

**Team Amazon**

**15.913/915 Sustainability Lab**

**MIT Sloan School of Management**

**Spring 2017**

**Team Members:**

Georg Caspary  
Preston Kutney  
Pratik Modi  
Shelby White

## Executive Summary

The MIT Sloan Sustainability-Lab team was assigned to help Amazon uncover insights about millennial and gen-z Indian consumers' (born approximately 1979-2016, and hereafter referred to as "young consumers") attitudes towards environmental sustainability and the effect on purchase preferences. The aim is to provide more clarity and certainty on the effect of sustainability issues on younger consumers' buying preferences, to allow Amazon to innovate and meet the needs of these customers as they enter peak purchasing years.

The starting assumption was as follows: *Amazon's current belief is that the three pillars of delivering great customer experience include price, selection, and convenience. The company believes that while other things will change, these three pillars will not – and that focusing on these factors, and innovating against them, will help Amazon meet shifting customer needs.*

The hypothesis is that young consumers are more sensitive to environmental sustainability and that the ability to meet this customer preference will create a competitive advantage in the B2C market. While India faces a host of social issues - gender, caste, labor standards - our investigation was limited to environmental issues by design due to limited time and scope.

The research focus evolved through our discussions and meetings with Amazon Sustainability staff (See **Appendix A** for scope evolution), and the scope of research was centered around these three questions:

- I. What are e-Commerce/consumer purchasing behaviors of young Indian consumers? What is the size and potential of this market?
- II. How do Indians understand and define sustainability? What are young Indian consumer attitudes about environmental sustainability issues?
- III. What are young Indian consumers' aspirations for the future and how will cultural values and attitudes on sustainability affect eCommerce behavior, especially as wealth grows?

In doing so, we aim to provide Amazon with information that will help them establish innovative products or programs geared toward its sustainability-minded young consumers in the rapidly growing Indian market.

## Part I: What are e-Commerce/consumer purchasing behaviors of young Indian consumers? What is the size and potential of this market?

### Summary of Insights:

- Market is large and poised for growth, led by young consumers
- Population is 65% rural, but 70% of income is generated in cities
- Vegetarianism and wedding spending highlight unique culture-driven spending behavior, with significant differences from U.S., especially regarding food
- Significant challenges to e-Commerce penetration exist

### Size and Potential

The total addressable e-Commerce market in India is immense, and poised for rapid growth. India's younger generation may be the most promising consumer group in history. There are three major engines of growth in the e-Commerce market:

1. **Population:** India is a very young nation, with 869M born between 1979 and 2016, or 70% of the population<sup>1</sup>. This is roughly 6x the ~150M of U.S. population between those ages.
2. **Income and spending:** Around 40% of households earn more than \$5,250 USD per year, and GDP has grown around 7% the last 4 years<sup>2</sup>. Currently, Indian e-Commerce spending is around \$65 per household or 2% of household income, (compared to \$2,850 or 5% of household income in the U.S.), but is expected to grow at a 23% CAGR.<sup>3</sup>

<sup>1</sup> Office of the Registrar General & Census Commissioner, India. 2011 Census.

<sup>2</sup> <[www.tradingeconomics.com/india/gdp-growth-annual](http://www.tradingeconomics.com/india/gdp-growth-annual)>

<sup>3</sup> "Retail e-Commerce Sales in India from 2015 to 2021 (in billion U.S. dollars)", Statista. <[www.statista.com/statistics/289770/india-retail-e-](http://www.statista.com/statistics/289770/india-retail-e-)

3. **Diffusion of Internet Access:** Currently, only 1/4 to 1/3 of Indians have internet access. This number is predicted to rise quickly, and unlock billions of e-Commerce spending, as over 40% of those with access shop online,<sup>4</sup> and even more use the internet to research larger purchases.<sup>5</sup>

### Insights into Current Consumption Patterns

**Demographics:** India still has a very small middle-income group (\$11k-\$250k US) of only 2.5% of the population; Only one-third of the working population is urban but generates 70% of the income (See **Appendix H**).<sup>6</sup> Catering to cities will reach the majority of the wealth but not the population, and subpar infrastructure makes the economics of serving poor rural areas even more challenging. Due to the large youth population, creating enough jobs is seen as a high national priority.

**Cultural Traditions and Trends:** Due to religious beliefs and cultural tradition, between 1/3 and 1/2 of Indians are vegetarian, and families save for years for their child's wedding. Analysts note that "affluent consumers tend to shy away from ostentatious display of wealth" (with the exception of weddings)<sup>7</sup>. This contrasts with opinions that Indian millennials are "believers in collective individualism... [and] only crave for brands that will boost their social status and make them stand out in the crowd".<sup>8</sup>

**Product Categories:** Currently, Indians spend 27% of their income on fresh food (compared to 3% in the U.S.), and 11% on clothing, cosmetics and jewelry (compared to 6% in the U.S.). Restaurants are predicted to be the fastest growing share of spending, along with packaged snacks, baby products, premium personal care, scooters, SUVs, jewelry.<sup>9</sup>

**Challenges:** According to Deloitte India, the biggest challenges for eCommerce in India are a) Low trust in internet security (Cash On Delivery is most common mode of payment); and b) Poor infrastructure. While access to internet is seen as a challenge, rural areas have actually experienced faster eCommerce growth, as physical retail is undeveloped and mobile connectivity gives rural citizens access to more options (See **Appendix H**).<sup>10</sup>

## Part II: How do Indians understand and define sustainability? What are young Indian consumer attitudes about environmental sustainability issues?

### Summary of Insights:

- Climate change is perceived as the biggest global issue by Indians while North America and Western Europe consider ISIS as the biggest global threat.<sup>11</sup>
- "Green" is associated with "natural" or "herbal" and the market for organic and natural products has been growing at 25-30%.<sup>12, 13</sup>
- Young Indians are more socially responsible and environmentally aware than prior generations.
- Indian consumers more likely to purchase eco-friendly or "green" products, all else being equal.
- Inconclusive whether or not young consumers are willing to pay a premium.

