



Spiral Consumption In The Digital Age: The Influence Of Digital Marketing On Continuous Consumption Cycles

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Abstract: In the digital age, the evolution of marketing strategies has significantly influenced consumer behaviour, fostering a phenomenon known as 'a cycle of continuous and often impulsive online purchasing'. The present study explores the factors contributing to spiral consumption among IT professionals in Infopark, Kochi, Kerala, with a specific focus on the influence of digital marketing. Based on the data collected from 63 IT professionals through purposive sampling, the research employs Exploratory Factor Analysis, Correlation Analysis, and Multiple Regression to identify and analyse psychological, technological, economic, social, and personal factors impacting spiral consumption. The findings reveal a significant correlation between spiral consumption and continuous consumption cycles, with digital marketing elements such as personalised ads, social media influence, and convenience playing key roles. The study points the need for ethical digital marketing practices and enhanced consumer awareness to mitigate the financial and psychological risks associated with uncontrolled online consumption.

Index Terms - spiral consumption, digital marketing, continuous consumption, social media, online purchase.

I. INTRODUCTION

Today world is experiencing digital innovation which brought a drastic change in conventional mode of marketing. Digitalisation has provided the marketers both opportunities and challenges to position themselves in online space. As the digital development has significantly transformed the buying behaviour of consumers, each and every second the marketers design innovative strategies to attract the customers towards online purchase. They try to understand the consumer behaviour through their activities on their profiles in social media platforms, website, digital platforms and multimedia interactions(Jose Ramon Saura et al., 2020). After understanding the customer behaviour, they are provided with personalised content and targeted advertisements through online platforms.

Marketers employ content marketing, email marketing, Search Engine Optimisation, mobile marketing and social media marketing through which customers are induced by way of click purchase, limited time offers, personalised recommendations and customer reviews. The influence exerted by different online platforms and interactions draws the customers towards continuous consumption cycles where they knowingly or unknowingly make repeated online purchases leading to spiral consumption. The digital marketing strategies have changed the rational decision making among people. The continuous and repeated purchases often result in over spending which distort the financial well-being of an individual(Schor, 1999).

It is evident that regardless of geographical differences people are exposed to varied digital platforms(K. Umamageswari & M. Krishnaveni, 2020). Among them, IT professionals are the people who are spending their productive time over internet. The studies revealed that professionals with high internet experience and usage frequency tend to make regular online purchases(Sim & Koi, 2002). As the screen time for IT professionals is high due to the nature of their job, the current study intends to analyse the influence of digital marketing on spiral consumption characterised by continuous buying cycles among IT professionals.

II. ABBREVIATIONS AND ACRONYMS

IT – Information Technology

EFA – Exploratory Factor Analysis

KMO - Kaiser-Meyer-Olkin

III. STATEMENT OF THE PROBLEM

The digital age witnesses a drastic change in the buying behaviour driven by digital marketing which often promote continuous and cyclical consumption patterns. The traditional model of consumption pattern where the customers purchase as per their requirement is replaced by more complex consumption cycles driven by digital marketing strategies such as personalised advertising, social media platforms, and targeted digital campaigns. This phenomenon is referred to as spiral consumption. Digital marketing plays a pivotal role in shaping buying behaviour of individual by creating a sense of urgency, exclusivity and personalisation which lead them towards spiral consumption sometimes going beyond their immediate needs or financial capacities(Susan Fournier & Jill Avery, 2011). The online marketing tactics adopted by marketers lead to impulsive buying behaviour which effect their financial well-being(Hsin-Ting Grace Chou & Ming-Ling Lee, 2018). However, there is dearth of in-depth study on specific factors influencing spiral consumption and the relationship of frequency of purchase and spiral consumption. Hence, the current study intends to identify and analyse the factors influencing spiral consumption characterised by continuous consumption cycles among IT professionals in Infopark, Kochi, Kerala.

