

# Behavioural Economics: Why Indian urbanites may transparently sell their data

A typical urban consumer plays a rather passive role in the value chain that transforms their data into huge monetary benefits. Here are some reasons that show why Indian Internet users will be more willing for a fair trade-off

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*The typical urban consumer, whose raw personal data is driving this digital data economy. Image: Debajyoti Chakraborty/NurPhoto via Getty Images*

Macro-economic inequality in the digitally booming GDP-rich India is glaring (India is a top-five GDP nation globally), where millionaires control a significant portion (approximately 54 percent) of the nation's GDP, leaving the per-capita GDP in the country too low for it to be lowly ranked. India is ranked around 145th in the world on nominal per-capita GDP. A considerable portion of the 'non-millionaire' population live in smart urban cities and have access to the various varieties of smartphone apps (for on average 3-4 hours a day) and IoT devices (such as smartwatches, Fitbit) that aggregate a plethora of an individual's lifestyle data in real-time and economically transact on them in the opaque value chain. Examples of widespread personal data (PD) include basic personal information like age and sex, expressions/emojis from social posts and messages, financial transactions data, photos, web surfing data, interaction data with a smart fridge, smart thermostat or other IoT devices, calendar events, sport activity data from Fitbit, location data, and travel data.

RSS However, the typical urban consumer, whose raw personal data is driving this digital data economy (or the fourth industrial revolution), plays a rather passive role as they are often (unfairly and inequitably) left out of the value chain that transforms their data into huge monetary benefits using powerful AI and psychological tools. To cite an

example, market data suggests that more than 95 percent of Meta's (erstwhile Facebook) revenue comes from advertising that solely relies on consumers' personal data. This business model can only be successful if the adverts are successful too. Recent studies in the western world show a diverse range of the monetary impact of personal data on the earnings of ecommerce firms and society individuals. Frequently collected personal data by ecommerce firms such as age, sex, browsing activity, geolocation, and so on. The average (mobile-savvy) individual is worth at least \$1000 annually. Such an amount, if paid to online social application (OSA) users (after PPP conversion) as a cash payment for their personal data, can significantly reduce the GDP-induced macro-economic inequality in any particular economy around the globe. Its effect is most likely to be felt on economies with high inequality. For example, for the smartphone penetrating, GDP-rich, but highly unequal Indian economy, an economically calibrated PPP-converted value of \$1000 is likely to reduce the average economic inequality by one-third.

Surprisingly, despite privacy concerns related to personal data sale, pilot randomised trial experiments conducted by us on approximately 22500 individuals in urban India showed that individuals are willing to trade their data for incentives in a transparent data economy (a result appearing in the prestigious INFORMS Winter Simulation Conference 2021). Here, the notion of 'transparency' implies that individuals should be effectively informed or educated of the personal data that is being collected by OSAs along with the privacy risks that might accompany such data collection activities. The observation from the pilot field experiments is quite rational of India—a low-medium economy country (LMIC), despite privacy being a right currently upheld by the Indian constitution—an exception being situations (e.g., fake news spread for social and communal harm) where upholding privacy for every individual might go against bringing anti-social elements to justice (Section 79 of IT Act). The important question one might then be interested in getting an answer to is: What aspects of human behaviour drive this 'rational' trend?

As an answer, multiple behavioural-economic reasons are working in tandem here, apart from the evident reason that online services are a necessity today that society cannot simply give up. We explore a few salient reasons in this opinion piece.

The basic awareness regarding good privacy hygiene is lacking for a significant Indian population (urban and more so otherwise) of digitally equipped but privacy-illiterate users. According to the Digital Empowerment Foundation (DEF) of India, nearly 90 percent of India is privacy illiterate. The privacy illiteracy factor is far greater in rural and suburban areas of the subcontinent, though much of the population in such areas are equipped with smartphones. Add to this the information asymmetry problem where mobile consumers are unaware of diverse ways OSAs collect and use their data. Especially for the low-earning suburban/rural Indian population (nearly 70 percent of Indian population), it is well known through developmental economic studies (Banerjee and Duflo, 2012) that most of such a 'modest' privacy literate population prefer to invest in smartphone apps, and/or TV to mitigate boredom. Clearly, with their privacy literacy levels, they would care less if their personal data was exploited by ad networks and advertisers, as long as they receive monetary rewards. This, especially so when our experimental results show that more privacy literate and higher-earning individuals in urban zones are willing to trade personal data for money. In addition, privacy-literate citizens who are usually boundedly rational lack the cognitive capacity to assess the nuances of the complex current non-transparent PDC ecosystem.

With the average yearly income of individuals in urban areas barely averaging \$1500, even post-economic and PPP conversion, a significant section of the highly inequitable urbanite population with an average 6 percent unemployment rate prefer to monetise their personal data in return for incentives to increase their daily average income. This is more true of India, where often a single individual is the sole earning member for a household of at least three or more members. It is also the case that part of this behaviour is related to the present bias where privacy-literate individuals in the LMI country economy prefer incurring long-term adverse profiling costs in return for immediate small monetary benefits. This also triggers a cognitive adaptation syndrome where individuals get used to privacy risks that are time-invariant or, at best, increase gradually. A part of the same population surveyed is under the behavioural perception (due to data commercialisation inevitability and its inherent economic unfairness/inequity) of accruing high opportunity costs of not being part of a transparent personal data economy (TPDE), given that they (mostly from major cities) cannot do without the everyday services by these data collecting online agencies.

