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**New age digital media consumption: An exploratory study based in India**

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**New age digital media consumption: An exploratory study based in India**


## Abstract

Digitalisation continually changes the way societies conceptualise the role of the state in regulation and supervision of markets, particularly in the three digital markets: social media, Over-the-Top (OTT) content services, and online gaming (OG). India is graduating from a command-and-control model of economic and regulatory oversight of traditional industries, to a light-touch one for new industries. However, such an approach requires considered assessments of user/consumer perceptions towards the government and industrial inventions and behavioural responses while they plan to engage in digital consumption of the three markets. Accordingly, a large survey of 2000 users and app-data of over 20.58 lakhs users was collected and analysed to assess the perception and consumption pattern of users of digital markets. Results showed that there is higher behavioural lock-in for social media than other platforms, and that users spend the least amount of time and money on online gaming among the three segments. We discuss implications of these especially about ensuring user safety, institutional responsiveness, and quick grievance redressal in the context of the IT Rules (Intermediary Guidelines and Digital Media Ethics Code) 2021 and recommendations of the 50th meeting of the GST Council which proposed a landslide change in online gaming taxation.



**Keywords**: Online gaming, OTT platforms, digital consumption, social media, skill gaming


## Introduction

There is an increasing interest among consumers to spend time on digital platforms like social media and playing online games. As digitization has changed the consumption behaviour, marketers and policy makers attempt to explore the variables that influence the digital consumption patterns of individuals. Our research examines the consumption and engagement patterns of users in India's digital market. The focus is on three services from the overall digital consumption basket, viz. social media, over-the-top (OTT) content services and online gaming. Each of these witnessed sharp growth in user base, revenues, and innovation in recent years in India (Table 1). They have also had a palpable impact on users' time-use, skill development, networking, and leisure/entertainment.

**TABLE 1: SOCIAL MEDIA, OTT CONTENT SERVICES AND ONLINE GAMING LANDSCAPE IN INDIA**

| Parameter | Year | OTT content services | Online gaming | Social media |
|---|---|---|---|---|
| User base, percentage of population | 2017 | 14.3 | 13.5 | 29.5 |
| | 2022 | 28.2 | 35.8 | 58.3 |
| Market revenue, USD billion | 2020 | 1.5 | 1.8 | 2.6 (in digital ad revenue) |
| | 2022 | 1.8-2.2 | 2.6 | 4.0 (in digital ad revenue) |
| Average annual revenue per user, USD | 2021-22 | 7.2 | 20 | - |
| Investments, USD billion | 2017 | 0.9 | 0.3 | - |
| | 2021 | 1.3 | 1.7 | - |
| Daily time spent, minutes | 2022 | 44.4 | 25 | 193.5 |

Source: Murthy, R.N. (2022), Statista (2023), Lumikai (2022), BCG (2021), BCG Big Picture (2021), Deloitte (2018), Moneycontrol (2022), Farooqui, J. (2022), Kalagato app

Consequently, the Ministry of Electronics, and Information Technology (MeitY) published specialized rules that include due diligences for businesses that operate social media and OTT content services, in 2021. Table 2 summarizes some of the key elements of these regulations. More recently, the Government also published rules for online gaming services in April 2023. Specifically, MeitY amended the Intermediary Guidelines and Digital Media Ethics Code. Consequently, those games, real money or otherwise, that do not involve wagering, user harm in its content and do not create any addictive consequences are permissible in India Further, all online real money games must become a member of a self-regulatory body (SRB) and obtain a mark of certification from for them to be permissible. SRBs that are yet to be notified will be tasked with verification, registration and frequent evaluation of online gaming intermediaries and permissible online real money gaming formats to provide safeguards to users against any potential harm and enhance ecosystem hygiene. Table 3 highlights some key facets of the rules from a consumer welfare standpoint.

**TABLE 2: REGULATION OF SOCIAL MEDIA AND OTT CONTENT SERVICES**

| | |
|---|---|
| Content Regulation and Online Safety | Social media intermediaries follow due diligence obligations under the IT Rules (Intermediary Guidelines and Digital Media Ethics Code) 2021, which includes content moderation obligations.[1]<br>Further, as per the 2021 IT Rules, OTT platforms are required to self-classify the content into five age-based categories U (Universal), U/A 7+, U/A 13+, U/A 16+, and A (Adult). They are also required to implement access control mechanisms like parental locks for content classified as U/A 13+ or higher, and implement age verification mechanisms for content classified as "A".[2] |
| Grievance Redressal Mechanism | Social media intermediaries are required to establish a grievance redressal mechanism for receiving and resolving complaints from the users or victims, as well as appoint a Grievance Officer to deal with such complaints.[3] Users can escalate a grievances and approach Grievance Appellate Committees (GAC) set up by MeitY[4] |

Source: Ministry of Electronics, and Information Technology (MeitY)

**TABLE 3: AMENDMENTS TO THE IT RULES FOR ONLINE GAMING SERVICES (2023)**

| | |
|---|---|
| Robust grievance redressal | Online gaming intermediaries must follow general due diligence and are required to institute robust grievance redressal mechanisms. Users may escalate user complaints before the SRB's grievance redressal mechanism and subsequently before Grievance Appellate Committees set up by MeitY.[5] |
| Verification of online games for user safety | SRBs are required to build a framework for testing and verification of online real money games. These frameworks must include provisions to ensure that online games do not have content that incites harm or self-harm, measures to protect children, safeguard users from addiction and financial loss, and prevent financial fraud.[6] |
| User identification and verification | Rule 4(12) of the guidelines requires online gaming intermediaries that offer real money games to identify and verify the user as per Reserve Bank of India's (RBI) KYC norms before users make a deposit with the intermediary.[7] |

[1] Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021. Ministry of Electronics and Information Technology (2021).

[2] Code of Ethics, IT Rules, 2021. MeitY (2021).

[3] Rule 3(2), IT Rules, 2021. MeitY (2021).

[4] Rule 3A, IT Rules, 2021. MeitY (2021).

[5] Rule 3A(3) and 4A(11), Intermediary Guidelines (Intermediary Liability and Digital Media Ethics Code) Amendment Rules, 2023. Ministry of Electronics and Information Technology (2023).

[6] Rule 4A, IT Amendment Rules, 2023. Meity (2023).

[7] Rule 4(12), IT Amendment Rules, 2023. MeitY (2023).

Each of these rules (illustrated in Table 2 and 3), whether for social media, OTT content services or online gaming, centre on co-regulatory framework by establishing SRBs and oversight mechanism by the government rather than day-to-day government oversight – since digital technology and markets are both dynamic and complex. Effective self-regulation that strikes a balance between innovation and accountability requires an empirical approach. This research therefore aims to take stock of user engagement with these three distinct online services, to derive implications for future policymaking and SRBs alike.

**Literature Review**

Existing research on consumption and engagement patterns of users in India's digital market is concentrated on the role of demography, user attitudes and the impact of Covid-19 on user adoption (Bhattacharya et. al. 2021). Another study looked at the factors that affect the consumers' willingness to subscribe to digital applications in India and found that content, convenience, features, price, and quality impact consumer's willingness (Samala et. al., 2021). On the same lines, Muhammad et al. (2021) found that consumers continuously engage with cutting edge platforms in positive or negative adaptation behaviours. The study confirmed that cognitive and affective attitudinal components drive consumers' both positive and negative adaptation behaviours on cutting edge social media platforms. Another stream of research has proven that consumers' adoption of technology is based on their perception about the level of control they have over the technology (Beaudry and Pinsonneault, 2005). When consumers feel they have high control on a technology, the adoption is quick (Tucker, 2004). Covid 19 has accentuated technology disruptions as consumers began spending much more time and resources on digital platforms (Nijhawan and Dahiya, 2021). However, such a quick expansion of digital platforms also warrants a policy intervention to protect the interest of the consumers.

India has seen an increased interest in plying online games. Gaming industry growth in India has also attracted a lot of debates primarily because of participation of minors, perceived behavioural lock ins, financial risks etc. Till 2023 there were no concerted legal or regulatory attempts to introduce safeguards for consumers or providing permissible status to online games. Previous literature does talk about the government policies and regulations from consumer protection standpoint. Srivastava (2022) provides detailed recommendations for regulating online games of skill in India in coherence with responsible gaming principles. Leahy (2022) suggests that attention towards the paradigm of “player protection” should be preferred for creating specific regulations for online games.

Further expanding the importance of policy intervention, Jo et. al (2020) studied the impact of usage restriction under the new law in South Korea, on both gamers and the industry, using data gathered about the individuals’ usage and spending on gaming. However, India lacks research that examines both policy and user adoption trends in specific digital market segments. Our research aims to fill some of these gaps via a comprehensive assessment of user engagement with three core online services: social media, OTT content, and gaming, viewed together. We study five aspects in this regard, namely (a) service reach and user activity levels, (b) time-use patterns, (c) user spend and price sensitivity, (d) derived skilling, networking, and employment benefits, and (e) users’ inhibitions.