IV. OBJECTIVES OF THE STUDY

The study is designed to identify and analyse the factors contributing towards the spiral consumption among IT professionals and hence the following objectives have been framed for the study:

- To understand the socio-economic and demographic characteristics of the respondents of the study.
- To identify the factors influencing spiral consumption among respondents in the study.
- To analyse the relationship between spiral consumption behaviour and the identified factors.
- To analyse the relationship between spiral consumption and continuous consumption cycles.

V. HYPOTHESIS

Based on the objectives framed for the study, the following hypotheses have been formulated for testing and further analysis:

H_1 : There is a significant relationship between spiral consumption and identified factors such as personal, technological, economic, social, and psychological factors.

H_2 : There is a significant correlation between spiral consumption and continuous consumption cycles.

VI. SCOPE OF THE STUDY

The study in a broad sense focuses on the effect of digital marketing strategies on spiral consumption. In a specific sense the study categorises the factors as technological, psychological, economical, and personal, and how they contribute to repeated purchases leading to spiral consumption. The study is conducted among the IT professionals working in IT companies in Infopark in Kochi, Kerala. The intention of selecting IT professionals, is their exposure to digital media due to their nature of work.

VII. RESEARCH METHODOLOGY

The study adopts a closed and structured research methodology, characterised by a predefined approach to data collection and analysis that remains consistent throughout the research process. It follows a quantitative research design, aiming to test hypotheses that explore the relationship between digital marketing strategies and spiral consumption patterns among IT professionals.

VII.1. Population and Sample

The research focuses on IT professionals working in Infopark, Kochi, Kerala, a population chosen due to their high exposure to digital media as a result of their work environment. Given the specific nature of the target group, the study employs a purposive sampling to collect data. The study included 63 participants, which falls within the generally accepted range of 30 to 500 for behavioural research, as suggested by previous studies (Farhati, 2024; Sekaran & Bougie, 2016).

VII.2. Data and Sources of Data

Data were gathered using a pre-structured questionnaire, designed to capture both the socio-economic profile of the respondents and their digital consumption behaviour. The questionnaire included items relating to psychological, technological, economic, social, and personal factors, which are the potential contributors to spiral consumption.

VII.3. Theoretical framework

Before the emergence of digital marketing, companies used traditional marketing composed of electronic and print medium to advertise their products and services. With the outbreak of digital age, marketers started to use digital marketing along with traditional marketing which incorporate digital aspects in advertising to leverage the benefit of internet(Ahmad Zuhairi Zainuddin et al., 2023). Digital marketing offers various prospects such as social media marketing, content marketing and mobile marketing to enable the marketer to reach the prospective customers to address their requirements and maintain a competitive edge in the market(Davis et al., 2021). Various digital marketing strategies adopted by the marketers made the consumers empowered and motivated to make hassle free online shopping(Sandeep Gupta & Gurpreet Kaur, 2018). When the customers are emotionally connected with online platforms and reviews, they tend to make unplanned buying decisions leading to spiral consumption(Hui Li & Yun Li, 2020). The impulsive buying behaviour exhibited by people lead to spiral consumption which result in financial instability(Thomas C. O'Guinn & Richard J. Faber, 2009).

VII.4 Statistical Tools Used

The collected data were subjected to statistical analysis using SPSS version 25. The following analytical techniques were employed:

- a. Descriptive Statistics to summarize and present demographic and socio-economic characteristics of the respondents.
- b. Exploratory Factor Analysis (EFA) to identify underlying dimensions that influence spiral consumption and to group related variables into coherent factors.
- c. Correlation Analysis to explore the strength and direction of the relationship between spiral consumption and the frequency of online purchases, indicative of continuous consumption cycles.
- d. Multiple Regression Analysis to assess the degree to which the identified factors predict spiral consumption behaviour among the respondents.

