-turvy distribution is reported. States such as Chhattisgarh (18 Percent), Orissa (20 percent) and Jharkhand (29 percent) report discernibly lower ownership rates for ST.

Table 5: Proportion of Households owning Mobile Phone (Rural + Urban) by Social Category

| State | Scheduled Tribes | Scheduled Castes | Other Backward Classes | Others |
|----------------------|------------------|------------------|------------------------|--------|
| Jammu & Kashmir | 63.7% | 64.4% | 75.7% | 79.0% |
| Himachal Pradesh | 76.3% | 71.6% | 75.7% | 83.9% |
| Punjab | 62.7% | 65.1% | 77.4% | 88.9% |
| Chandigarh | 100.0% | 84.0% | 88.2% | 96.1% |
| Uttaranchal | 62.8% | 54.6% | 75.7% | 84.3% |
| Haryana | 68.8% | 60.6% | 79.4% | 91.2% |
| Delhi | 45.8% | 86.4% | 79.4% | 92.6% |
| Rajasthan | 69.8% | 65.8% | 76.3% | 85.4% |
| Uttar Pradesh | 71.7% | 46.6% | 60.0% | 76.2% |
| Bihar | 49.3% | 35.7% | 49.6% | 71.9% |
| Sikkim | 67.2% | 77.9% | 69.3% | 95.6% |
| Arunachal Pradesh | 39.3% | 47.2% | 83.3% | 60.5% |
| Nagaland | 73.6% | 100.0% | 75.1% | 92.2% |
| Manipur | 42.3% | 51.3% | 69.5% | 74.4% |
| Mizoram | 74.5% | 69.8% | 91.8% | 65.0% |
| Tripura | 48.3% | 55.0% | 67.8% | 73.6% |
| Meghalaya | 53.8% | 88.9% | 47.3% | 65.1% |
| Assam | 40.3% | 54.4% | 54.5% | 59.8% |
| West Bengal | 35.5% | 39.1% | 53.1% | 56.0% |
| Jharkhand | 28.7% | 31.8% | 50.2% | 64.9% |
| Orissa | 19.8% | 29.9% | 43.5% | 61.0% |
| Chhattisgarh | 18.1% | 34.9% | 39.4% | 57.9% |
| Madhya Pradesh | 28.8% | 45.8% | 55.5% | 79.2% |
| Gujarat | 48.7% | 64.4% | 71.2% | 88.6% |
| Daman and Diu | 36.4% | 100.0% | 99.2% | 82.2% |
| Dadra & Nagar Haveli | 59.9% | 70.8% | 100.0% | 99.5% |
| Maharashtra | 45.4% | 57.1% | 61.8% | 77.2% |
| Andhra Pradesh | 38.0% | 57.3% | 61.2% | 72.5% |
| Karnataka | 58.8% | 52.5% | 71.6% | 75.0% |
| Goa | 36.4% | 39.1% | 92.9% | 83.4% |
| Lakshadweep | 84.2% | 83.6% | 62.9% | 100.0% |
| Kerala | 64.7% | 71.8% | 81.6% | 80.9% |
| Tamil Nadu | 66.7% | 60.2% | 73.4% | 86.7% |
| Pondicherry | 100.0% | 63.1% | 83.5% | 81.1% |
| Andaman & Nicobar | 65.1% | | 88.2% | 85.4% |
| India | 41.6% | 51.3% | 64.2% | 74.5% |

*Source: Estimated from the Unit Records, NSS 66th Round on Consumption Expenditure (2011),
Number of observation = 94311*

Table 6 provides probit estimates of mobile phone ownership. Here, we specify mobile phone ownership as a function of place of residence, social category, religion, having Internet connection, educational attainment, age, state, constant and error. Quite important, there is a statistically significant positive coefficient in favour of the urban over the rural in owning the mobile phone. As regards the social category, all groups report statistically significant positive coefficients over the reference group “Scheduled Tribe”. In the case of religion, barring Buddhist and others, all other groups report statistically significant positive coefficient over Hindu. Those households not having Internet connection report a statistically significant negative coefficient over the households having Internet connection. As far as educational attainment is concerned, all categories report statistically significant positive coefficient over the reference category “not literates”. Over the reference category age group 34 years and below other age group report statistically significant positive coefficients. What the results signify is that ownership of mobile phone appears to be mired in socio-economic-demographic characteristic such as place of residence, social category, religion, having Internet connection, educational attainment, and age.

Table 6: Determinants of Mobile Ownership

| Probit Regression | | | | |
|---|-------------|-----------------------|--------|---|
| Number of observation = 94311, Wald chi2 (22) = 12873.85, Prob > chi2 = 0, Pseudo R2 = 0.1438, Log pseudo likelihood = -48136.481 | | | | |
| Dependent variable: Mobile handset ownership | Coefficient | Robust Standard Error | z | Level of significance (probability of type 1 error) |
| Living in Urban Sector | 0.206 | 0.010 | 20.63 | 1% |
| Social Category (Reference category =Scheduled Tribe) | | | | |
| Scheduled Castes | 0.102 | 0.018 | 5.66 | 1% |
| Other Backward Classes | 0.313 | 0.016 | 18.99 | 1% |
| Others | 0.428 | 0.017 | 24.46 | 1% |
| Religion (Reference category =Hindu) | | | | |
| Muslim | 0.049 | 0.014 | 3.34 | 1% |
| Christian | 0.142 | 0.021 | 6.6 | 1% |
| Sikh | 0.600 | 0.037 | 15.86 | 1% |
| Janis | 0.380 | 0.134 | 2.82 | 1% |
| Buddhist | -0.010 | 0.044 | -0.25 | Not significant |
| Others | -0.374 | 0.052 | -7.11 | 1% |
| Not having internet connection | -0.592 | 0.055 | -10.67 | 1% |
| Educational Attainment (Reference category =Not Literate) | | | | |
| Just Literate | 0.291 | 0.015 | 18.38 | 1% |
| Primary | 0.423 | 0.014 | 28.99 | 1% |
| Middle | 0.671 | 0.014 | 46.44 | 1% |
| Secondary | 0.978 | 0.016 | 59.63 | 1% |
| Higher Secondary/Diploma | 1.202 | 0.020 | 59.09 | 1% |
| Graduate | 1.483 | 0.025 | 58.97 | 1% |
| Post Graduate | 1.603 | 0.046 | 34.55 | 1% |

