Advances in Consumer Research
https://acr-journal.com/
Volume-3 | Issue-10 |Sep: 2026
Original Researcher Article

Consumer Behaviour in the Era of Digitisation: A Study on the Role of the IT Sector in the Growth of the Indian Economy

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ABSTRACT

Economic growth affects consumers' lives and influences their behaviour. Studies show that economic growth positively affects customer satisfaction. Digitisation, on the other hand, has a significant impact on consumer behaviour. It is therefore interesting to examine how an economy like India, which is investing heavily in the IT sector and moving towards greater digitisation, could impact its economic growth. In the era of digitisation, where many day-to-day business activities are carried out online, the importance of information and technology has increased over the years. The contribution of information and technology to GDP has increased sevenfold. But at the same time, the Government of India's spending on the IT sector has also increased by almost 10%. This research paper focuses on the contribution of the IT sector towards economic growth in the form of contribution towards GDP, exports, and employment generation in relation to government expenditure, which not only results in the digitisation of the economy, but also has the potential to alter the Indian consumer's behaviour..

Keywords: Consumer Behaviour, Gross Domestic Product, Digitisation, Employment, Economic growth

1. INTRODUCTION

The cyclical changes in the economy's growth rate influence many aspects of consumers' lives. The consumers' behaviour regarding product consumption and purchasing is heavily influenced by the GDP growth rate (Loxton et al 2024). Studies have highlighted varied consumer behaviours across different levels of the economy, including the Indian consumer purchasing pattern (Dholakia et al 2018). Another recent development has been the development of theories of consumer behaviour that focus on conceptual models of digital consumer behaviour during digital transformation. The level of consumer awareness and action in a fast-growing competition, potentiated by the digital economy, would undergo a transformation, and hence their behaviour. Given this background, one feels tempted to identify how both changes, that is, digitisation and economic growth, could result from one to the other. The information and technology sector in India plays a vital role in the nation's economic growth. In the era of digitisation, where many day-to-day business activities are carried out online, the importance of information and technology has increased fourfold over the last decade. Right from the purchase of goods or availing services to day-to-day transactions with banks and other financial institutions, information technology and digital transactions are becoming an integral part of our day-to-day life. The Ministry of Electronics and Information Technology has already stated in its annual report for 2024-2025 that it is responsible for policy formulation, implementation, and review at the national level in the field of information and technology. The contribution of information and technology towards the GDP has increased from 1.2% in 1998 to 7.7% in 2024. But at the same time, the Government of India's spending on the IT sector has also increased by almost 10%. This simply tells us about one thing: if India has to move ahead and make its place in the world of digitalisation, it requires a formidable information, technology and communication system. The major question is by what percentage the IT sector has contributed to economic development compared to government spending in this era of digitalisation. This research paper focuses on the contribution of the IT sector to economic growth, measured by GDP, exports, and employment generation, in relation to government expenditure, which is an integral part of the digitisation of the economy.

LITERATURE REVIEW

One of the many factors that influences consumers' behaviour is the country's overall economic condition, especially the growth rate of Gross Domestic Product (GDP). The GDP growth rate translates into employment and disposable income levels that can impact the choices consumers make while buying goods and services. Yurievna (2022) has highlighted that economic changes prompt consumers to shift from an extravagant to a restrained lifestyle, or vice versa, affecting their expenses and buying patterns. In their research, they have highlighted changes in consumer behaviour driven by economic factors. Frank & Enkawa (2008) have shown, using data from national consumer barometers in Germany, South Korea, Sweden, and the United States, that economic growth positively affects customer