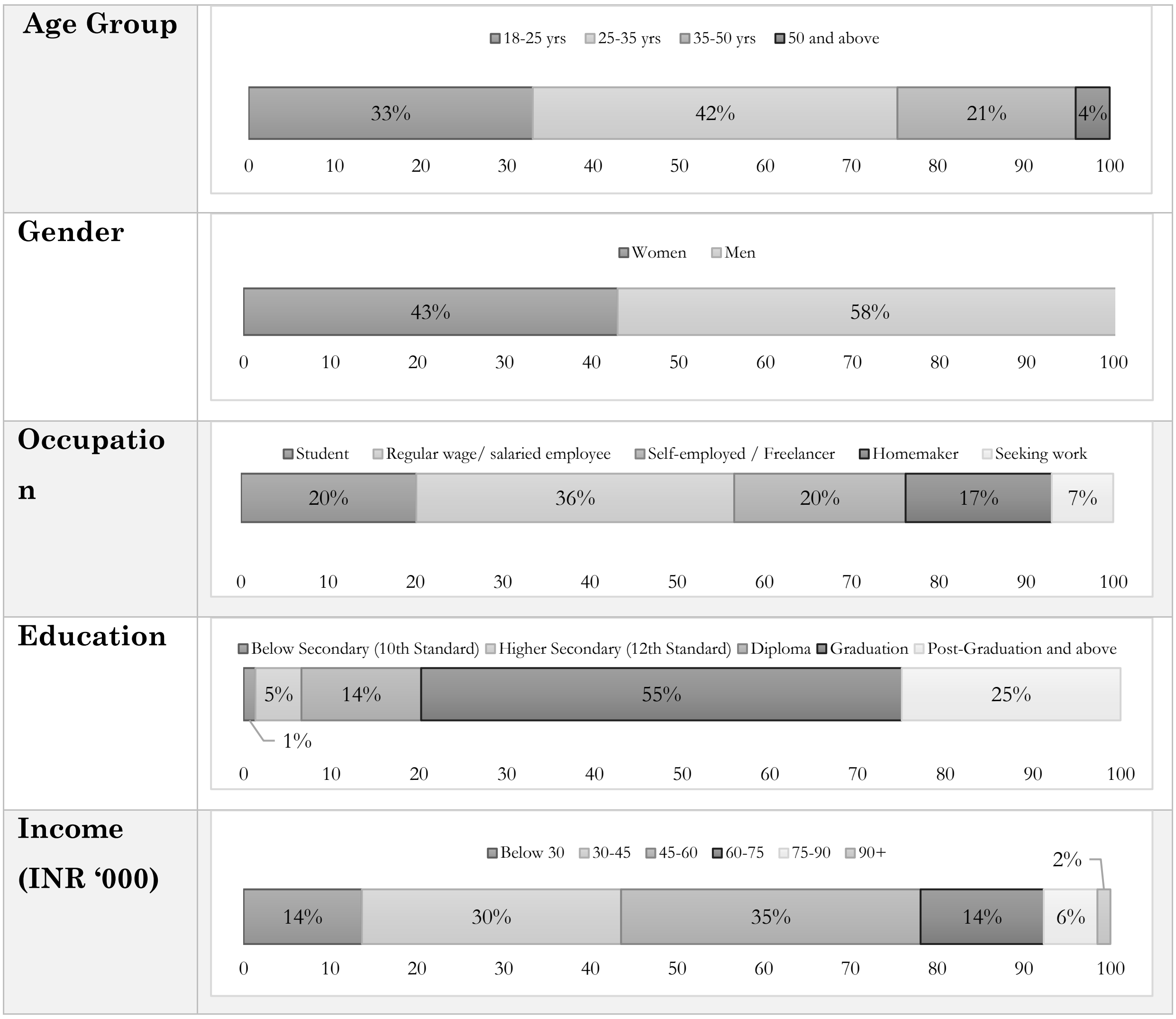
Our results have multiple additional implications since the report draws similarities and distinctions between online services that are traditionally considered to be homogenous entertainment services. We highlight specific and prominent differences in users’ behavioural dispositions, which should ideally inform future policymaking and industry self-regulation alike.

**METHODOLOGY:**

The data was gathered using survey questionnaire and app usage data from Kalagato. Survey was conducted online in five tier-X and tier-Y cities of India each. The cities include Delhi NCR, Bengaluru, Chennai, Mumbai, Kolkata, Patna, Mysuru, Lucknow, Jaipur, and Bhopal. Notably, these cities have well-developed online infrastructure and display among the highest digital adoption rates. The survey focused on measuring the app-use behaviour of individuals, assessment of their engagement and consumption patterns, time use pattern, spending behaviour of individuals, and user inhibitions to use the three kinds of digital platforms. Total 2000 usable responses were received, and the data was analysed for insights. We further analysed the app-usage patterns of over 20 lakh users to examine user engagement with select digital services.

The survey features a high degree of heterogeneity across all demographic variables such as age, gender, education level, income level and type of occupation. Notably, nearly 80 percent of the survey respondents are graduates. This suggests a relatively high level of user awareness and agency.  42% of respondents were of age group 25-35 years. Further, the number of male respondents was 58% while women respondents also represent considerable proportion of the sample. The detailed demographic data is presented in figure 1.

**FIGURE 1: USER SURVEY DEMIGRAPHICS**



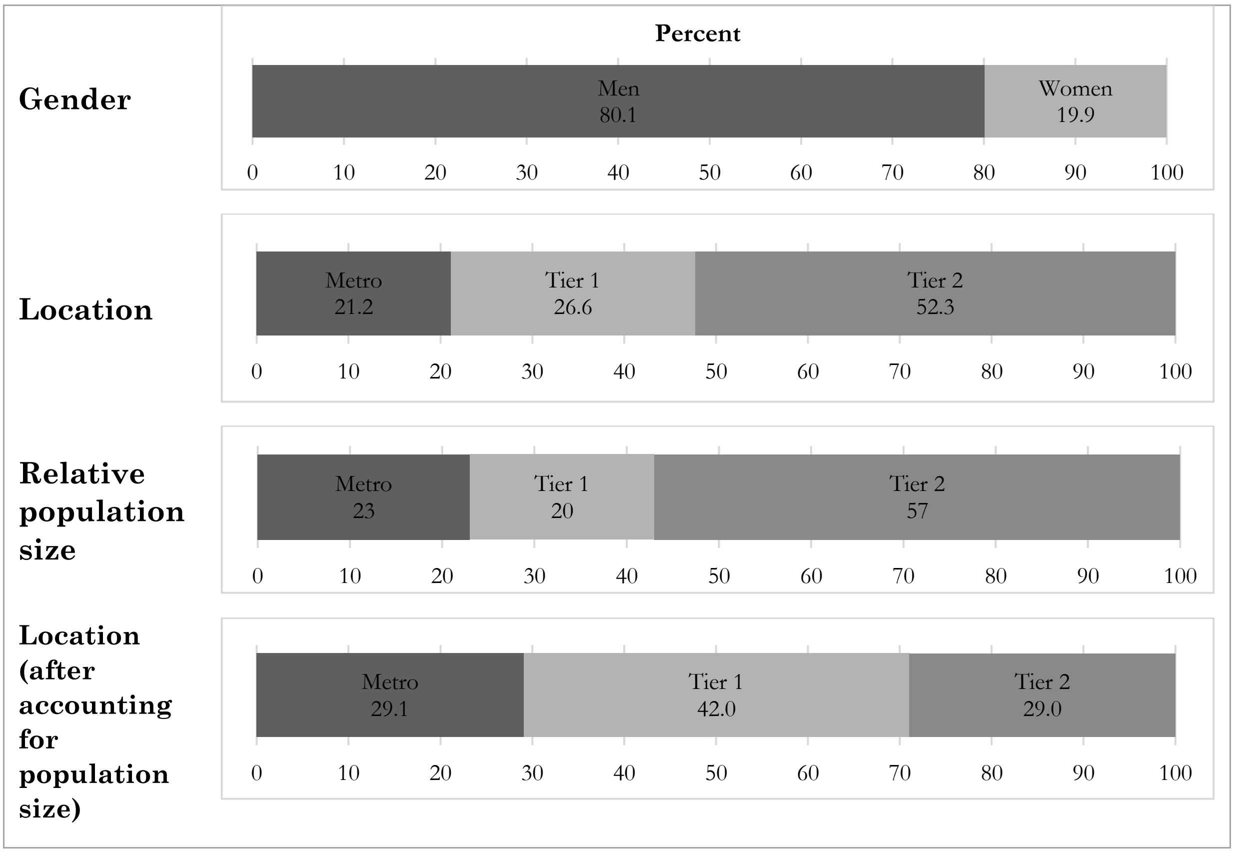

The sample size meets the requirement for a statistically robust sample size design, with a minimum effect size of 20 percent, level of significance at 5 percent and power at 80 percent (Cohen, 1988).

**App-use Data**

Our study also examines the app-use data of 20.58 lakh users of 143 apps used for online gaming, OTT content and social media services. (The count breakup for these app categories is given in Table A2 of the Annexure.) The data was collected via daily performance monitoring of the apps present on the app store and play store in the month of December 2022, centred on the following attributes: app reach/downloads of apps, monthly active users (MAU), daily active users (DAU), session time, and app open rate.

Figure 2 shows an overview of the app data by gender and location in the metro, tier 1 or tier 2 cities.[8] A stark gender divide is visible in the data, with 80 percent of app users in the sample being men. A gender divide amongst internet users is also evident in India overall, with only 33 percent of women ever having used the internet in comparison with 57 percent of men.[9] The sample contained 52 percent representation from tier 2 cities, 27 percent from tier 1 cities, and 21 percent from metro cities. Relative to population size across the surveyed locations, the highest proportional representation in the sample was from tier 1 cities, followed by the metros and tier 2 cities.

### FIGURE 2: APP USE DATA – GENDER AND LOCATION




**Notes**: Sample includes data on 20.58 lakh online users on 143 apps in the month of December 2022.
Town class – Metro: 40 lakh+ population, Tier 1: 10 – 40 lakh population, Tier 2: Below 10 lakh population.
Data sources for the relative population sizes are the World Bank and Statistics Times

[8] The tier X, Y and Z classifications are made for house rent allowance (HRA) as recommended by the Central Pay Commission, while the metro, tier 1 and tier 2 classifications are based on population size as follows. Metro: 40 lakh and above, Tier 1: 10 – 40 lakh, and Tier 2: fewer than 10 lakh people.

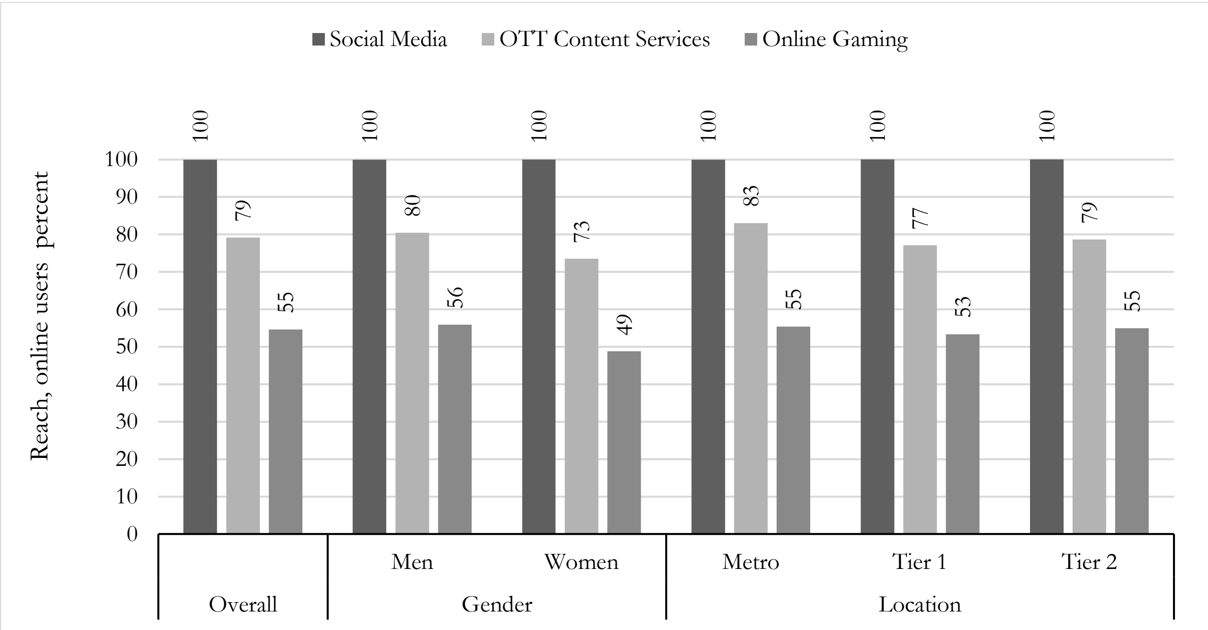
[9] National Family Health Survey (NFHS 5). Compendium of Fact Sheets. 2019-21.