| Age (Reference category =15-34) | | | | |
|---|--------|-------|--------|----|
| 35-59 | 2.448 | 0.171 | 14.27 | 1% |
| 60 and above | 2.437 | 0.171 | 14.19 | 1% |
| State Dummy (Yes) | | | | |
| Constant | -2.146 | 0.182 | -11.79 | 1% |
| <i>Estimated from National Sample Survey 66th Round Unit Records on Consumption Expenditure (2011)</i> | | | | |

Moreover, incremental consumption expenditure by mobile owning households over the not owning ones, as plotted in figure 4, appears to be positive for all states/ union territories. Among states Sikkim reports highest positive differential (87 percent) in favour of households who own mobile phone over those who do not own mobile phone, Punjab and Karnataka report the least (25 percent)

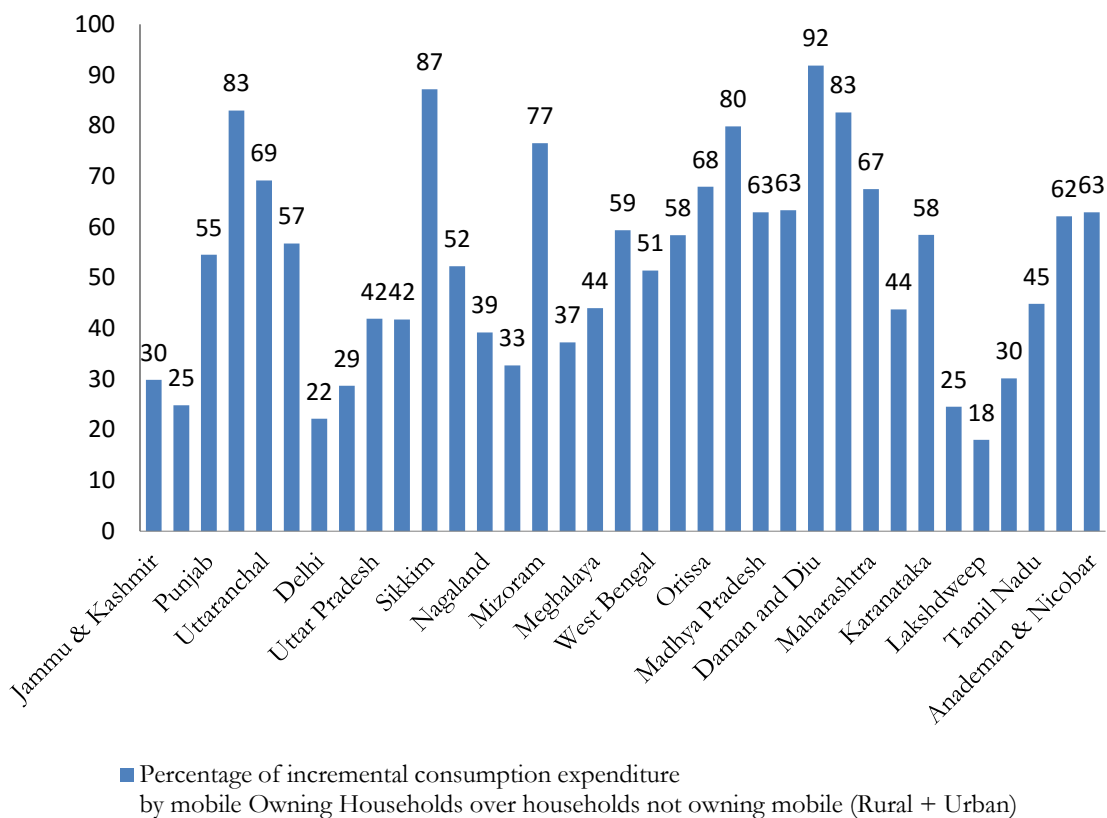


Figure 4: Percentage of incremental consumption expenditure by mobile owning households not owning (Rural + Urban)

Source: Estimated from the Unit Records, NSS 66th Round on Consumption Expenditure (2011), Number of observation = 94311

3. Concluding Remarks

Drawing cues from patterns and inferences that have emanated from the analysis of data, quite vividly, there appears to be a direct linkage between the ownership of mobile phones and socio-economic status, in particular the economic status. Although the positive linkage that we argue may have been impacted by the factor of serendipity there appears to be a systematic pattern that elucidates the pivotal aspects in the socio-economy that determines the ownership of technology embedded artefacts such as mobile phone. However, particularly in the context of fast growing economic geographies such as India, patterns point to discernable gaps or inequalities in owning technology embedded goods such as mobile phones that stem from diverse socio-economic-demographic characteristics such as place of residence, social category, religion, having Internet connection, educational attainment, age, and the state. Unequivocally, as the plot of human development index with against teledensity points to the usefulness of network goods such as mobile phones to let households as well as persons progressing to higher order socio-economic strata. Presumably, in order to reap the benefit of the direct relation between owning the mobile set and the socio-economic status entails more creative strategies that make access to network goods more inclusive, particularly in the context of the emerging digital convergent technologies and systems.

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