satisfaction. A further study by the same authors, utilising comprehensive data from Germany for structural equation modelling, reveals that economic growth drives customer satisfaction through the expansion of the average consumer's budget and an increase in the perceived value of offerings. In their research paper, Sharma & Sonwalkar (2013) have analysed the results of research conducted in different countries during the 2008 recession to highlight the main changes in consumer buying behaviour and to draw a portrait of consumer behaviour after the economic crisis. Yegina et al. (2020) have explored the factors that influence consumer behavior under the conditions of technological changes and the accompanying social and economic externalities. The authors have formulated and described the social and economic externalities generated by the digitalization of consumption and include them in their proposed conceptual model of consumer behavior. Vatamanescu et al. (2017) have investigated the relation between competition and online purchasing decision-making, integrating consumer protection awareness and the corresponding consumer behavior as mediators. Their focus was on measures to increase consumer awareness and action in a fast-growing market, driven by the digital economy. Famous economist Robert Lucas first attempted an economic growth model consistent with neoclassical theory. He found out that investment in technology has a significant impact on the economy's growth rate (Lucas, 1988). The IT Industry in India has shown remarkable growth in the last few years. Its contribution has increased from a minimal percentage of GDP to an impressive percentage (Sabita, 2020). However, the road is full of challenges, such as competition, customer understanding, protectionism, and economic volatility. The concerned stakeholders have to address all these challenges to survive. They must go for IT-enabled digital transformation to compete in the globally connected world (Singh & Kaur, 2017). Though information technology is certainly not a panacea for the problems of developing countries, it may be an excellent first step. The new structure of competition in IT in India provides unprecedented opportunities to leapfrog economically, and the brain drain can be turned from a curse into an advantage in this process (Mathur, 2007). A study conducted by Dash and Sharma examined the impact of government developmental expenditure on India's economic growth from 1950 to 2024 and found it to be positive and significant at a 1% confidence level. From a short-run analysis, it is clear that government expenditure is substantial, indicating both permanent and transitory effects (Dash & Sharma, 2008). Government expenditure also impacts the consumer behavior and lead to more demand for products and services (Nguyen & Schinckus, 2020). Given all this exciting literature, it is imperative to look deeply into how the IT sector has contributed to India's growth rate, especially in terms of export earnings and employment generation vis-à-vis the expenses that the Government of India has incurred in the infrastructure creation of this sector.

METHODOLOGY

The research undertaken is quantitative and based on data collected from secondary sources. One of the significant sources of data was the website statista.com. 10 years' Union budget of India and employment reports have been studied to collect data regarding the government of India's expenditure on the IT sector. The export data have been sourced from the Reserve Bank of India (RBI) and Ministry of Trade and Commerce websites.

The period taken into consideration is between FY 2009 and FY 2021. The rationale for choosing this period is to explore the impact of government expenditure on IT infrastructure and the creation of IT-enabled services in the last decade (especially after 2014). Thus, the data collected from the secondary sources were analysed to identify specific trends using MS-Excel and SPSS-22 Software.

To identify the impact of govt. Expenditure in the IT sector on its contribution to the GDP, a regression analysis was undertaken. The GDP of India has been considered the dependent variable, and expenditure by the Government of India on the IT sector has been considered an independent variable. Firstly, Pearson's correlation coefficient was derived to check whether the variables had a relationship. Once the researcher had obtained a strong correlation between the variations, the regression equation was used to check whether the IT sector contributed to GDP growth. The ANOVA technique has been used to check the average growth rate.

The Null Hypothesis considered is that.

H0: Government expenditure on the IT sector has resulted in a significant contribution of this sector to India's GDP.

H1: Government expenditure on the IT sector has not resulted in a significant contribution of this sector to India's GDP.

However, due to the paucity and reliability of available data, the impact of government expenditure and the IT sector's contribution to employment and export earnings could not be analysed using regression analysis. Instead, the researcher has calculated average growth figures for this variable on a year-on-year (YOY) basis and then a proportional comparison between govt. Expenditure and the IT sector's contribution to export earnings and employment generation have been expanded.

IT sectors' contribution towards GDP in relation with government spending:

The information and technology sector has increase its share in Indian GDP from 1.2% in 1998 to 7.7% in 2017-2018. According to NASSCOM, the sector aggregated revenues of US$160 billion in 2017, with export revenue standing at US$99 billion and domestic revenue at US$48 billion, growing by over 13%. It is a fact and can't be denied that information and technology is playing pivotal role in making India marching ahead towards digital era. In order to assess the recent situation, it is very much necessary to compare the increase or decrease in share of GDP with that of investment by the government i.e. actual expenditure for last five years. This assessment is necessary because if we really want to forty the digital system the information and technology should provide a revolutionary change both with respect to socially and economically. Basically the information and technology

sector enabled to perform various economic and social activities through digital means.