**Results:**

The number of app downloads (reach) and number of monthly and daily active users (activity) are the basis of product innovation and business model development in online markets. These metrics are also starting points for policymakers and industry participants to evaluate the prospective impact of any regulations.

Figure 3 shows the reach of various apps for social media, OTT content and online gaming. Social media apps have universal reach among online users, while OTT content and online gaming services reach 79 percent and 55 percent of online users respectively.[10] The pattern is consistent across locations and genders and reaffirms the centrality of social media in digital India.

**FIGURE 3" APP USE DATA – REACH OF SOCIAL MEDIA, OTT CONTENT SERVICES AND ONLINE GAMING**




**Source**: Kalagato app-use data

While all users in our sample were active on social media once a month or more, the corresponding figure for OTT and online gaming apps was only 60 percent and 40 percent

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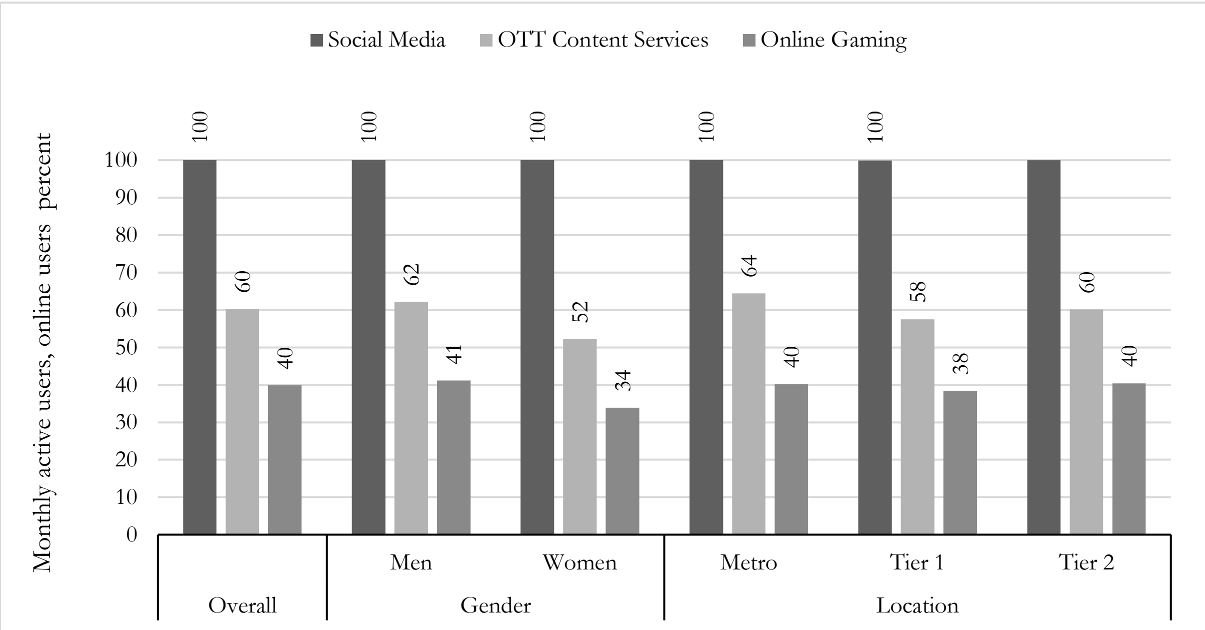
[10] These estimates are for the online segments we study as a whole, not for any app in particular. More specifically, in terms of reach, the top three social media apps are YouTube (100 percent), Facebook, and Instagram (88 percent each). The top three OTT services in our sample were MX player (54 percent), Hotstar (40 percent) and Netflix (26 percent). While the top three online gaming apps were Ludo King (46 percent), Candy Crush (31 percent) and Subway Surfer (11 percent).

respectively (Figure 4).[11] The monthly inert rate[12] for OTT content services was higher at 19 percent than for online gaming at 15 percent.[13] The difference in monthly inert rates was marginal in comparison to the overwhelming frequency of social media use. The activities underpinning social media – networking and communication – are clearly the major drivers of user engagement with digital technology. This insight carries implications for how policymakers and industry might imagine the future digital landscape: where it is likely that almost every conceivable digital market would benefit from integrating networking and communications functions or activities into its services.

**FIGURE 4: APP USE DATA – MONTHLY ACTIVE USERS (MAU) ON SOCIAL MEDIA, OTT CONTENT SERVICES AND ONLINE GAMING**




**Source**: Kalagato app-use data

This trend is visible already in the context of the prominent OTT content and online gaming services that integrate certain features resembling social media. A case in point is the growth in virtual interactions with family and friends during the pandemic, which

[11] Based on MAU, the top-three social media apps are YouTube (92 percent), WhatsApp (84 percent) and Instagram (82 percent). The top-three OTT content service apps are MX player (35 percent), Hotstar (23 percent) and Jio TV (11 percent), and the top-three online gaming apps are Ludo King (23 percent), Candy Crush (20 percent) and Subway Surfer (8 percent).

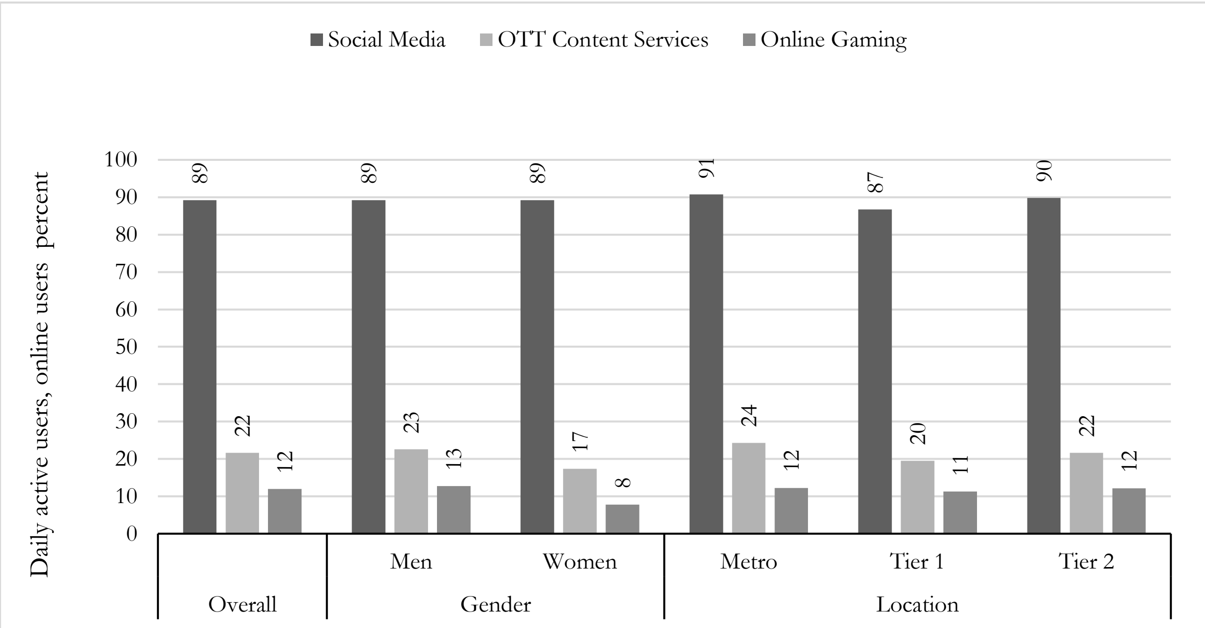
[12] Monthly inert rate is the share of online users who have not used an app at least once in the period concerned but have them installed. It reflects the difference between the reach and MAU.

[13] The estimate for inert rate uses the total number of online users in the sample as the base. So, the comparison across online segments is absolute, and not proportionate.

prompted many OTT content service providers (including Amazon Prime, Hulu, Disney Plus and Sling TV) to incorporate interactive features into their offerings. One such feature is the 'watch party,' where multiple users communicate using chat, emojis or video calls while viewing the same content (Oberstein, 2023).

In terms of daily active use, Figure 5 below shows that 89 percent of online users are active every day on social media, while 22 percent and 12 percent are active every day on OTT content and online gaming apps respectively. Correspondingly, the daily inert rate for OTT apps is higher at 58 percent than for online gaming at 43 percent. This gap is wider than the four-point difference in the monthly inert rates, which may reflect the frenetic pace of online gaming app development in the country. It also likely reflects the horizontal integration of the prominent OTT content and online gaming services. For instance, Netflix has developed an in-house gaming studio and has rapidly grown its online gaming catalogue in the past few years. By leveraging its intellectual property, the content services major has converted some of its top-rated original shows into online games. Meanwhile, the daily inert rate is just 11 percent for social media, reaffirming its centrality to the online user experience.