---

commerce-sales/>

<sup>4</sup> "Internet Usage in India - Statistics and Facts", Statista. <[www.statista.com/topics/2157/internet-usage-in-india/](http://www.statista.com/topics/2157/internet-usage-in-india/)>

<sup>5</sup> "Why eCommerce in India is diminutive when compared to countries like China & Brazil," India Retailer 2016.

<[retail.franchiseindia.com/article/multi-channel/eretail/Why-eCommerce-in-India-is-diminutive-when-compared-to-countries-like-China-Brazil.a5323/](http://retail.franchiseindia.com/article/multi-channel/eretail/Why-eCommerce-in-India-is-diminutive-when-compared-to-countries-like-China-Brazil.a5323/)>

<sup>6</sup> Lu, Yiu, & Soman. "India Consumer Close-up". Goldman Sachs, 2016. <[www.goldmansachs.com/our-thinking/pages/macroeconomic-insights-folder/rise-of-the-india-consumer/report.pdf](http://www.goldmansachs.com/our-thinking/pages/macroeconomic-insights-folder/rise-of-the-india-consumer/report.pdf)>

<sup>7</sup> Ibid.

<sup>8</sup> Sinha, Arpit. "Decoding the Millennial Consumers in India", Entrepreneur India, 2016. <<https://www.entrepreneur.com/article/286041>>

<sup>9</sup> Lu, Yiu & Soman, op. Cit. p.4,17.

<sup>10</sup> "Future of eCommerce", Deloitte India, 2016. <<https://www2.deloitte.com/content/dam/Deloitte/in/Documents/technology-media-telecommunications/in-tmt-future-of-e-commerce-noexp.pdf>> See Appendix H for additional notes.

<sup>11</sup> Stokes, Pike and Carle, "Global Concern about Climate Change, Broad Support for Limiting Emissions" Pew Research Center 2015. Web: 13 Apr 2017 <<http://www.pewglobal.org/2015/07/14/climate-change-seen-as-top-global-threat/>>

<sup>12</sup> "Organic food market growing at 25-30%, awareness still low: Government". The Economic Times, 2015. Web: 16 Apr 2017 <<http://economictimes.indiatimes.com/industry/cons-products/food/organic-food-market-growing-at-25-30-awareness-still-low-government/articleshow/49379802.cms>>

<sup>13</sup> "The Natural Trend in Beauty & Personal Care in India". Euromonitor International 2016. Web: 17 Apr 2017:

<<http://blog.euromonitor.com/2016/09/natural-trend-beauty-personal-care-india.html>>

## **Indian Definition and Understanding of “Sustainability”**

Indian consumers have a unique context for understanding sustainability based on cultural traditions, values, and economic and demographic challenges. Cultural values contribute to common practices such as vegetarianism, while economic barriers limit certain categories of consumption, such as car ownership or heating in homes. (See Appendix B for additional examples.)

However, despite the effect of economic limitations, the average Indian believes that environmental protection and climate change are among the most important national issues.<sup>14</sup> This is partially due to the already-visible effects that climate change poses to the poor and monsoon-dependent population.<sup>15</sup> In a study of 18 major countries, Indians were the 2nd most likely to agree with the statement “Environmental Problems Are Having a Negative Impact on My Health Today” and the most likely to agree with “I Feel Guilty about the Impact I Have on the Environment”.<sup>16</sup>

Eco-friendly products and services have high awareness among Indian consumers. This is thought to be due to the traditional Hindu system of medicine, known as Ayurveda, and the importance placed on healthy and natural lifestyles.<sup>17</sup> For this reason, sustainable or green products in India have a strong association to ‘natural’ or ‘herbal’ meanings. These cultural ties are thought to be a primary driver in the fast growing trend of natural and herbal products. Specifically in the personal health and beauty space, India is seeing rapid growth and many new entrants into this market.<sup>18</sup>

To study the sustainability mindedness of India’s middle class, we looked at their involvement in environmental causes and their motivations for the same. Although the bottom third of the population suffer greatly due to environmental degradation and lead lives more strongly tied to the state of the environment (dependence on forests and agriculture for livelihood), environmental activism by people in the middle class is mostly motivated by self interest<sup>19</sup>. The urban middle classes are increasingly exposed to noise and air pollution, bad waste management, poor water quality and deprived of exposure to nature and as such can be considered victims of environmental degradation. Organizations like the World Wildlife Fund India, Center for Science and Environment, Bombay Natural History Society and Greenpeace India see participation by people of this demographic. (See Appendix C for detailed table)

## **Young Indian Consumer Attitudes Towards Sustainability**

Indian consumers in general appear to be receptive to environmentally-focused product messaging, with one study reporting that 75% of survey respondents strongly agreed with the statement “I have developed a liking for environmentally friendly products” and 90% indicated that their concern towards environmental protection is high.<sup>20</sup>

While the attitudes of Indian consumers, specifically the younger generation, appear to be positively related to sustainability and green purchases, it is inconclusive whether these consumers are willing to pay a premium for such products. According to the DuPont Green Living Survey, not only does India score highest compared to the U.S., Canada and China in terms of confidence that green products are better for the environment, but “over 88% of respondents also feel that biobased ingredients enhance the product’s desirability, with half or more saying worth a premium price.”<sup>21</sup> This contrasts with research from the National Geographic’s Greendex study, which, while supporting the hypothesis that younger Indian consumers are more sustainability focused, also states, “[Indian consumers] are among the most likely consumers to feel that the extra cost of environmentally friendly products is not worth it to them, and are the most likely to think that they do not work well.”<sup>22</sup> These are just two examples of the inconsistencies reached in the literature on Indian attitudes towards sustainability.