VII.4.1 Descriptive Statistics

The study attempts to identify and analyses the factors influencing spiral consumption and relation of frequency of purchase, with spiral consumption among IT professionals in Infopark, Kochi, Kerala. Table 1 represents the socio-economic and demographic profile of respondents selected for the study:

Table No: 1 Socio-Economic and Demographic Profile of the Respondents

| Variables | Category | Frequency | Percentage |
|--------------------|-----------------------|-----------|------------|
| Gender | Male | 35 | 56 |
| | Female | 28 | 44 |
| Age | 18-25 years | 17 | 27 |
| | 26-35 years | 7 | 11 |
| | 36-45 years | 33 | 52 |
| | 46-55 years | 6 | 10 |
| Education | Graduate | 18 | 29 |
| | Post Graduate | 40 | 63 |
| | Technical | 5 | 8 |
| Monthly Income | Upto 25,000 | 6 | 10 |
| | 25,001-50,000 | 21 | 33 |
| | 50,001-1,00,000 | 14 | 22 |
| | Above 1,00,000 | 22 | 35 |
| Place of Residence | Gramapanchayath | 35 | 56 |
| | Municipality | 7 | 11 |
| | Municipal Corporation | 21 | 33 |

Computed Data

VII.4.2. Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) is a statistical technique used to understand the underlying structure of a dataset by identifying clusters of related variables, known as factors. In this study, EFA was conducted to investigate the factors influencing Spiral Consumption in the Digital Age among IT employees in Infopark, Kochi Kerala. The aim is to understand how digital marketing contributes to continuous consumption cycles by categorizing the driving factors into meaningful constructs. EFA is particularly suitable for this research as it helps explore the relationships among variables, making it useful for identifying the key factors influencing spiral consumption in a rapidly evolving digital marketing era. The analysis included measures of sampling adequacy and factor extraction, ensuring the reliability and validity of the results.

Table No:2 KMO and Bartlett's Test Results for Sampling Adequacy

| | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .641 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1273.736 |
| | df | 153 |
| | Sig. | .000 |

Computed Data

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity were conducted to assess the suitability of the dataset for factor analysis. The KMO value of 0.641 indicates moderate sampling adequacy, confirming that the data is appropriate for factor analysis. Bartlett's Test of Sphericity yielded a chi-square value of 1273.736 with 153 degrees of freedom and a significance level of $p < 0.001$. These results validate the presence of sufficient correlations among variables to proceed with exploratory factor analysis.

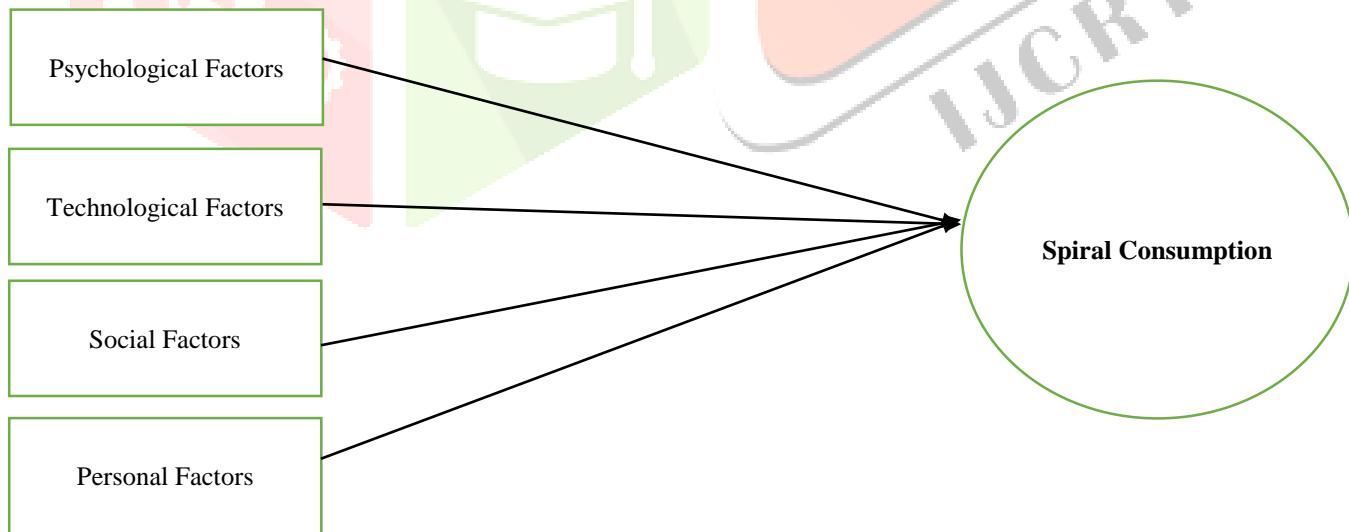
Table No:3 Extracted Factors Influencing Spiral Consumption