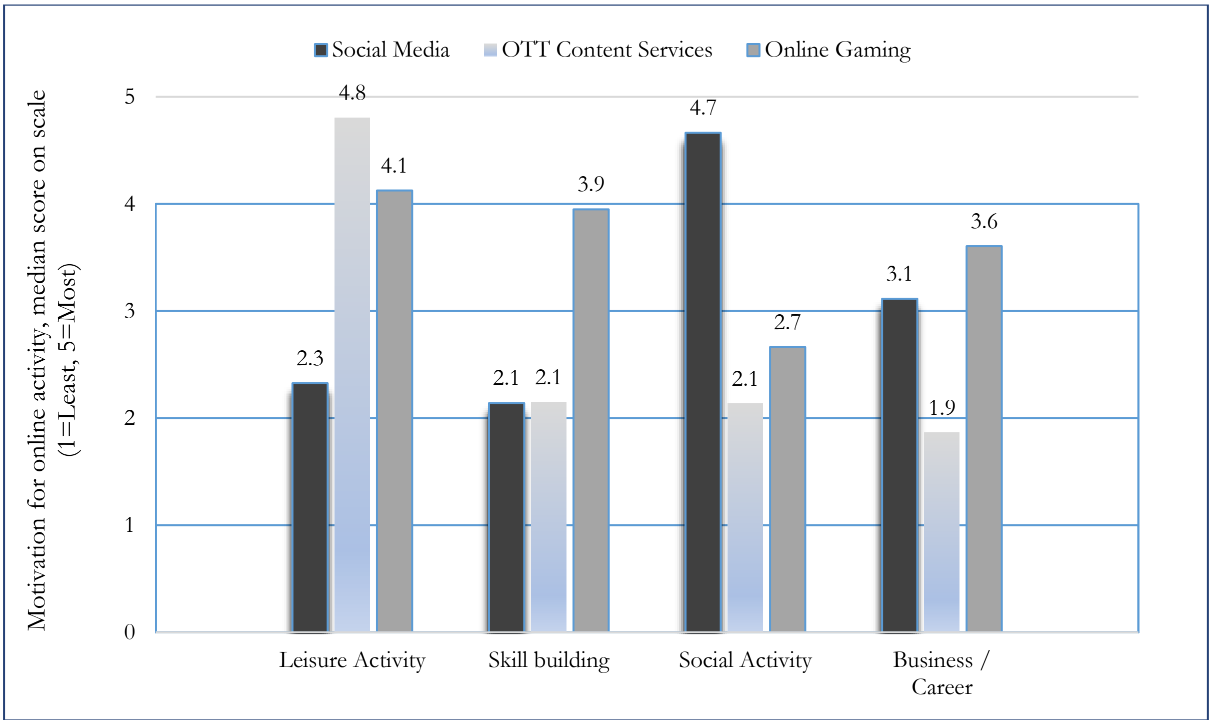
**FIGURE 5: APP USE DATA – DAILY ACTIVE USERS (DAU) ON SOCIAL MEDIA, OTT CONTENT SERVICES AND ONLINE GAMING**




**Source**: Kalagato app-use data

Figure 6 captures diverse motivations to engage with distinct online service markets. Social media engagement is largely meant for interacting with friends, family and colleagues, for reasons personal and professional. Entertainment and leisure are the leading reason for accessing OTT content services, while online gaming is used for a more heterogeneous mix of purposes: including entertainment, building skills, and business or career opportunities. These user engagement patterns indicate a niche role for these online services in the Indian digital consumption basket.

**FIGURE 6: USER SURVEY – FACTORS MOTIVATING ONLINE ACTIVITIES**




Source: Primary user survey

Data on the reach and user engagement of various online gaming segments (Figure 7) may help inform the policy debates on distinguishing 'games of skill' from 'games of chance' as there are differences between them in terms of user engagement and skill. This has a bearing on the amended IT Rules issued by MeitY in April 2023 with the aim of ensuring that online games are offered in conformity with Indian law and that players are safeguarded from potential harm. 'Games of mere skill' are not prohibited by the Public Gambling Act of 1867,[14] which prohibits betting and gambling in India.[15] Further, states including Assam, Odisha, Telangana and Andhra Pradesh have also prohibited certain online games on the pretext of them being akin to a betting/gambling activity.[16]

[14] Other states including Sikkim and Goa have legalised gambling in their laws.

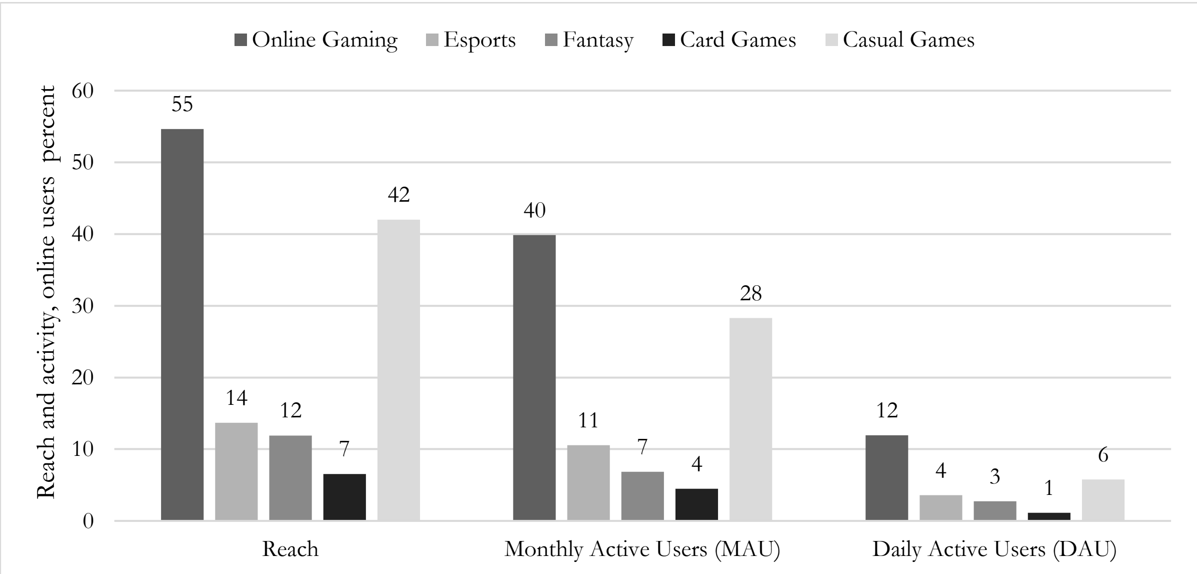
[15] Section 12, Public Gambling Act, 1867.

[16] Constitution of India, Schedule VII, List II, Entry No. 34.

In 1996, the Supreme Court held that even a game involving an element of chance will not be considered gambling as long as it involves a preponderance of skill over chance.[17] The 2023 IT Rules, however,[18] prohibit all online real money games that entail wagering, although there is an absence of clarity on the definition of 'wagering' in the Rules. Thus, a situation may emerge where a game of skill is banned if it entails wagering on the outcome. Definitional clarity on these aspects, and demarcating authority between the Union and States in the matter of classifying these games, is therefore essential.

The IT Rules require industry SRBs to create a framework for testing online game formats to see if they include wagering on outcomes or betting or gambling, and to register only those formats that involve none of these activities. To better inform these aspects, we take a closer look at four online gaming segments (fantasy sports, esports, card games, and casual games) in Figure 7. The data show that user reach is highest in apps meant for casual gaming, where the distinction between games of skill and of chance is most elusive. It is important therefore for the SRBs notified in the IT Rules to develop a testing framework that can distinguish games of skill objectively and verify them as permissible to operate in India.

**FIGURE 7: APP USE DATA – REACH AND ACTIVITY IN ONLINE GAMING SEGMENTS**




Source: Kalagato app-use data

[17] *Dr. K.R. Lakshmanan v. State of Tamil Nadu and Ors.,* AIR 1996 SC 1153.

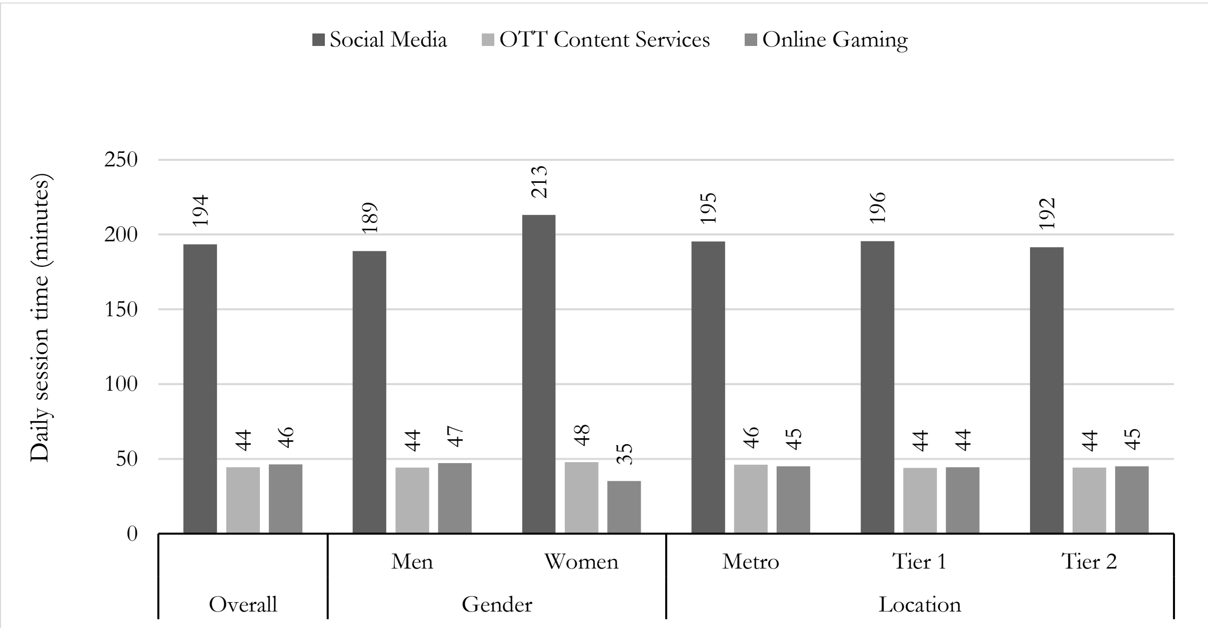
[18] Rule 4A(3)(a). IT Rules, 2021. MeitY (2021).

Figure 7 shows further that of the 40 percent of online users active on gaming apps once a month or more, only 10 percent engage with more than one gaming segment.[19] The corresponding share amongst daily active users is even lower, and of the 12 percent of users who are daily active gamers only 2 percent engage with multiple online gaming segments. This indicates that online gaming caters to heterogeneous user choices, and user preferences for specific gaming segments are strong.

**Results related to the Time-Use Pattern**

Time-use patterns are an important metric for businesses to assess user tastes and preferences, to respond with appropriate service delivery and consumer-facing innovations. Time use also has profound implications for welfare. Sustained economic progress is correlated with the share of time spent on paid work, household work, leisure, and consumption, with each of these being optimised by people to maximise their 'well-being' (Coyle and Nakamura, 2022). For these reasons, the time allocation (and the money spend, as discussed in the next section) can be a key parameter to inform the policy debates on unwanted user actions. These in the 2023 IT Rules pertain specifically to user actions that result in compulsive engagement or financial loss. We take a closer look at these aspects below.