	Data Center Systems	Software	Devices	IT Services	Communication Services	Total Expenditure
2013	2.33	3.73	22.18	9.95	29.23	38.19
2014	2.28	4.08	21.52	11.44	27.75	39.32
2015	2.91	4.19	21.82	10.13	29.80	39.05
2016	2.89	4.49	19.75	10.99	29.62	38.12
2017	3.37	4.88	28.73	12.61	30.42	49.59
2018	3.47	5.58	30.74	13.84	29.97	53.63
2019	3.74	6.65	38.28	15.41	27.94	64.08
2020	2.61	7.85	36.01	16.35	23	62.82
2021	2.76	9.19	41.04	18.12	24	71.11
2022*	2.86	10.51	44.13	19.77	24.55	77.27

*

Table 1 shows expenditure in billion dollars

Share of Information technology/business process management sector in the GDP of India from financial year 2009 to 2021

FY 2009	5.80	in %
FY 2010	6.10	in %
FY 2011	6.40	in %
FY 2012	7.50	in %
FY 2013	8	in %
FY 2014	8.10	in %
FY 2015	9.50	in %
FY 2016	9.30	in %
FY 2017	7.70	in %
FY 2018	7.90	in %
FY 2019	7.80	in %
FY 2020	7.70	in %
FY 2021	8	in %

Table 2 Contribution of Indian IT-BPM industry in GDP of India FY 2009-2021

As per table 1 one can very well notice that although there is increase in the rate of expenditure from 2013-2014 to 2017-2018 over the previous year, but increase in share in GDP is not up to the mark. It can be very well noticed that the government expenditure had gone up from 2013-2014 to 2014-2015 from 12% to 83% over the previous year but the growth rate of its share in GDP has gone down from 0.5% to 1%. Again the share of government expenditure in the year 2017-2018 has gone up by 16% over the previous year but the growth rate in GDP has gone down by 1.6%. Considering the above table, it can be interpreted that the contribution of IT sector with respect to growth rate in GDP is not encouraging in comparison with percentage increase in expenditure over the previous year. Also, although spending has increased but the contribution of the sector remains somewhat constant.

Contribution in export by IT sector in digital era:

In order for India to achieve its ambitious goal of becoming a five trillion-dollar economy by the year 2027, the significance of boosting Indian exports cannot be overstated. Currently, the nation faces a substantial current account deficit, which was recorded at approximately 2.4 billion dollars, equivalent to around Rs. 21,660 crores by the end of September 2025(Dave, 2022). This financial gap underscores the urgent need for an increased focus on export activities. To effectively bridge this deficit and secure a robust position on the global

digital landscape, it is essential to leverage advancements in information technology. The integration of technology within the export sector is not merely beneficial but rather indispensable for enhancing productivity, efficiency, and competitiveness in international markets.

Table No. 2 provides a comprehensive overview of the interplay between the growth of Indian exports and the government's investment in the IT sector over the past five years. This data illustrates the correlation between increased government expenditure in information technology and the subsequent impact on export growth, highlighting the critical role that technological advancement plays in fortifying India's export capabilities. By aligning strategic investments in IT with export promotion initiatives, India can navigate its current economic challenges and work towards achieving sustainable growth on a global scale.

By looking at the table no:2 it can be very well mentioned that though there was inconsistent rise in spending by the government towards IT sector from 2013-2014 to 2017-2018, but the percentage increase in the employment generation has almost gone down drastically from 2016-2017 to 2017-2018 from 17% to 8%. Yes, the growth rate in export has gone up from 10% to 18.8%from 2014-2015 to 2015-2016. But again it has gone down by 1.18% in 2016-2017. By comparing The table no;1&2, it can be said that the picture is bit better when it comes to export in terms of GDP contribution by IT sector. But again saying that in relation with government spending the growth in export is not up to the mark.