---

<sup>14</sup> Ray & Pugliese, “Indians Give Environment Slight Edge Over Economy” Gallup 2011. Web: 13 Apr 2017: <<http://www.gallup.com/poll/147923/indians-give-environment-slight-edge-economy.aspx>>

<sup>15</sup> Leiserowitz and Thaker, “Climate Change in the Indian Mind” Yale Project on Climate Change Communication 2012. Web: 13 Apr 2017: <[http://climatecommunication.yale.edu/wp-content/uploads/2016/02/2012\\_08\\_Climate-Change-in-the-Indian-Mind.pdf](http://climatecommunication.yale.edu/wp-content/uploads/2016/02/2012_08_Climate-Change-in-the-Indian-Mind.pdf)>

<sup>16</sup> “Greendex 2014”, National Geographic, 2014. <[http://images.nationalgeographic.com/wpf/media-content/file/2014\\_Global\\_Report-cb1411689801.pdf](http://images.nationalgeographic.com/wpf/media-content/file/2014_Global_Report-cb1411689801.pdf)>

<sup>17</sup> Green Marketing: Challenges and Opportunities for Business. Mishra, Pavan and Sharma, Payal. BVIMR Management Edge. Jan-Jun2014, Vol. 7 Issue 1, p78-86. 9p.

<sup>18</sup> <http://blog.euromonitor.com/2016/09/natural-trend-beauty-personal-care-india.html>

<sup>19</sup> Mawdsley, Emma. “India’s Middle Classes and the Environment.” Development and Change, Volume 35 Issue 1, January 2004, doi: 10.1111/j.1467-7660.2004.00343.x

<sup>20</sup> Saxena, Ravindra, and Pradeep K. Khandelwal. "Can green marketing be used as a tool for sustainable growth?: A study performed on consumers in India-An emerging economy." (2010): 277. Web. 31 Mar 2017 <<http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1132&context=dubaipapers>>

<sup>21</sup> Green Living Survey: India 2014. DuPont, 2014. <[www.dupont.com/content/dam/dupont/products-and-services/industrial-biotechnology/documents/DuPont%20Green%20Living%20Survey\\_leave%20behind\\_2209.pdf](http://www.dupont.com/content/dam/dupont/products-and-services/industrial-biotechnology/documents/DuPont%20Green%20Living%20Survey_leave%20behind_2209.pdf)>

<sup>22</sup> Greendex op. cit.

Another finding is that willingness to pay can vary from one product/service category to another. For example, according to a study done in the restaurant industry, “U.S. consumers are more willing to pay for Green practices than are Indian consumers. This difference is deeply rooted in the Indian psyche that government, not the consumer, is responsible for initiating and maintaining Green practices. This belief arises from the fact that most of the major projects in India are undertaken by the government, central or state, not by the private enterprises. (See **Appendix H** for more detail.)”<sup>23</sup> Another example of Indian hotel patrons found that customers “patronise the hotels that have adopted green practices, though not compromising on service quality. The consumers would prefer to use lodging that follows these sustainable practices but are not necessarily willing to pay extra for these services.” Thus, while Indian hotels will need to pay for these green practices, they may benefit from increased customer loyalty.<sup>24</sup>

In the research on consumer preference and consumption, there also appears to be an inverse relationship between socially responsible consumer behavior and age.<sup>25</sup> In other words, the younger the consumer, the more socially responsible their consumption. Although urban consumers tended to score higher than rural participants in all categories, the inverse relationship between age and socially responsible consumerism was consistent among both urban and rural consumers in India.

### **Part III: What are young Indians’ aspirations for the future and how will cultural values and attitudes on sustainability affect eCommerce behavior, especially as wealth grows?**

Summary of Insights:

- Limited evidence for relationship between national income and environmentalism.
- Consumption behavior in most categories will change with income, with a few notable exceptions - preferences around meat consumption and local goods will remain sustainable.
- India has a long history of CSR and Indians believe companies (especially foreign ones) have a duty towards society that is legally enforceable and increasingly focused on the environment.

#### **Relationship Between Affluence and Environmentalism**

The Environmental Kuznets Curve (EKC) theory claims that while environmental quality declines in the early stages of industrialization, more growth will lead people to demand better environmental quality. Much of the EKC literature is about macro-level analysis aimed at establishing or refuting the EKC phenomenon. High-quality empirical EKC studies at the consumer level addressing the question ‘do industrialization and growth of India lead to ‘greener’ consumer behavior?’ do not exist, nor for that matter in other countries. Other studies investigating the global relationship between income and environmentalism found only weak relationships, and little connection to individual consumer behavior<sup>26</sup>.

#### **Insight: Indians live sustainably today, but much of that is due to economic constraints, with one exception: food**

According to the Greendex Survey of sustainable consumption, India ranked first (and has for the past 4 years) due to their eco-friendly diets, small housing footprints, low car ownership rates, and low consumption of goods.<sup>27</sup> (See Appendix B for current environmentally friendly practices common in India) The key question is - which sustainable behaviors are due to economic constraints, and which ones are truly preferences?

**Sustainable consumption patterns that will change with rising incomes:** Behaviors that can be attributed to economic limitations include those related to housing and automobile ownership, as Indians were either most or second-most likely to desire a luxury vehicle and a large house.<sup>28</sup> Additionally, vehicle ownership growth has outpaced population growth and GDP per capita growth from 2007-2014 (**Appendix E**).<sup>29</sup> According to a BCG study on household expenditure

---

<sup>23</sup> Dutta, Kirti, et al. "A comparative study of consumers' green practice orientation in India and the United States: A study from the restaurant industry." *Journal of Foodservice Business Research* 11.3 (2008): 269-285. Web: 31 March 2017:

<<http://www.tandfonline.com/doi/abs/10.1080/15378020802316570>> See Appendix H for additional notes.

<sup>24</sup> Kamal Manaktola, Vinnie Jauhari, (2007) "Exploring consumer attitude and behaviour towards green practices in the lodging industry in India", *International Journal of Contemporary Hospitality Management*, Vol. 19 Issue: 5, pp.364-377, doi: 10.1108/09596110710757534. Web: 31 March 2017: <<http://www.emeraldinsight.com/doi/abs/10.1108/09596110710757534>>

<sup>25</sup> Narendra Singh, (2009) "Exploring socially responsible behaviour of Indian consumers: an empirical investigation", *Social Responsibility Journal*, Vol. 5 Issue: 2, pp.200-211, doi: 10.1108/17471110910964487

<sup>26</sup> Giangiacomo Bravo: Micro-foundations of the EKC: an empirical analysis. *Journal of Innovation and Sustainable Development*, vol 2 no. 1, 2007.

<sup>27</sup> Greendex op. cit.

<sup>28</sup> Greendex op. cit.