**FIGURE 8: APP USE DATA – TIME SPENT DAILY ON SOCIAL MEDIA, OTT CONTENT SERVICES AND ONLINE GAMING**



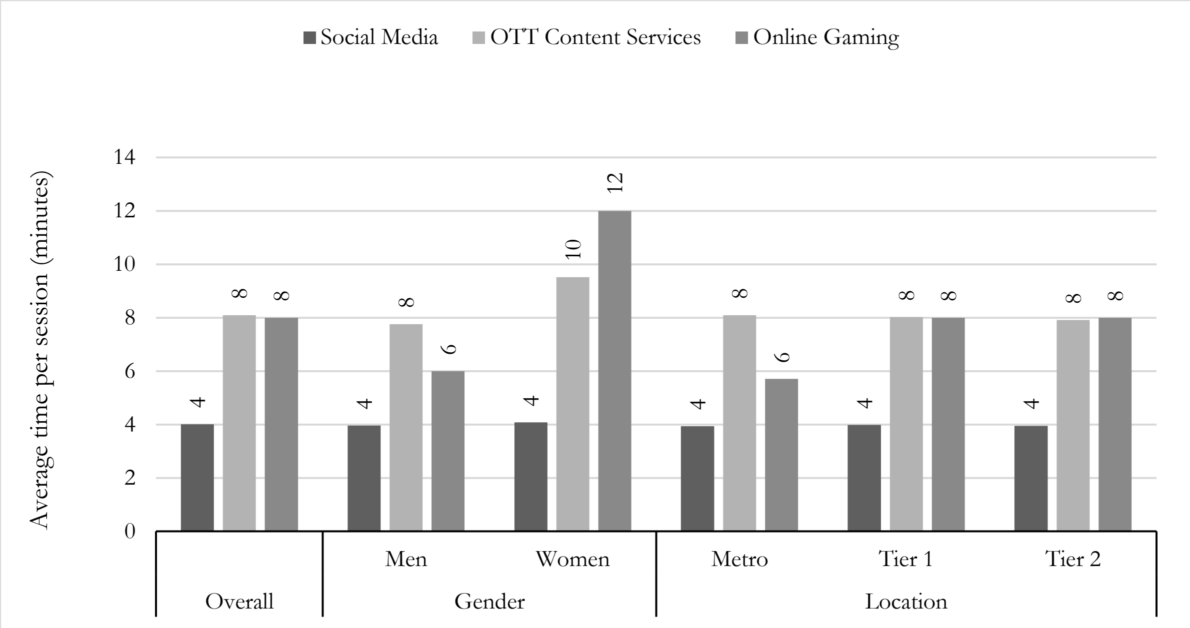

**Source**: Kalagato app-use data

[19] Multiple segment activity is *sum* of segment-wise activity *minus* activity on overall online gaming.

Figure 8 shows the average daily time-use patterns for social media, OTT content and online gaming. The daily user engagement is highest for social media (194 minutes) and considerably lower for OTT and online gaming (44-46 minutes). This pattern is consistent across locations. In terms of gender, women spend marginally longer on social media, while men spend more time on online gaming. Women constituted only 20 percent of our app-use data sample however, and only 49 percent of them would engage with online gaming, as compared to 100 percent who were on social media. Online games are indeed conventionally associated with men, and research (McLean and Griffiths, 2019; Fox and Tang, 2017) has shown the online harassment of women is a notable cause of this gender divide. This pattern suggests that men and women use different pathways to engage online where men are more into online gaming whereas women are more into social media. This is because of a host of factors including daily time-use, social and cognitive behaviour, etc. Moreover, online games often carry knowledge, skill and enthusiasm of their physical counterparts. Therefore, gender difference has a similar pattern across physical and online games. Several studies focused on India reflect that men/boys' participation in physical activities is higher than that of women/girls (Satija et. al 2018, Rajaraman et. al 2017).

Interestingly, although women spend 12 minutes less time a day on online gaming than men, the average time they spend per session is double that of men (Figure 9). Women also spend more time per session consuming OTT content, on which they also spend more time per day than men. Across genders we note a similar time-spend per session on OTT content and on online gaming – 8 minutes each, or double of that on social media. This is to be expected given the nature and functions of these distinct entertainment activities.

**FIGURE 9: APP USE DATA – AVERAGE TIME PER SESSION ON SOCIAL MEDIA, OTT CONTENT SERVICES AND ONLINE GAMING**




**Source**: Kalagato app-use data

The time-use patterns discussed above are important for two reasons. First, it is unlikely that users are behaviourally locked into OTT content or online gaming activities as compared to social media (in total or by gender or location). The average daily session time for OTT and gaming is only 0.2X the session time for social media. Therefore, technology tools to limit the time people spend on social media are of the highest priority. At present, those who want to curtail their usage of an app usually make use of third-party apps that impose screen-time constraints. Tech companies have, however, also shared in the responsibility of helping users limit their screen time. In 2018, Google's Android launched an in-built app called 'Digital Wellbeing' to let users restrict the time they spend on their frequently used apps, and to offer parents the option of implementing parental controls for their children. A similar initiative was also undertaken by Apple, which allows users to schedule time away from their screen by using the iPhone's settings app.

Second, as women spend more daily time (296 minutes) than men (280 minutes) on the three online services as a whole, and also spend more time on them per session, digital governance calls for a nuanced perspective on consumer welfare in this regard. We note that the share of women in paid work is low and falling in India, due in part to the demands of family and household work, which act to restrict women's availability and mobility for paid employment (Singh and Pattanaik, 2020). The time spent by women participating in these digital markets, especially social media and online gaming, suggests a viable way for them to bypass these frictions and build a formal career.[20] In other words, more online and remote work opportunities can play a crucial role in raising the female labour force participation rate, as seen in women's growing participation in digital markets.

Our results also suggest that policy concerns around unwanted consequences such as user addiction, particularly in online gaming, are unsupported by time-use data. Taking this into consideration, a forward-looking policy stance would choose harm-reduction measures over paternalistic interventions. The existing regulatory measures on online gaming mainly take a paternalistic approach without considering research backed by evidence.[21] To achieve harm reduction, it is vital to encourage service providers to engage in responsible app/product design, as discussed earlier in the context of technological tools for self-exclusion from app use. For instance, the existing rules for online gaming mandate the repeated display of warning messages after a reasonable duration of play.

**Results related to Money Spend and Price Sensitivity**

Social media, OTT content and online gaming services use a variety of business models to target users. While most revenue for social media platforms comes from advertising, OTT content and online gaming services make use of a mix of advertising, subscription, and other revenue models. The payment patterns of users, their decision making, and data on their price/time use sensitivity in various online segments can offer valuable insight into the risks and liabilities associated with these services.

Figure 10 shows the average user's monthly money-spend on social media, OTT content and online gaming services. While social media is free for the median user, they pay Rs 201-400 a month on OTT content, and less than Rs 100 a month on online gaming.[22] As the average Indian's monthly income was Rs 12,500 in 2021-22, almost all online users

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[20] On average, women spend 78 minutes more time daily on employment and related activities after online exposure, implying that as many as 102 million hours of additional daily time may accrue to paid activities in the economy if women were to go online. This would translate into an additional USD 103 billion of monetary value or almost 3.9 percent of GDP. See Bansal & Niharika (2022).

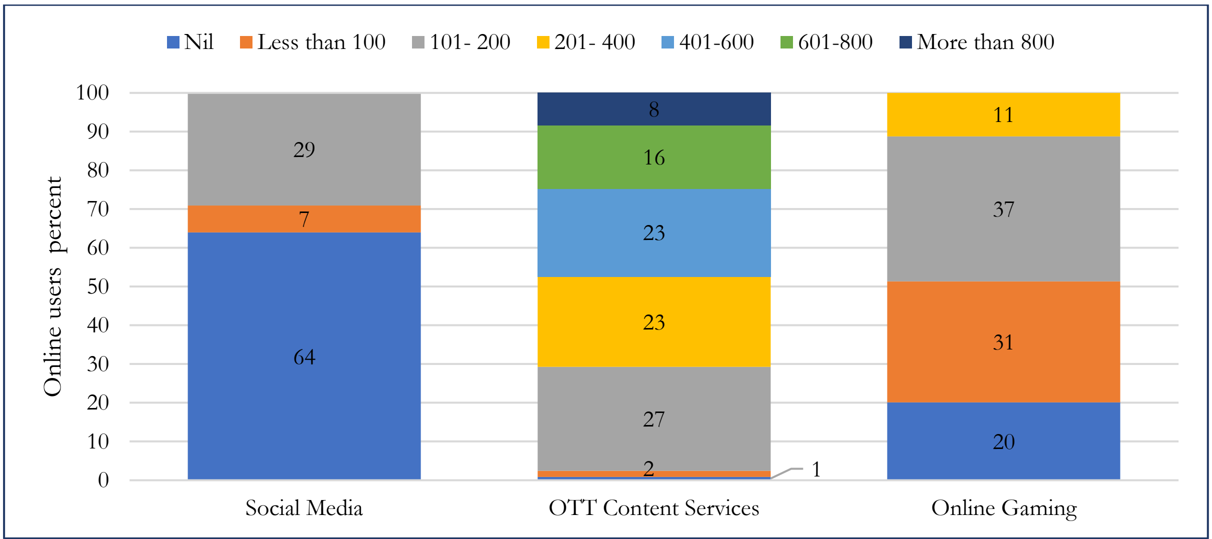
[21] Chaturvedi, A., Agarwal, A., and Mishra, P. (July, 2022). *"Game On! Roadmap For User Centric Gaming Regulation in India*." Koan Advisory.

[22] We use median as the measure of aggregation (i.e. central tendency) as it is the most efficient with income/price range data.

are paying less than 5 percent of their income on online gaming,[23] and approximately 75 percent are paying less than 5 percent of their monthly income on streaming OTT content. When compared with the money spent on legacy entertainment such as TV, the monthly subscription charges for OTT content services are largely in the same bracket, ranging between Rs 200-400.[24]

Importantly, a few price slabs are prevailing in the OTT content and online gaming markets. While subscription-based OTT platforms like Netflix offer subscriptions for Rs 149-649 per month, advertising-based platforms like MX Player allow free access to content. Ad-based services, especially the lower-priced ones, often experiment with 'gradual' piloting towards an improved user experience, in exchange for a higher fee. For instance, Zee5, a popular OTT content player that initially offered free content services, now offers a 'freemium' model featuring free as well as paid content.