There is a consensus of resentment in certain sections of the privacy-sensitive public on the unfairness of existing data commercialisation. This provides a basis for a behavioural anchoring bias that makes these individuals prefer embracing fairer TPDEs instead of shunning them. Moreover, there is a sense of confirmation bias prevailing among

parts of the surveyed privacy-literate LMI country population, that despite the use of privacy-enhancing technologies (PETs) by personal data collectors, there is the inevitable existence of unfair information asymmetry driven personal data commercialisation. Hence, such a population prefers to trade PD in a TPDE and is further catalysed by being a part of an LMI country. In addition, the strong, close-knit socio-cultural fabric of India reflective of effects such as homophily, herding, and the friendship paradox generates enough externalities to drive individuals to voluntary release their personal data (irrespective of monetary expectations) on mobile social community platforms to garner social importance points (for example, through Facebook likes). For such a population category (that often overlaps with each category aforementioned), getting paid for their personal data in a transparent economy is an economic bonus.

The field experiments showcased in the Winter Simulation Conference point out that when incentives are provided, the proportion of Indian urbanite individuals exhibiting a high willingness to trade their data, and those who did not undergo the intervention treatment is lesser than that with training. We first note that high personal data trading willingness zones usually represent individuals who are relatively more profit-minded than privacy-sensitive. Keeping this in mind, our observation here can be explained because of the anchoring effect and the availability heuristic. In the first place, individuals in an LMI country macro-economy, in general, are willing to incur the least opportunity costs. Second, the training program induces an anchoring effect on parts of this population of high WTP individuals wherein their desires to make money out of their personal data increases post 'resentment' feelings about the gross economic unfairness in the current data economy that we portrayed in the training program. The training program also generates an information availability bias on the mind of the participants (via data breach events such as Cambridge Analytica). Moreover, some privacy-literate individuals not experiencing the training program exhibit the social desirability bias whereby they feel a social 'guilt' in trading personal data transparently, temporarily discounting the remuneration their data would bring them. Subsequently, they reflect lower trade willingness values compared to those who are properly educated about how their data is commercialised. On the other hand, certain privacy-literate individuals experiencing the training program feel a sense of added illusory psychological control over their data and are over-confident of trading the latter without loss of their privacy.

The field experiments also showcase that non-earning homemakers (mostly women in India) in urban India have a relatively lower willingness to trade personal data in general when compared to earning non-homemakers (a mix of men and women). First, a paradoxical phenomenon where a significant population of homemakers (from medium-income households) in India, despite being 'greedy' about incentives (because most usually like additional income), mildly prefer those incentives to be derived from their personal data. This does not imply that they are private beings. Quite the contrary, where they are psychologically entangled in a weird social fabric where it's alright for them to be quite interested in other homemakers' personal data but not alright when others have access to their personal data, even if the entity collecting their data is most likely not in their acquaintance circles. Most of them psychologically overestimate a perceived fear, arising out of a mixture of confirmation bias and conjunction fallacy, that their personal data (for example, cloth brands, food habits) will land in the hands of their 'neighbouring' homemakers and be the point of a social discussion, much to their dislike. What they discount or underestimate is the fact that much of such personal data are often leaked through non-digital channels with a higher probability than digital channels. There is also a decent population of biased—'unaffected' homemakers who are quite driven to share such information with their acquaintances, aligning with popular intuition about homemaker information sharing behaviour in Indian society. Second, many homemakers who do not suffer significantly from related behavioural biases and fallacies can gauge the unfairness or inequity of the current personal data economy but do not get a clear idea of the indirect effects of monetising personal data. And in addition, are part of a household with incomes high enough to appreciate trading personal data for a few cents. Hence they are not very enthusiastic about trading personal data when weighing against the potential privacy risks. In many cases, this lack of enthusiasm is also in part because of a social desirability bias of not worrying much about making 'smart' income when the primary bread-owner of the family is earning 'enough'. This latter bias (oblivious of any economic, digital, basic, and privacy literacy levels) also cuts across low-income and patriarchal households.

Subjects involved in local professions (such as shopkeeper, bus driver, housemaid, full-time food-chain employee) show personal data trading preferences on the higher side in general, similar to more educated professionals such as university staff (excludes faculty) and students. Surprisingly a fair proportion of privacy-literate corporate employees exhibit medium-high willingness to trade personal data. This socio-economic trend is most likely because

(a) both these classes of the population are on average either financially 'ambitious' or needy about their basic

education levels, and do not want to incur opportunity costs of not trading personal data—putting privacy as a secondary priority, or

(b) a portion of privacy-literate individuals has a sense of psychological ‘illusory control’ over their data.

To be more specific with our reasoning, university staff and students in India have much lower stipends/salaries when compared to faculty and administrators (approximately at least 6-fold) with a relatively far lower gap in digital and basic educational literacy, and hence showcase high personal data trading preferences. Due to this economic standing, they are not privacy-sensitive despite being privacy literate. Similarly, employees in local professions are not privacy-sensitive, lack privacy literacy due to low basic education, and do not get the opportunity to earn at the scale as per their inherent economic desires. Privacy is not a priority for such professionals.

Surprisingly, surveyed corporate professionals exhibit high personal data trade willingness likely in general due to a combination of financial ambitions, family needs, and a better-educated understanding of ad-ecosystems due to their high general privacy literacy. The latter understanding generates the belief that

(a) their personal data is interesting to targeted advertisers and (b) they will likely never be in complete control of their personal data. Hence, it is in their best rational interests to trade personal data in a transparent economy.

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