<sup>29</sup> See Appendix E.

patterns that change as income grows, spending on electricity, washing machines, AC, and automobiles all increase linearly with income. Categories that don't increase (essential food, transportation, household) are mostly replaced by expenditures in categories that do increase.<sup>30</sup> The evidence suggests that the majority of low-environmental-impact consumption behaviors that are common in India are purely economic constraints, and as affluence grows, consumer preferences will become more westernized. This is also manifesting itself in the increasing preference for experiences over ownership.<sup>31</sup>

**Sustainable consumption patterns that will NOT change with rising incomes:** In the BCG study, expenditures on basic food products such as fresh fruit and vegetables are not expected to rise, though some of this may be due to replacement with other food categories. Because of cultural preferences, meat consumption is also expected to remain low as incomes grow - meat consumption per capita has declined between 2006-2013 as GDP per capita grew (**Appendix F**).<sup>32</sup> The one other notable sustainable consumption category that is predicted to continue is a preference for local goods.<sup>33</sup>

### **Insight: Preference for local goods, increasing nationalism, and convergence of CSR and environmentalism pose threat to foreign companies operating unsustainably in India**

The preference for local goods takes place in a context that poses significant risks for foreign companies that affect the environmental and social harmony. Politically, current Prime Minister “Modi’s India has been revealed to be a depressing stage on which the demons of...hypernationalism hover unsleepingly over the vital debates of a society in transition”<sup>34</sup>. This increased nationalism comes in a country that places significant restrictions on foreign corporations, has a “long rich history of close business involvement in social causes for national development”<sup>35</sup> and where consumers “expect businesses to take full responsibility for Green Practices”<sup>36</sup>. India’s tradition of CSR was rooted in philanthropy, but recently, the concept of CSR is converging with environmentalism, as language from the Companies Act of 2013 (which mandates that companies above a certain size dedicate at least 2% of profits to CSR) explicitly includes “ensuring environmental sustainability”.<sup>37</sup> It is not just national policy that expects companies to act in the national interest; Deloitte India’s Millennial study found that “an overwhelming majority (94 percent) of those surveyed in India say business success should be measured by more than financial performance,” with ‘working to protect and improve the environment’ listed as a key measure.<sup>38</sup> While this is a widely supported belief across the globe, India’s majority is higher than the global average of 89 percent.<sup>39</sup> Companies operating in India without regard for environmental and social issues will face strong headwinds as both the national government and rising generations believe that companies bear a duty to society. Leadership in environmental sustainability could soon become a requirement for operating in India, and today would be a wise risk mitigation strategy. Beyond the scope of environmentalism, it also goes without saying that social equity is a huge issue in India and we recommend further research into its implications for Amazon’s strategy.

### **Research Summary**

Young Indian consumers are complex, with unique cultural traditions and economic limitations that have produced some of the most environmentally-friendly consumer behavior on the planet. The average young Indian cares about the environment at a high level, prefers eco-friendly products in certain categories, believes in climate change and is vulnerable to its effects, but faces many other pressing temporal concerns that limit his or her willingness to pay a premium for environmental sustainability. This implies a potential advantage to competitively priced products/services which are differentiated by sustainable characteristics. Many of the low-footprint behaviors that characterize current consumption behavior will disappear as income grows and tastes become increasingly westernized. Young Indians share U.S. consumers’ preference for authentic brands, social proof, and experiences over ownership, but are coming of age in a

---

<sup>30</sup> Singhi, Jain, Sanghi. “The New Indian: The Many Facets of a Changing Consumer”. BCG, 2017. See Appendix D for additional summary of report.

<sup>31</sup> Ibid.

<sup>32</sup> See Appendix F.

<sup>33</sup> Singhi, et al op. cit.

<sup>34</sup> Choudhury, Chandras. “Modi is Married to the Mob” Foreign Policy, 2016. <[foreignpolicy.com/2016/06/06/modi-hindu-nationalism-rss-bjp-congress-democracy/](http://foreignpolicy.com/2016/06/06/modi-hindu-nationalism-rss-bjp-congress-democracy/)>

<sup>35</sup> Gautam, Richa, and Anju Singh. "Corporate social responsibility practices in India: A study of top 500 companies." *Global Business and Management Research: An International Journal* 2.1 (2010): 41-56.

<sup>36</sup> Dutta, Kirti, et al. op. cit.

<sup>37</sup> Handbook on Corporate Social Responsibility in India. PWC India. 2013. <[www.pwc.in/assets/pdfs/publications/2013/handbook-on-corporate-social-responsibility-in-india.pdf](http://www.pwc.in/assets/pdfs/publications/2013/handbook-on-corporate-social-responsibility-in-india.pdf)>

<sup>38</sup> “Loyalty Challenge: Businesses at risk of losing top talent, according to Deloitte’s annual millennial survey”. Deloitte India, 2016. <[www2.deloitte.com/in/en/pages/about-deloitte/articles/millennial-survey-2016.html](http://www2.deloitte.com/in/en/pages/about-deloitte/articles/millennial-survey-2016.html)>

<sup>39</sup> The 2016 Deloitte Millennial Survey Winning over the next generation of leaders

<<http://www2.deloitte.com/content/dam/Deloitte/global/Documents/About-Deloitte/gx-millennial-survey-2016-exec-summary.pdf>>

country that strongly values social responsibility and the duty of large institutions to protect the greater good. Consumer-facing companies operating in India should view young consumers as generally similar to the U.S. consumer, but with a few cultural idiosyncrasies that are uniquely Indian.

### Next Steps

Because this research was conducted using secondary sources, we conducted a meta-analysis of sources in **Appendix G**. We concluded that the academic and commercial research on Indian consumers is lacking, relying almost exclusively on survey responses, which suffer from a host of known biases. Therefore, the reliability and validity of the conclusions may not be an adequate foundation for immediate action. Thus, we believe that further analysis is required.