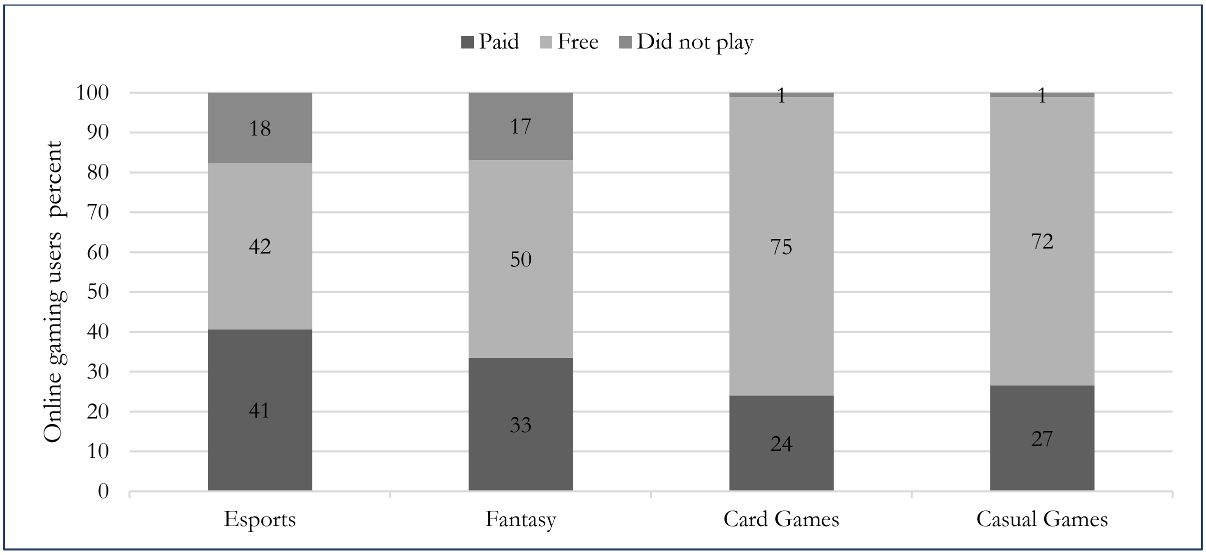
### Figure 10: User Survey – Monthly Spend on Social Media, OTT Content Services and Online Gaming




[23] Per capita net national product (NNP) is taken as proxy for per capita income. It stood at Rs. 1,50,007 for 2021-22. Source: RBI.

[24] CUTS International and Broadband India Forum (2022). "*Effective Consumer Choice key for Indian TV Viewers*".

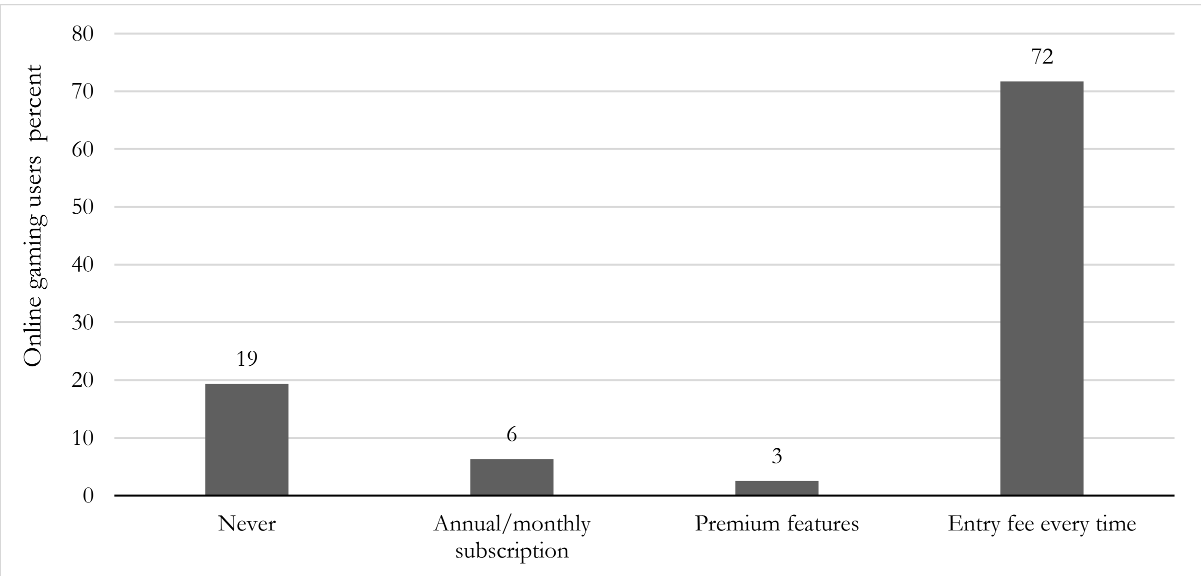
**FIGURE 11: USER SURVEY- PAYMENTS IN ONLINE GAMING**




Source: Primary user survey

Figure 11 shows the distribution of paid and free online games across four online gaming segments. Card games and casual games are usually played for free (by nearly three-fourths of users), while fantasy sports and e-sports more often have a mix of free and pay to play users. We note here that many paid gaming segments are hybrid, in that they let users play for free as well as for a fee. Moreover, the higher prevalence of paid gaming in certain segments does not correlate with their underlying financial risk profiles. For this reason, users' money-spend, like their time use, needs a closer look in terms of the underlying features that result in material differences in top-level metrics.

**FIGURE 12: USER SURVEY – TYPES OF PURCHASES IN ONLINE GAMING**



The need for a nuanced look at these services and activities is evident also if we evaluate certain trends in monetisation. As shown in Figure 12, only 6 percent of online gamers pay an annual or monthly subscription fee. Most of the money-spend in online gaming goes into pay-to-play services, like fantasy sports, or services based on an entry fee, like e-sports. Only a very small fraction (3 percent) is used for buying premium features in games. This may be a sign of the nascency of India's online gaming market. Lumikai, an Indian investment fund for online gaming, projects that online gaming revenues in India are set to transition toward in-app-purchase or IAP-led monetisation models, given the segment's high growth trajectory. At present however, the monetising of online games through IAPs remains low in prevalence, and over 57 percent of industry revenues are generated by real money games or RMGs.[25] It is a marked difference in Indian gamers' spending habits as compared with markets such as Europe. Chaturvedi et al. (2021) highlights the growing discourse on regulating 'lootboxes,'[26] a kind of IAP now a prominent feature in several European countries including the Netherlands, the United Kingdom and Belgium. These digital properties have the potential to introduce gambling risk into games of skill, and hence call for a nuanced regulatory approach.

Our data suggest that user reach and activity are highest for the online games (Figures 3–5) that do not typically involve money (casual, fantasy sport and card games) and are free to play. It is important however to emphasise that certain games carry potentially unlimited financial liability for players. For this reason, there is cause for regulatory differentiation even if only a few people play such games. For instance, in-app features that nudge players against frequent or lumpy payment stakes can prompt responsible spending. The current evidence suggests that a nudge made using choice-architecture to push people to choose the desired options can work well.[27]

In the user survey, we further assess the extent of behavioural lock-in towards online services when it comes to spending money. First, we asked about those who make the payment decisions, and second, we assessed user sensitivity in terms of time-use to

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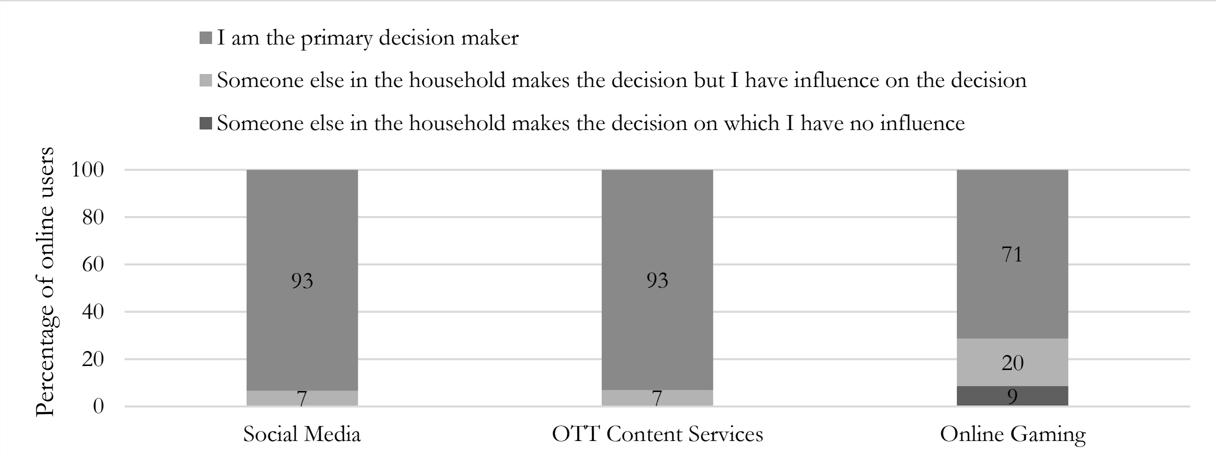
[25] "*India Levelling Up: State of India Gaming FY 2021-2022*" Lumikai, 2022.

[26] The Parliament of the United Kingdom defines 'lootboxes' as video game features that can be accessed through gameplay or purchased with in-game items, virtual currencies, or directly using real money. The regulatory concern around lootboxes centres on the structural and psychological similarities to gambling.

[27] Cynthia Weiyi Cai. (2020) "*Nudging the financial market? A review of the nudge theory*." Accounting and Financing. Vol 60, Issue 4, 3341–3365. Available at: https://doi.org/10.1111/acfi.12471

changes in pricing.[28] We found online gaming has a higher level of parental oversight when it comes to payment decisions than social media or OTT – although most users exercise relative autonomy in payment decisions across all three online segments (Figure 13).

**FIGURE 13: USER SURVEY – PAYMENT DECISION MAKER FOR ONLINE ACTIVITIES**




On the time-use sensitivity to pricing (Figure 14), we observe a 30 percent increase in participation fees would prompt 71 percent of gamers to reduce the time allotted to online gaming. Meanwhile, a similar increase in OTT content service fees would reduce the time allocation of only 17 percent of viewers.[29] The numbers indicate a lower level of user behavioural stickiness in online gaming than in OTT, with which viewers are less flexible in changing their engagement levels. This would suggest that people are less likely to change their consumption patterns in response to any regulatory intervention that leads to cost escalation in OTT content services. Any stricter industry-enforced standards or government mandates linked to technological controls or enhanced quality of service are likely to be better absorbed by the OTT content market without suffering large audience attrition. This is not the case with online gaming, which is highly price sensitive.