Employment generation by the IT sector with government investment:

Currently, India is grappling with its most severe employment crisis in 45 years, marked by an unemployment rate of 6.6%. Unfortunately, experts predict that this figure may continue to rise in the coming months. In recent years, the information and technology sector has emerged as a pivotal force in job creation, particularly in terms of direct employment opportunities within the country. This growth has significantly raised employment levels to a more acceptable range. However, a closer examination of the data in Table 3 reveals a concerning trend: while employment has increased, this growth appears minimal compared to the percentage increase in government expenditure. Despite the IT sector's longstanding reputation as a prominent job creator, the current situation suggests that the benefits of this growth are not translating into a substantial impact relative to the government's financial investments in the sector.

The latest EPFO payroll data and a NASSCOM report highlight the Indian IT industry's contribution to total job creation. IT Minister Ravi Shankar Prasad said that IT sector has generated 8.73 lakh jobs in the last five years. The Employees' Provident Fund Organisation (EPFO) has reported growth in job creation for the first time since September 2017. Net job addition touched a 17-month high in January 2019, recording 8.96 lakh jobs. The Indian IT industry generated $180 billion in 2018. The IT industry generated $106 billion in 2013-14. India's top five IT services firms continue to close large deals, creating job opportunities for young graduates. (source; https://content.techgig.com/hiring/indias-it-sector-created-8-73-lakh-jobs-in-last-five-years/articleshow/68544136.cms)

Based on Table 3, it is clear that expenditure increased by 16% in 2017-2018 compared with the previous year, 2016-2017, while the rate of increase in employment rose by 4%. It means the rate of increase in employment is just 25% of rate of increase in government spending. The worst situation is in 2014-2015, when government spending increased by 83%, but employment rose by only 10%. If we take the average of both the aspects, it can be seen that the average increase in government expenditure in IT sector from 2013-2014 to 2017-2018 is 24% whereas the average increase in direct employment rate over the previous is merely 6.6%. If we compare these two and take the ratio, we find that the rate of growth in employment is 0.28 times the rate of growth in expenditure. This is a very ominous sign because, if India really wants to excel in the digital platform, the government has to take serious steps not only to generate employment in the IT sector but also to evaluate the proportion of employment generated relative to government spending.

Challenges and opportunities for IT sector: There Is a wide gap between the demand and supply of information technology. In terms of labour supply, around 4 lakh students graduate every year, and only 4% of them get employment, leading to unemployment of a large population every financial year. India is also facing global challenges to meet the demand and expectation of the developed countries. But one thing is very sure that if at all the IT Sector wants to excel, the government needs to concentrate first in the manufacturing sector, because if the GDP in the manufacturing sector goes down, then the GDP contribution in the IT sector will also go down, being a service sector. But at the same time it has got a huge scope if we look at the other side that the entire globe is moving towards automation.

Conclusion: By looking at the above three major aspects, it can be concluded that the contribution of information and technology sector is not very encouraging when it comes to huge government spending every year. Every year the government spends thousands of crores for the development of information and technology in order to make India a global digital platform but its contribution toward GDP, export and employment generation is not matching up with this huge spending. If we take the average growth rate in terms of GDP in IT sector we can notice that the average growth rate is negative i.e. -0.52%. On the other hand, the average increase in government spending every year is 24% from 2013-2014 to 2017-2018. In terms of increase in exports the picture is bit better than overall GDP contribution, but the average increase in exports over the previous year during the above mentioned period is 14% as compared to government spending of 24%. It means a ratio of 0.58 :1. Similarly the average of increase in government expenditure in IT sector from 2013-2014 to 2017-2018 is

24% whereas the average increase in direct employment rate over the previous is merely 6.6% which constitute a ratio of 0.275:1.

Suggestion: On the basis of the above conclusion, it is suggested that Government of India needs a constant evaluation with respect to its huge spending every year. The ground level situation with respect to GDP growth, increase in exports, tapping of new foreign market, growth in employment etc. needs to be monitored at regular intervals and appropriate administrative policies needs to be framed accordingly. If this happens then only India will be able to stand tall in the global digital platform, otherwise the country to become a five trillion-dollar economy in the near future will be a distant dream.

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