| Factors | Items (Sample) | Factor Loadings |
|-----------------------|--|-----------------|
| Psychological Factors | Impulse buying, trust in recommendations | 0.672 - 0.814 |
| Technological Factors | Augmented reality, personalized ads | 0.643 - 0.850 |
| Social Factors | Social media ads, recommendations | 0.648 - 0.859 |
| Economical Factors | Deals, budgeting, redressal mechanisms | 0.707 - 0.801 |
| Personal Factors | Convenience, alignment with searches | 0.653 - 0.895 |

Computed Data

The Varimax rotation method identified five distinct factors influencing spiral consumption, representing key dimensions of consumer behaviour. Psychological factors include elements such as impulse buying, trust in recommender systems, and the role of personalized content in decision-making. Technological factors emphasize the impact of features like augmented reality, one-click purchases, and tailored advertisements in driving consumption. Social factors highlight the influence of recommendations and exposure to personalized ads on social media. Economical factors focus on the role of deals, budgeting, and effective consumer redressal mechanisms in encouraging repeated purchases. Lastly, personal factors underline the importance of convenience and the alignment of ads with recent searches in enhancing shopping experiences. These factors collectively provide a comprehensive understanding of the various factors driving spiral consumption behaviour.

Figure: 1 Research Model of Spiral Consumption



VII.4.3. Reliability Analysis

Reliability analysis ensures the consistency and dependability of a measurement tool. In this study, Cronbach's Alpha was employed to assess the internal consistency of items measuring the factors influencing spiral consumption, as well as statements directly related to spiral consumption. Cronbach's Alpha values range from 0 to 1, with higher values indicating greater reliability. According to Nunnally (1967) values of 0.60 or above are considered acceptable for exploratory research, with values exceeding 0.70 indicating good reliability and those above 0.8 reflecting excellent reliability. Similarly, Griethuijsen

et al. (2015) and Taber (2018) support the use of 0.60 as an acceptable range for social science research. This analysis highlights the consistency and reliability of the measurement scale and its components.

Table No:4 Reliability Analysis of Identified Factors & Behavioural Indicators of Spiral Consumption

| Factor | Cronbach's Alpha | Number of Items |
|--|------------------|-----------------|
| Overall Reliability (All Factors and Statements) | 0.935 | 20 |
| Psychological Factors | 0.919 | 5 |
| Technological Factors | 0.894 | 5 |
| Social Factors | 0.847 | 3 |
| Economic Factors | 0.706 | 3 |
| Personal Factors | 0.603 | 2 |
| Behavioural Indicators of Spiral Consumption | 0.729 | 2 |

Computed data

The reliability analysis of the six factors influencing spiral consumption demonstrates strong internal consistency, confirming the reliability of the measurement tool. Psychological factors exhibited excellent reliability with a Cronbach's Alpha of 0.919, highlights the consistent measurement of psychological factors. Technological and social factors also have high value, with Cronbach's Alpha of 0.894 and 0.847, respectively, indicating good reliability for capturing technological and social factors. Economic factors, with a Cronbach's Alpha of 0.706, is also within the acceptable limit of 0.60 ensuring reliable measurement of economic factors. Personal factors, although scoring the lowest at 0.603, still met the limit for acceptable reliability, demonstrating consistency. Collectively, these results provide a reliable framework for evaluating the various factors driving spiral consumption behaviour.