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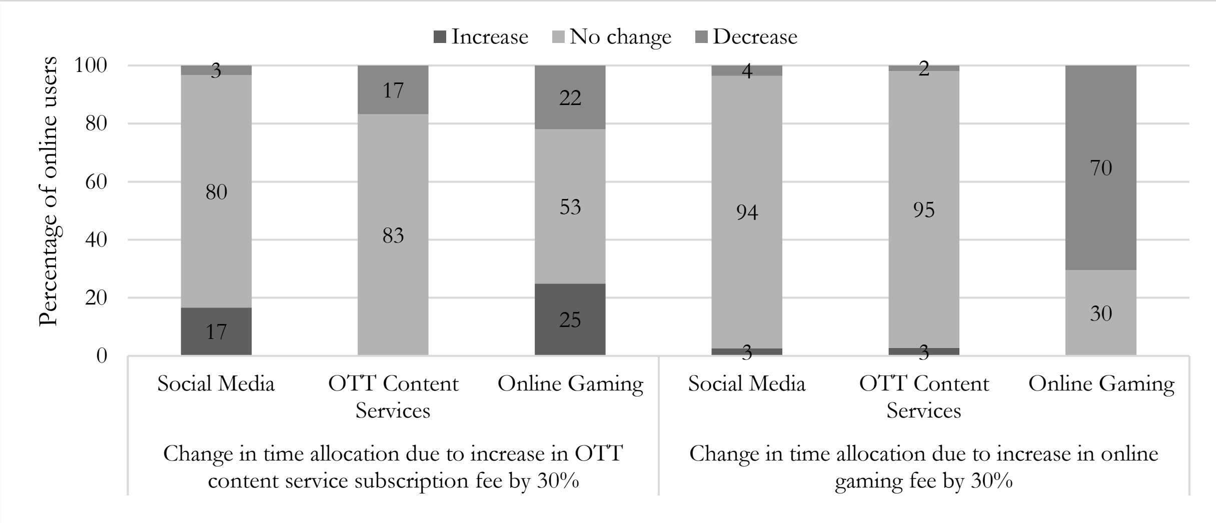
[28] In the survey, responses were recorded against hypothetical scenarios of a 30 percent increase in OTT and online gaming fees.

[29] Cross-sensitivities are insignificant. That is, the increase and decrease in users' online gaming time allocation due to an OTT content service fee change, and vice-versa, were of nearly equal magnitude.

**FIGURE 14: USER SURVEY – USER SENSITIVITY TO PRICE CHANGE IN OTT CONTENT SERVICES AND ONLINE GAMING**




The evidence is persuasive that behavioural lock-in is not an overwhelming concern in online gaming. At the same time, online gamers being highly price sensitive, are likely to migrate towards unregulated and unsafe online spaces in the event of a price escalation. This situation could soon become a reality with the implementation of the newly introduced tax regime in July 2023.

The Goods and Services Tax (GST) Council, in its 50th Meeting held in July 2023, advocated to impose 28 percent GST on the Gross Gaming Value (GGV) or the entire participation fee. This is a significant departure from the erstwhile taxation rule where the GST rate for online gaming services was pegged at par with other digital services, at 18 percent on Gross Gaming Revenue (GGR) or platform fee or entire participation fee *minus* the winning payouts. This change in tax architecture will significantly increase the cost of participation in online gaming or reduce the winnings paid to users or both, given gamers are already required to pay 30 percent income tax on their earnings from online gaming.[30] It may also have a negative impact on startups, which typically operate on low margins and therefore have limited ability to withstand this tax increase.

In response to these developments, close to 130 online gaming companies have appealed to the GST council, as of July 2023, to reconsider its recommendations. These appeals endorse a rationalised tax rate which is conducive to growth of online gaming in India and making the segment globally competitive, which is projected to double its revenue by 2025 under the existing tax regime.

[30] Jyoti Banthia (July 2023). "*GST burden. Online gaming firms, bodies seek review of 28% GST in open letter*". The Hindu.

As an alternate strategy, non-price instruments could play a role in regulating unwanted user actions in the segment, if they are proportionate to the level of user engagement. For instance, strict compliance requirements for gamers who only avail of free services might considerably limit growth in the sector. The new online gaming rules are therefore correct in mandating stronger KYC requirements for users who pay to play, and not for all users, including of games made available in hybrid formats where the free and paid versions coexist.

**Results related to Skills, Employment and Tech Gains**

We focus on user perceptions of online gaming in this research because the newest set of IT rules focus on this industry. There are also a number of positive externalities such as skill development that are intrinsically linked with online gaming in the global academic literature, and which are normally not raised in the Indian public discourse (Kafai and Burke, 2015). Here the media coverage tends to focus on parental discontent over the online gaming habits of their children. Yet the time-use and money-spend patterns unearthed in our research would seem to suggest that much of this concern is misplaced. For instance, society tends to regulate online gaming far better than social media. There is greater parental oversight, and far less everyday use of games than of social media, despite the fact that regulations targeting social media were formulated and enforced earlier.

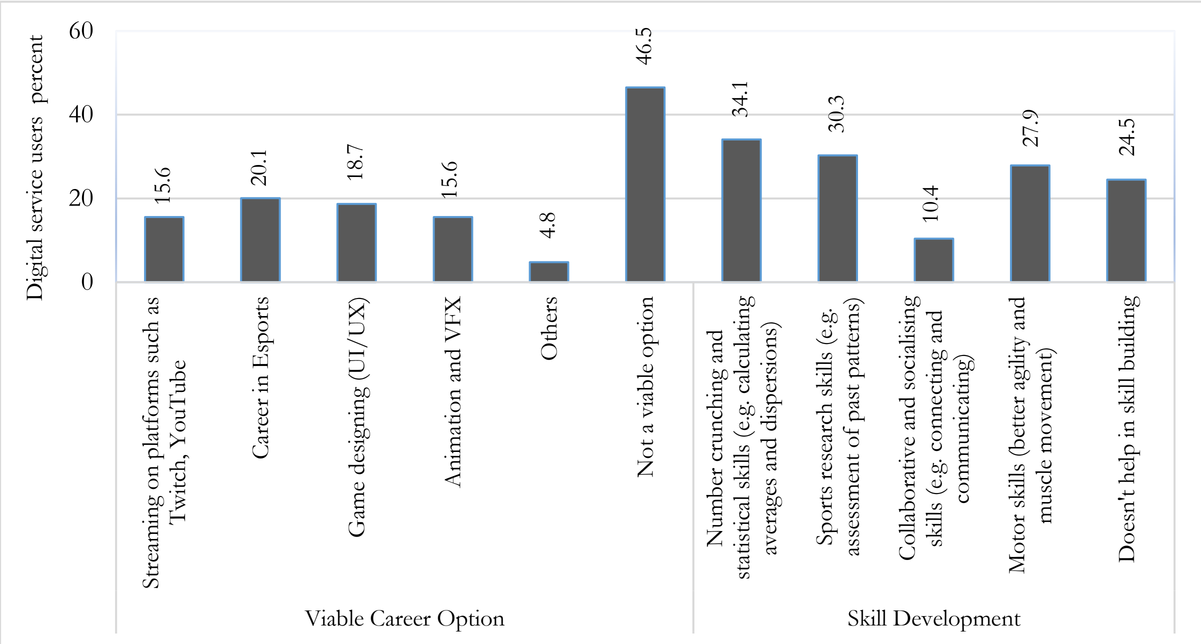
It is also a fact that the Government of India sees online gaming as an economic driver, as seen in a recent report of the Ministry of Information and Broadcasting on India's Animation, Visual Effects, Gaming and Comics (AVGC) sector.[31] This research busts the myth that online gaming is a drag on economic productivity and recognises the industry as an essential pillar of national economic growth. It flags a top-level view on the role of online gaming in creating new opportunities for Indian youth in the VFX, animation and game design sectors, and goes on to mention the role of online gaming in catalysing new technologies such as extended reality, artificial reality or the Metaverse in the media and entertainment sector. It is in this overarching context that we dive deep into the benefits of online gaming as described by online gamers.

Figure 15 depicts users' perceptions of the skill and employment potential of online gaming. Nearly 75 percent believe that online gaming leads to various kinds of skill development, especially in number-crunching and statistical skills, sports research skills,

[31] "*Realising AVGC-XR Potential in India*." AVGC Promotion Task Force Report, 2022.

and motor skills.[32] These are essential general-purpose skills with relevance for a range of employment opportunities. Consider the variety of employment opportunities in just the gaming-adjacent sectors such as augmented and artificial reality, animation, or graphics design. Most gamers also consider employability in AVGC activities such as UI/UX design or Animation/VFX, or in viewership-driven activities such as game streaming or e-sports to be viable career options.

### FIGURE 15: EMPLOYMENT AND SKILL POTENTIAL OF ONLINE GAMING



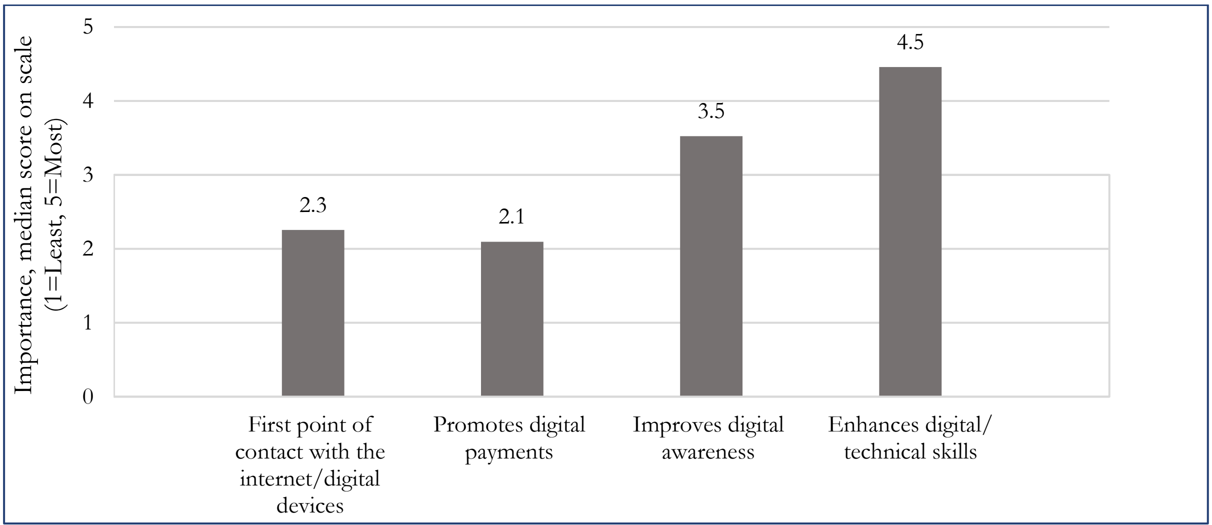

The spread of technology is another important dimension of online gaming. Worldwide, it has been a focal point of policymakers seeking to enhance digitisation to democratise access to work opportunities and to essential and non-essential services. The 2021 World Development Report emphasises the role of responsible digitisation and data use for global economic and social value creation.[33] Our research shows that online gaming has a significant impact on digital and technical awareness and skills (Figure 16) which improve general-purpose employability as noted above. Digital and technical awareness and skills have multiplier effects on almost all modern economic activities. However, online gaming is seldom the first point of entry into the internet and related digital

[32] In the United States, 88 percent of gamers find online gaming has a positive impact on their cognitive skills. The corresponding estimate for the UK is from 61-66 percent.