- *Matched pairs back test on past sales*: Find a pair of similar products, with identical prices and customer reviews. One product in the pair must be clearly superior in some dimension of sustainability. Analyze proportions of sales of that product to the overall category in neighborhoods with different income or age levels. Repeat analysis between both Indian and U.S. consumers to compare and contrast findings. Hypothesis: more-sustainable products will sell in higher proportions in wealthier and/or younger neighborhoods. This data analysis will also help to better understand the difference between millennial sentiments regarding sustainability in India compared to the U.S.
- *Experiment option 1*: For a single item, A/B test versions of the sales page with sustainability messaging or information placed more prominently (such as natural, organic, Indian or locally made) and separately evaluate two effects: the information effect on sales of equally priced items, and the price effect/elasticity of demand as price is increased for the “sustainable” version. See the Fair Trade labeling experiment for comparable study.<sup>40</sup>
- *Experiment option 2*: Study effect of Amazon-branded packaging waste vs Indian brand packaging waste on willingness to purchase on Amazon. Study design could have respondents enter past a trash-filled street, with branded trash intentionally placed in their path. Respondents would be told the study is about eCommerce and their remuneration would be to get to spend a quantity of money on an eCommerce website of their choice. Hypothesis: Amazon-branded waste will affect sales more than Indian brands. Control group could also be introduced to study effect of branded trash to unbranded trash on spending in general. See the “litter effect” experiment for comparable study.<sup>41</sup>
- *Future research questions*: Are Indians more receptive than US customers to positive/negative CSR information? What is Indian consumer WTP for local-made goods, all else being equal? Who do Indians believe bears the responsibility for environmental degradation? Do Indian millennials share the same values as millennials in the U.S.?

To achieve the goals of the Amazon Sustainability team in an organization well known for its rigorous data-driven decision making process, more persuasive data will be required. Using our research as a foundation and guide, Amazon Sustainability should conduct primary research into the suggested areas, to gather support for sustainability-oriented initiatives, which our team believes will be important for Amazon’s long-term success and freedom to operate in India.

---

<sup>40</sup> Hainmueller, Hiscox and Sequeira, “Consumer Demand for the Fair Trade Label: Evidence From a Multi-Store Field Experiment”. Review of Economics and Statistics, Forthcoming, Formerly: MIT Political Science Department Research Paper No. 2011-9B. <[https://papers.ssrn.com/sol3/cf\\_dev/AbsByAuth.cfm?per\\_id=739013](https://papers.ssrn.com/sol3/cf_dev/AbsByAuth.cfm?per_id=739013)>

<sup>41</sup> Roper and Parker, “Doing well by doing good: A quantitative investigation of the litter effect”, Journal of Business Research, Volume 66, Issue 11, November 2013, Pages 2262-2268, ISSN 0148-2963. <<http://www.sciencedirect.com/science/article/pii/S0148296312000501>>

# Appendix

## Appendix A: Scope Evolution

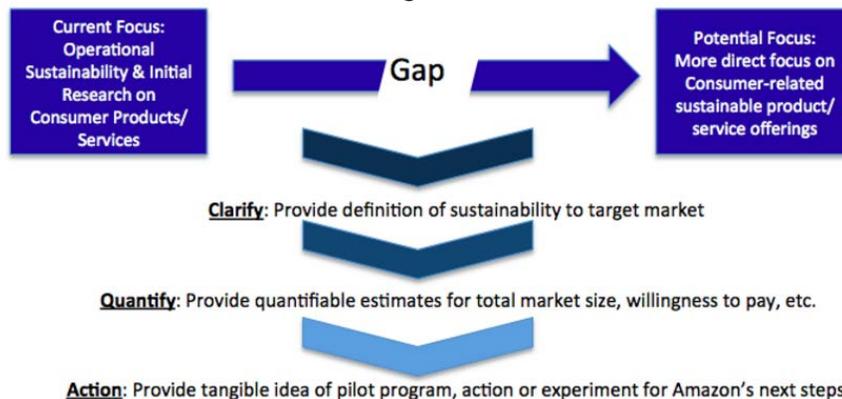
**Initial Hypothesis:** The hypothesis presented for the project is that millennial and gen-Z consumers are more sensitive to issues of sustainability (social or environmental) and that helping customers easily express their sustainability preference on Amazon would make them more likely to become members of Amazon Prime.

**Initial Scope:** Amazon’s current assumption is that the three pillars of delivering great customer experience include price, selection, and convenience. The company believes that while others things will change, these three pillars will not – and that focusing on these factors, and innovating against them, will help Amazon meet shifting customer needs. The goal of this project is to evaluate the impact of consumer preferences around sustainability by:

- a. determining the market size and gaining insight into the shopping preferences of ‘sustainability minded’ millennials and gen-Z consumers in India and the United States who would spend more, or potentially shift spending to different products/services based on sustainability issues, and
- b. propose a path forward to address this concern to ensure long-term growth of Amazon Prime membership.

The below framework strived to identify the gap between the current assumption and potential assumption by following three general steps:

1. **Clarify** how the target market (i.e. millennials and generation-z in the U.S. and India) defines sustainability.
2. **Quantify** the total market size for sustainability minded millennials and gen-Z consumers in the U.S. and India, as well as provide an assessment of ‘willingness to pay’ for more sustainable products/services.
3. Propose an **Action** that Amazon can develop and test, taking into account Amazon’s interest in using behavioral science and focus on consumer-related offerings.



**After a midpoint check-in with Amazon staff in Seattle, the initial scope was determined to be too broad.** While the original hypothesis was maintained, the scope of the project was scaled down to include the following:

- Target Market: Millennial and Generation Z consumers in India
- Sustainable Focus: Environmental

Descope: Actionable Experiment or Product Idea

## Appendix B: Common Practices in India that have a low environmental impact, according to Greendex study:

- A preference for pre-owned goods over brand new goods in an increasing number of people
- Greatest frequency of consumption of locally grown food
- High consumption of fruits and vegetables and low consumption of pork and beef
- Lack of heating in houses and high likelihood of using solar power for heating water
- Use of cold water for laundry
- Less likelihood of owning a truck or car
- High proportion of vehicle owners owning motorcycles and scooters
- High frequency of use of public transport