In addition to these factors, the reliability of the statements specifically measuring spiral consumption tendencies was evaluated, resulting in a Cronbach's Alpha of 0.729. This indicates good internal consistency, confirming the adequacy of the statements in capturing key behavioural dynamics associated with spiral consumption, such as repetitive and continuous consumption cycles. These findings validate the statements as a dependable component of the measurement tool for the effectiveness in assessing the core dimensions of spiral consumption. Overall, the results confirm the reliability of the measurement scale and its capacity to evaluate spiral consumption comprehensively.

VII.4.4. Multiple Regression Analysis

The study attempts to identify the factors influencing spiral consumption among IT professionals in Infopark and hence the hypothesis is formulated as:

H1: Spiral consumption is significantly influenced by personal, technological, economical, social, and psychological factors.

Table No:5 Model Summary of Multiple Regression Analysis

| Statistic | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-----------|-------|----------|-------------------|----------------------------|
| Value | 0.993 | 0.986 | 0.985 | 0.08137 |

Computed Data

Table No:6 ANOVA Results for Multiple Regression Model

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|---------|-------------------|
| 1 | Regression | 27.059 | 5 | 5.412 | 817.417 | .000 ^b |
| | Residual | .377 | 57 | .007 | | |
| | Total | 27.437 | 62 | | | |

a. Dependent Variable: Spiral Consumption

b. Predictors: (Constant), Personal Factors, Technological Factors, Economical Factors, Social Factors, Psychological Factors

Computed Data

The model summary indicates a very high correlation between the predictors (Personal, Technological, Economical, Social, and Psychological Factors) and the dependent variable (Spiral Consumption), with $R = 0.993$. The R^2 = 0.986 suggests that 98.6% of the variance in spiral consumption is explained by the predictors included in the model. The adjusted R^2 of 0.985 further confirms the model's strength, even after accounting for the number of predictors. The low standard error of the estimate 0.08137, indicate a high precision in predicting spiral consumption.

The ANOVA results demonstrate the overall statistical significance of the model, with an F -value = 817.417 and $p < 0.001$. The analysis confirms that the combination of the mentioned predictors significantly explains the variation in spiral consumption.

VII.4.5. Correlation Analysis

Correlation analysis was conducted to examine the relationship between spiral consumption and continuous consumption cycles, focusing on the frequency of online purchases among IT professionals. Hence the hypothesis formulated for the same as:

H2: There is significant correlation between spiral consumption and continuous consumption cycle.

Table No:7 Correlation between Spiral Consumption and Continuous Consumption Cycle

| Correlations | | | Spiral Consumption | Frequency of online purchase |
|-----------------|---|-------------------------|--------------------|------------------------------|
| Kendall's tau_b | Spiral Consumption | Correlation Coefficient | 1.000 | .582** |
| | | Sig. (2-tailed) | . | .000 |
| | | N | 63 | 63 |
| | Continuous Consumption Cycle (Frequency of online purchase) | Correlation Coefficient | .582** | 1.000 |
| | | Sig. (2-tailed) | .000 | . |
| | | N | 63 | 63 |

**. Correlation is significant at the 0.01 level (2-tailed).

Computed Data

The correlation analysis reveals a strong positive relationship between spiral consumption and the continuous consumption cycle (frequency of online purchase), with a Kendall's tau-b correlation coefficient of 0.582, which is statistically significant at the 0.01 level ($p = 0.000$). This result indicates that an increased spiral consumption behaviour significantly contributes to the continuous consumption cycle, where repetitive and increasing purchase patterns drive sustained engagement in online shopping. The findings point out how spiral consumption acts as a critical driver in fostering continuous consumption cycles, particularly in digital market platforms.