[33] "World Development Report 2021: Data for better lives." World Bank (2021).

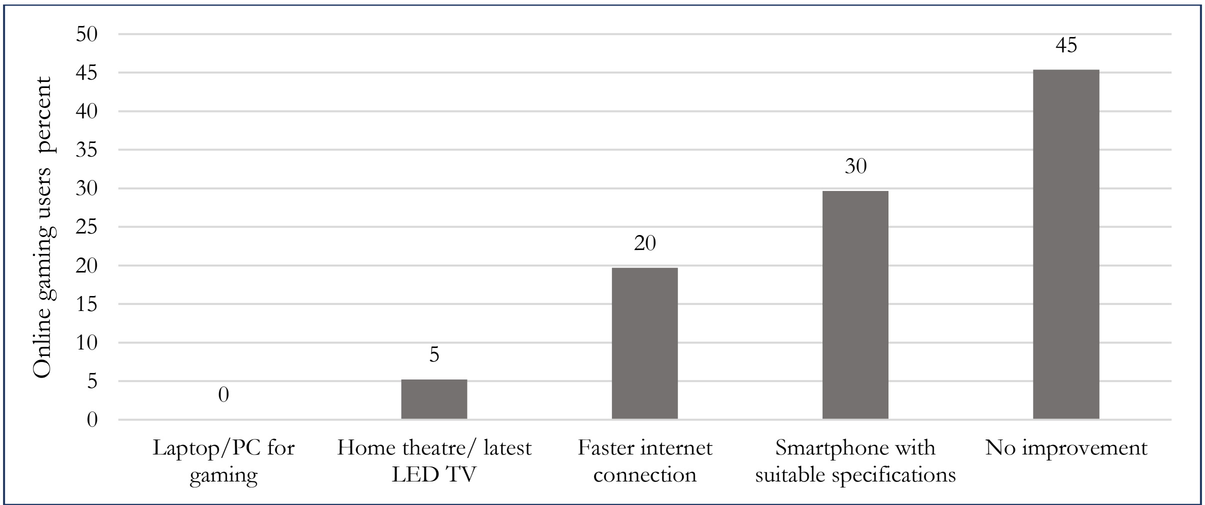
services, and is currently a niche service, with information on its potential mostly available on other online media.

**FIGURE 16: USER SURVEY – IMPORTANCE OF ONLINE GAMING IN TECH GAINS**




The skill building and employment potential of online games proceeds in step with the progressive technical upgrades made by gamers. In our sample, every other gamer seemed to have invested in a faster internet connection or smartphone (Figure 17). It is known that both are drivers of overall economic mobility (Chatterjee 2020).

**FIGURE 17: USER SURVEY – SPEC UPGRADE POTENTIAL OF ONLINE GAMING**




These observations may inform many dimensions of the future regulation of online gaming. For instance, taxation is a key lever used to encourage or to discourage digital product adoption. The Laffer curve (Laffer, 2004), which summarises the relationship between the tax rate and the resulting level of public tax revenue, follows an inverted U or bell-shaped path, which is to say, a rise in the taxation rate yields higher public revenue only up to a point, after which it leads to lower tax revenues.

The proposed tax hike on online gaming from 18 percent to 28 percent on the entire participation fee will significantly increase the tax burden on users and discourage adoption of online gaming. This measure may have a ripple effect on the growth of other linked industries, including AVGC, Game Design, and Esports, which may ultimately offset the anticipated increase in revenue from higher tax rates.

**Results related to the User Inhibitions**

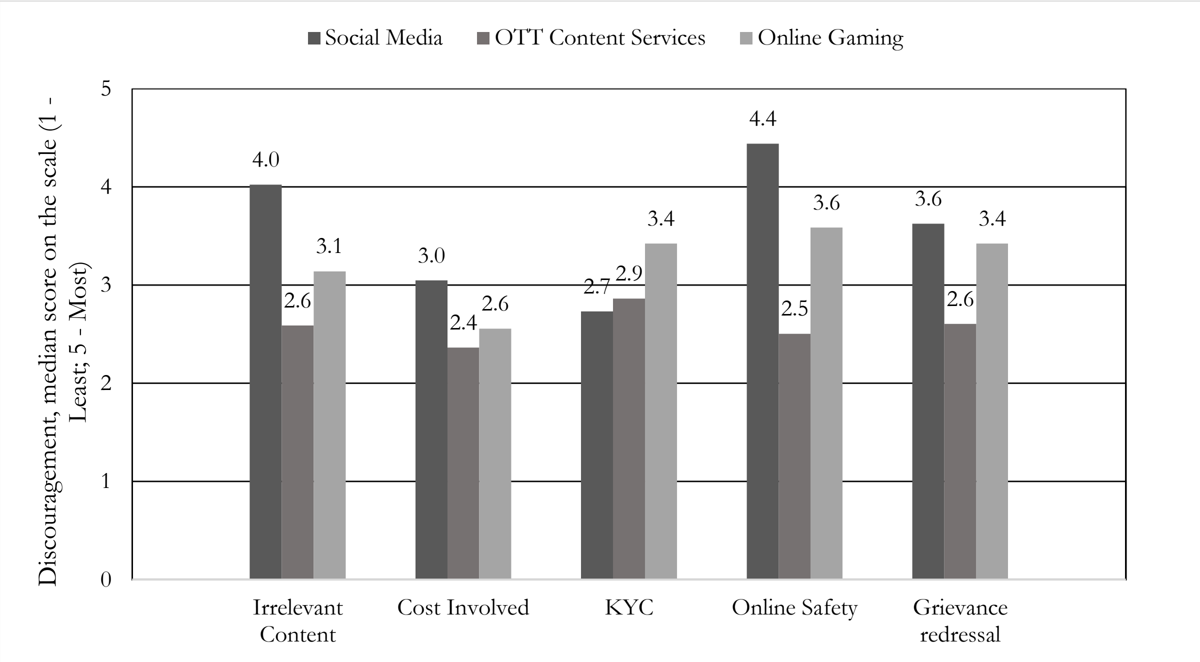
Inhibitions linked to engagement with social media, OTT content and online gaming are a critical aspect to gauge, for a holistic sense of the services ecosystem in focus. Knowing the precise nature of these user inhibitions may help businesses and policymakers fill the requisite gaps in terms of reach and to ensure user safety in the digital services ecosystem.

We find that users encounter the most friction in their online experience on social media, citing especially irrelevant content and online safety (Figure 18). Online safety[34] and grievance redressal, as well as KYC requirements, are also cited as somewhat discouraging factors by online gamers. The 2023 IT Rules provide for safeguards for online safety, and they define processes for grievance redressal. However, they do not differentiate in the level of KYC required for low-value versus high-value transactions. This may lead to continued user frictions in this regard. The Rules prescribe the same level of KYC as required for opening a bank account, though other KYC regimes such as for mobile wallets have a much lighter touch regulation as they are associated with a prescribed threshold in transaction value terms.

We note finally that users describe their experience with OTT content services as smooth on almost all counts, which is also a testament to the standardisation of quality of service in an otherwise heterogeneous segment of the digital market, thanks to an enabling regulatory infrastructure.

[34] Online safety implies that individuals are protecting themselves and others from online harms or risks that may jeopardise their personal information, lead to unsafe communications, or even affect their mental health and wellbeing. It encompasses all technological devices that have access to the internet, from PCs and laptops to tablets and smartphones.

## Figure 18: User Survey – Factors Inhibiting Participation in Online Activities




Note: The cost parameter here includes both the time and money cost associated with each online service

It is important to make product design distinctions in the heterogeneous ecosystem of online gaming. The existing categories are already changing with the introduction of Web3 games, which can involve users at multiple stages of the game and enable the ownership of in-game assets that are traded in other digital markets in the form of non-fungible tokens (NFTs). The evolution of these new technologies is linked intrinsically with the online gaming industry, with which they share the many unique features of virtual worlds, where users play, interact and communicate in immersive and interoperable environments.[35] The future of online gaming is evolving rapidly, as Web3 games increase user agency, ownership properties, interoperability, and transparency.[36] For this complex and fast-moving industry therefore, agile governance is the need of the hour.

### Conclusion

Policy concerns around unwanted user actions, especially in online gaming, are unsupported by user time-use or money-spend data. A median user spends less than INR

[35] Chaturvedi et al. (2021)

[36] "How Web3 will change the gaming industry." NASSCOM (August, 2022).

100 a month and less than an hour a day on average on online gaming. A forward-looking policy stance that leans into harm-reduction over paternalistic interventions is essential. The activities that underpin social media – networking and communications – are clearly intrinsic to user engagement in digital markets. Online users are active on social media apps at least once a month, while the comparable metric for OTT content and online gaming services is 60 percent and 40 percent respectively. This has implications for how policymakers and industry might imagine the future digital landscape: it is likely that nearly every digital service segment would benefit from integrating networking and communications functions and activities into its product.

Our data suggest that over 99 percent of gamers play casual and card games – casual gaming is also where the distinction between 'games of skill' and 'games of chance' is most elusive. Thus, online gaming self-regulatory bodies that are to be notified by government should respond to differences in user behaviour in different segments and address the behavioural and financial risks accordingly. Further, user price sensitivity should be a guiding principle for any regulation of online gaming. The new tax regime, proposed by the Goods and Services Tax (GST) Council, in its 50th meeting held in July 2023, advocates to levy 28 percent GST on the entire participation fee of online gaming. This is a significant departure from the current GST regime where 18 percent tax is levied on platform fee only. This change in tax architecture (i.e., rate and base change) is likely to have a significant impact on the market prices of regulated online gaming businesses and may lead to a complete drop-out or shift by users towards unregulated businesses.

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