## Appendix C: Environmental Activism and the Indian Middle Classes

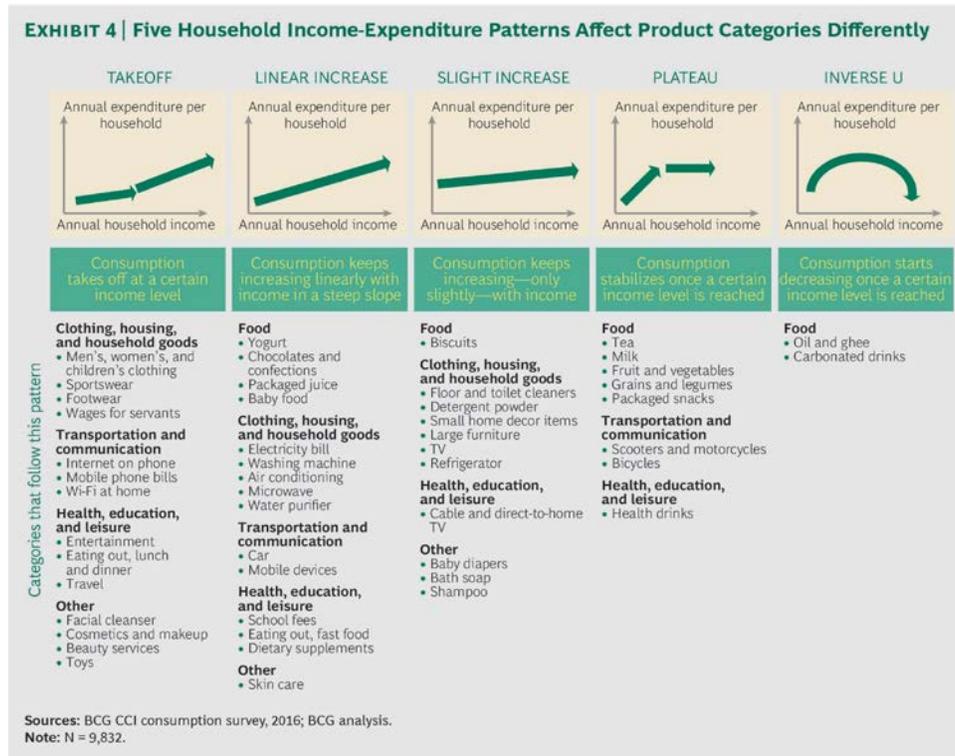
Type/affiliation	Issues and debates	References
Wildlife enthusiasts, conservationists	Often subscribe to a 'wilderness' model of 'nature' and conservation. Frequently seek the exclusion of the poor from protected areas, although more talk now of participatory strategies.	Gadgil (2001); Rangarajan (2001); Saberwal et al. (2000)
Urban campaigners	Concerns include traffic management, waste and urban aesthetics. Groups range from NGOs to residents' associations. Many accused of being anti-poor (e.g. displacing hawkers and slum-dwellers).	Baviskar (2002); Chaplin (1999); Dhar Chakrabarti (2001); Srinivasan (1980); Tropp (1999)
NGOs	Cover the entire spectrum of environmental activities and ideologies, from Gandhian to neoliberal/mainstream sustainable development. Some are partners and contractors for government and foreign donor environment programmes.	Guha (1998a); R. Roy (1993)
Environmental/livelihood social movements	Usually part of a wider development struggle. Role of middle classes and elites often significant. Sometimes unacknowledged, and sometimes denounced.	Baviskar (1995, 1997); Mawdsley (1998); Rangan (2000); Roy (1999)
Biologists, scientists and forest officers	Often argued to be reactionary and anti-poor, although there is personal, regional and generational variation.	Gadgil (2001); Guha (1998b); Rangarajan (2001)
Members of local, national and international environment clubs	Very little known. Probable middle class basis, but a wide spectrum (e.g. Centre for Science and Environment; World Wide Fund for Nature, India; Greenpeace, India; Bombay Natural History Society)	

Source: Mawdsley, Emma. "India's Middle Classes and the Environment." *Development and Change*, Volume 35 Issue 1, January 2004, doi: 10.1111/j.1467-7660.2004.00343.x

## Appendix D: Boston Consulting Group Study: “The New Indian: The Many Facets of a Changing Consumer”

By: Abheek Singhi, Nimisha Jain, Kanika Sanghi. Date: March 20, 2017.

<https://www.bcg.com/publications/2017/marketing-sales-globalization-new-indian-changing-consumer.aspx>

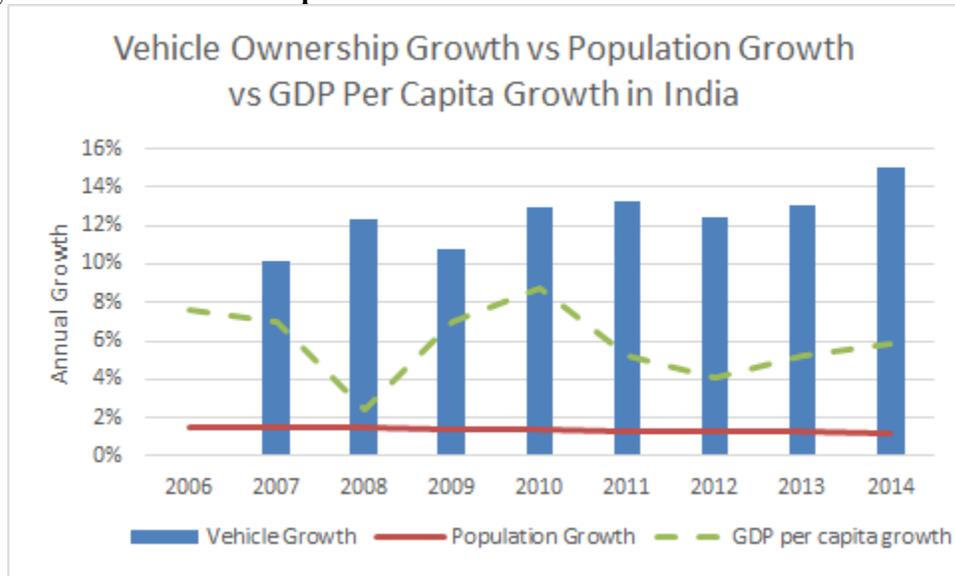


### Takeaways:

- Electricity, washing machines, AC, automobiles all increase linearly with income
- Categories that don't increase (essential food, transportation, household) are mostly replaced by expenditures in categories that do increase
- “Shopping is becoming more social—involving all family members—and much more frequent, thanks to the rise of online shopping.”
- Experiences over Things: “The biggest desires of aspirer households used to be to own a house and a car. Today, many more of these consumers want to take international vacations.”