VIII. RESULTS AND DISCUSSIONS

VIII.1. Theoretical Implications

This study contributes to the theoretical understanding of consumer behaviour in the digital age by integrating concepts from behavioural economics, marketing psychology, and digital communication. It brings together ideas from behavioural economics, marketing psychology, and digital media to explain how people shop online. The study presents the concept of *spiral consumption*, which refers to a digital marketing strategy that persistently influences consumers to engage in repeated and often unplanned purchasing behaviour. The findings build on the Stimulus-Organism-Response (S-O-R) model, which explains how outside factors like personalised ads, social media posts can influence a person's thoughts and feelings, leading them to take actions in the form of repeated purchases. This study provides a foundation for future academic exploration in the areas of digital consumerism and ethical marketing.

VIII.2. Practical Implications

- By identifying the various factors influencing spiral consumption such as psychological, technological, social, economic, and personal, companies can design ethical digital marketing strategies to effectively engage their targeted audience.

- The study points out the risk of financial instability due to spiral consumption driven by digital marketing. Policymakers and organizations should implement digital marketing literacy campaigns to create awareness on the potential risk associated with spiral consumption.
- The study highlights how exposure to digital platforms influences the buying behaviour of IT professionals. The findings of the study suggest the importance of corporate wellness programs among IT professionals to oversee the financial and psychological challenges associated with spiral consumption.
- The study highlights how personalised advertising and targeted campaigns leads to spiral consumption resulting in continuous consumption. Government authorities can use these insights to create guidelines that promote transparency and ethical digital marketing practices through the implementation of a regulatory framework.

VIII.3. Limitations of the Study

- The study is limited to IT professionals in Infopark, Kochi, which restrict the generalisation of the findings to other sectors or regions.
- As a cross-sectional study, it captures consumer behaviour at a single point in time and does not account for changes or trends over time.
- The study focuses primarily on quantitative analysis and does not incorporate qualitative methods such as interviews or focus groups.

VIII.4. Scope for Future Study

- Future studies can explore spiral consumption patterns among professionals in other sectors beyond IT, to understand whether digital marketing influences vary across occupations.
- Research can be extended to different geographic locations to examine whether spiral consumption behaviour and its drivers differ based on geographical location.
- Longitudinal studies may be conducted to track changes in consumer behaviour over time, helping to understand the long-term psychological and financial effects of continuous spiral consumption cycles.
- Further research can assess the impact of digital literacy and regulatory interventions in reducing impulsive buying behaviour and promoting more ethical digital marketing practices.

IX. CONCLUSION

The digital era has transformed consumer habits, enabling ease of access and personalisation at the same time it also fostering patterns of overconsumption. The present study demonstrates that spiral consumption among IT professionals is significantly driven by psychological, technological, economic, social, and personal factors shaped by digital marketing strategies. With a high correlation between spiral consumption and continuous consumption cycles, the findings highlight the nature of digital marketing. On one side it enhances user experience at the same time it affects the financial well-being and rational decision-making of the consumers due to over consumption. Therefore, it is important to strike a balance between technological advancement and ethical responsibility. Digital marketers, policymakers, and organisations must collaboratively create environments that encourage conscious consumerism, financial responsibility, and psychological well-being in a digitally connected world.

X. ETHICAL CONSIDERATIONS

Participation in the study was voluntary, and informed consent was obtained from all respondents prior to data collection. The purpose and objectives of the study were clearly explained to the participants, ensuring transparency. Strict confidentiality was maintained throughout the study, with all personal information kept anonymous and used solely for academic purposes. The study adhered to established ethical guidelines, ensuring the rights, privacy, and dignity of all participants were fully respected.

XI. CONFLICT OF INTEREST

The author declares that there is no conflict of interest related to this study.

XII. FUNDING

The authors conducted this study independently, without any funding from any public, corporate, or non-governmental body.

XIII. AUTHOR CONTRIBUTIONS

Biji Jose: Conceptualisation, data analysis, and writing.

Dr. Nisha Mary Jose: Data collection and final editing

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