Buying Local: “across all kinds of categories, Indian consumers are exhibiting increased curiosity and excitement over exploring local roots.”

## Appendix E: Analysis of Vehicle Ownership Trends in India

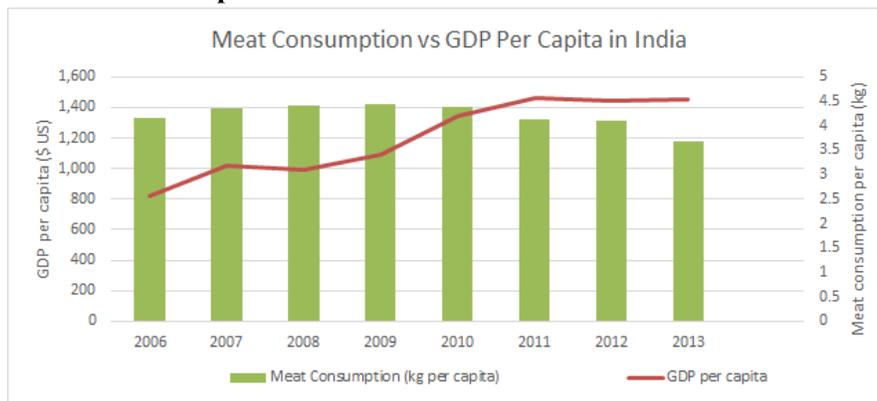


Source (Vehicles): <https://www.statista.com/statistics/597323/passenger-cars-in-use-india/>

Source (Pop growth): <https://www.statista.com/statistics/271308/population-growth-in-india/>

Source (GDP): <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?locations=IN>

## Appendix F: Analysis of Meat Consumption Trends in India



Source: (GDP) <http://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?locations=IN>

Source: (Meat) <https://www.statista.com/statistics/440161/india-per-capita-meat-consumption/>

## Appendix G: Research Meta-Analysis

The purpose of this is to make our paper actionable for Amazon by highlighting not only gaps in the current literature but also in the level of sophistication of the current literature. We critique each of the studies cited, developing a three-level ‘quality key’ based on the level of sophistication, with the assumption that good studies should include conjoint analysis, require choices/prioritization/trade-offs, field experimentation.

We rank the quality of each of our sources on a 3-point scale:

1: Simple survey, with indication of whether based on existing data or original survey data. Within this, an A-C rank on journal/source quality, where A = high impact factor peer-reviewed journal; B = low impact factor peer-reviewed journal; C = no evidence of single or double-blind peer review.

2: More advanced survey techniques, e.g. ‘forced choice’ / conjoint study.

3: Field Experiments.

**Of the 15 studies including original research, 11 were evaluated to be a “level 1”, three were ranked “level 2”, and just one was deemed a “level 3”.**

Two potential takeaways from this for Amazon could be:

- to pick specific interesting approaches in existing research (ie, Level 1) that were, however, so far not done at the necessary level of sophistication, and then ‘sponsor’ them to be done at the relevant level of sophistication;
- work with authors of papers that are already at the necessary level of sophistication to broaden their studies so that they can fill specific knowledge needs of Amazon.

Citation	Source	Rank	Notes
1	Office of Registrar India	NA	Observed or reported data
2	Trading Economics	NA	Observed or reported data
3	Statista	NA	Observed or reported data
4	Statista	NA	Observed or reported data
5	India Retailer	NA	Observed or reported data
6	Goldman Sachs	1	Survey of existing data, no evidence of single or double-blind peer review.
7	Ibid	NA	NA
8	Entrepreneur India	1	Survey of existing data, no evidence of single or double-blind peer review.
9	Goldman Sachs (cit 6)	NA	Op. cit.
10	Deloitte India	1	Likely 1. No evidence from method description that methodology went beyond simple survey.
11	Pew Research Center	2	Not conjoint/forced choice

12	The Economic Times	1	Survey partly based on original data. No evidence of double-blind external peer review.
13	Euromonitor International	NA	Observed or reported data
14	Gallup	2	Forced choice/tradeoffs in survey.
15	Yale Project on Climate Change Communication	2	Large and well-structured survey
16	Greendex	1	Survey of existing data. No evidence of singled or double-blind peer review. Section on 'Methodology' talks about field work, but very unclear whether actual field work was conducted.
17	BVIMR Management Edge	NA	Qualitative observations.
18	Euromonitor Blog	NA	Qualitative observations.
19	Development and Change	NA	Qualitative observations.
20	University of Wollongong in Dubai	1	Survey. Questionnaire not included in paper.
21	DuPont/ TNS Global	3	Field research. However, no evidence of single or double-blind peer review.
22	Greendex (cit 16)	NA	Op. cit.
23	Journal of Foodservice Business Research	1	Self-selected survey.
24	International Journal of Contemporary Hospitality Management	1	Detailed methodology not available, survey assumed.
25	Social Responsibility Journal	NA	Cannot be established (no access to full paper and description of technology)
26	Journal of Innovation and Sustainable Development	NA	The EKC-related studies below rely on methods other than surveys, conjoint studies or field research. Our ranking framework therefore does not apply to them.
27	Greendex (cit 16)	NA	Op. cit.
28	Greendex (cit 16)	NA	Op. cit.
29	Statista, Worldbank	NA	Observed or reported data
30	Boston Consulting Group	NA	Observed or reported data
31	Ibid	NA	Observed or reported data
32	Statista, Worldbank	NA	Observed or reported data
33	Boston Consulting Group (cit 16)	NA	Op. cit.

34	Foreign Policy	NA	Qualitative observation
35	Global Business and Management Research: An International Journal	1	Secondary data collection.
36	Journal of Foodservice Business Research (cit 23)	NA	Op. cit.
37	PWC India	NA	Qualitative observation
38	Deloitte India	1	Survey of existing data. No evidence of single or double-blind external peer review
39	Deloitte	1	Survey.

## Appendix H Additional Notes on Citations

### Citation 6

#### The 8 Cohorts of the Indian Consumer

	Population	Income per capita per annum
<b>MOVERS AND SHAKERS</b>	<b>0.43mn</b> <ul style="list-style-type: none"> <li>The number includes the top 3% private employed and roughly .05mn of self employed</li> </ul>	<b>US\$250,000</b> <ul style="list-style-type: none"> <li>Our starting point is US\$250,000, the salary for the top corporate employees in India. This compares with US\$500,000, that the top cohort earns in China</li> </ul>
<b>GOVERNMENT/SOE EMPLOYEES</b>	<b>10mn</b> <ul style="list-style-type: none"> <li>Central and state government employees, including the armed forces but excludes lower grade employees who are paid significantly less</li> <li>The number is significantly lower than China's SOE employees due to a much smaller government sector in India</li> </ul>	<b>US\$11,439</b> <ul style="list-style-type: none"> <li>The SOE employees are paid lower than private sector employees but receive non-cash benefits which increase their disposable income</li> <li>The salary growth is partly driven by the Pay Commission and is adjusted substantially every five years</li> </ul>
<b>URBAN WHITE COLLAR/SMALL BUSINESS OWNERS</b>	<b>17mn</b> <ul style="list-style-type: none"> <li>Our starting point is SME owners and the population with a post-graduate or technical degree</li> <li>Indian IT firms are the biggest source of employment for this cohort</li> </ul>	<b>US\$11,250</b> <ul style="list-style-type: none"> <li>Our starting point is the average white collar salary in the largest companies, which is comparable to salary levels for mid to high level government jobs</li> </ul>
<b>EDUCATED URBAN MASS</b>	<b>32mn</b> <ul style="list-style-type: none"> <li>The population represents graduate level students who are offered basic level jobs</li> <li>This cohort includes lower level government jobs, SME jobs and lower level corporate jobs</li> </ul>	<b>US\$5,385</b> <ul style="list-style-type: none"> <li>Our starting point is the initial salary offered by Indian IT firms and SMEs</li> <li>The salary levels are significantly lower than of students with higher education</li> </ul>
<b>URBAN BLUE COLLAR/MIGRANT WORKERS</b>	<b>97mn</b> <ul style="list-style-type: none"> <li>The number includes urban labor jobs and migrant workers</li> <li>Outlook for employment improving with demand from the services sector.</li> </ul>	<b>US\$2,500</b> <ul style="list-style-type: none"> <li>The salary levels are driven by minimum wage laws of the government</li> </ul>
<b>RURAL LAND OWNERS</b>	<b>120mn</b> <ul style="list-style-type: none"> <li>Our starting point is the census data which indicates land owners in rural India</li> </ul>	<b>US\$2,159</b> <ul style="list-style-type: none"> <li>Rural land owner's income has historically been driven by annual agricultural price increases</li> <li>Income levels are very volatile due to high dependency on monsoons</li> </ul>
<b>RURAL LABOURERS</b>	<b>138mn</b> <ul style="list-style-type: none"> <li>The population is occupied as labor in agricultural farms, construction sites, etc.</li> <li>The rural labourers are more likely to become migrant workers in urban areas if the opportunity exists</li> </ul>	<b>US\$810</b> <ul style="list-style-type: none"> <li>Our starting point is data available from Labor Bureau</li> <li>The wage growth has typically been in low double digits but has come down due to lack of rural development</li> <li>They earn significantly less than the urban blue collar due to inconsistent flow of work</li> </ul>
<b>RURAL CASUAL LABOURERS</b>	<b>105mn</b> <ul style="list-style-type: none"> <li>Our starting point is rural employment data and people supported under government schemes</li> </ul>	<b>US\$432</b> <ul style="list-style-type: none"> <li>This population depends on the government allocation to populist schemes for daily expenses</li> </ul>

### Citation 10

According to Snapdeal CEO Kunal Bahl: “On the consumer front, lack of organized offline retail beyond metros coupled with proliferation of cheap smartphones and falling data charges are driving the online commerce in India. While ecommerce is still growing in urban markets, the exponential growth is being driven by the Tier 2 & 3 cities. At Snapdeal, 70% of our consumers are from outside metros primarily driven by Mobile commerce; 71% of Snapdeal sales are from these markets.”

### Citation 23

The language on the “Indian Psyche” appear to be the author’s opinion. We feel that this could be an interesting avenue for further research by Amazon.

Also from the study: “There were higher variations in Indian consumers' WTP than variations in American consumers' WTP. In addition, a larger number of consumers in India chose not to pay to support GP (Green Practices) than did consumers in the United States. However, and interestingly, there also was a larger group of Indian than American consumers who were willing to pay more than 10% above the regular menu price. The results of this study indicated that consumers in India are relatively more willing to engage in GP than are Americans, but a majority of them are not willing to pay for those practices, but expect businesses to take full responsibility for GP. This difference may be due to Indians' perceived risk of paying more in the absence of accurate information about firms' current GP. These results may reflect relatively low tolerance for risk among Indians versus higher tolerance for risk among Americans.”

In the study, “Green Practices” were captured by the survey that asked questions about health concerns, social concerns, and environmental concerns.

#### Consumers' WTP for socially and environmentally responsible practices in US:

	Environmentally Responsible Practices% / (n)	Socially Responsible Practices% / (n)
No Intent to Pay	23.7%	23.7%
1-3%	28.9%	16.19%
4-6%	22.0%	26.6%
7-9%	11.0%	8.5%
More than 10%	14.5%	16.4%
Total	100% (202)	100% (202)

#### Consumers' WTP for socially and environmentally responsible practices in India:

	Environmentally Responsible Practices% / (n)	Socially Responsible Practices% / (n)
No intent to pay	34.12%	33.7%
1-3%	0.59%	16.2%
4-6%	0.59%	16.18%
7-9%	2.9%	5.2%
More than 10%	61.80%	28.74%
Total	100% (196)	100% (196)