IMPACT OF SOCIAL MEDIA ON ACADEMIC PERFORMANCE: ANALYZING THE INFLUENCE OF SOCIAL MEDIA USAGE ON FEMALE STUDENTS' PRODUCTIVITY AT PARUL UNIVERSITY

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ABSTRACT

The growth of social media over the past few years has changed how most users experience the internet. Social media has become a common international trend that has spread its reach to every corner of the world. Nowadays, social media is not only used by working people. Social media has become most useful to students' daily lives, affecting their academic performance. It facilitates interaction among students by sharing information regardless of the society and time barriers. LinkedIn, YouTube, Facebook, WhatsApp and Instagram are some of the most used social media platforms for female students at Parul University for Academic and non-academic Purposes. Since the launch of WhatsApp, a mobile instant messaging application, in 2009, WhatsApp has attained 2 billion users globally (worldpopulationreview.com), exchanging 140 billion messages daily and 1.6 million messages every second. This is dominated by 535.8 million users from India, 148 million users from Brazil, 112 million users from Indonesia and 98 million users in the United States of America (whatsthebigdata.com/WhatsApp statics).

The study examines the impact of social media usage on the academic performance of Female students at Parul University, Gujarat. The research adopted mixed methods whereby a descriptive survey design was used with 71 students from the university as a sample population. Data was collected using a validated questionnaire with a reliability coefficient of 0.97%. Quantitative analysis involved frequency count, percentages, standard deviation and mean scores. The research also used advanced statistical tools like Python, SPSS and R-Language.

The findings indicate that social media significantly affects students' performance and daily routines. A majority of students spend extensive time on social media, with nearly half exceeding 5 hours daily. This high engagement correlates with frequent distractions while studying as 82.9% of respondents check social media activities, often leading to neglected responsibilities.

Keywords: Social Media, Social Networking, Parul University, Academic Performance, Students, Female Students, Social Networking Sites.

I.   INTRODUCTION

The enormous use of social media sites has become a global phenomenon over the years (Achaeaw, 2015). It facilitates communication among people, sharing information, sending messages, creating blogs, and conducting real-time conversation (Rahmi, 2015). According to Bajpai (2018), social media was defined as electronically mediated technologies that facilitate the sharing and creation of information, ideas, and interests. The growing attention on social media can be seen in various disciplines such as economics, marketing, health, education and many other departments (Shipps & Phillip, 2013). The introduction of social media sites such as WhatsApp, Instagram, LinkedIn, Facebook, etc., have divided the world into online and offline. Social media has greatly reduced time and place barriers involved in communicating with one another; the exchange of information, content, photos and video sharing have become easier (Greenwood et al). Social networking has significantly simplified global communication and has been an inseparable part of one's life all around the globe, Presently, it is hard to imagine a single human who did not check updates on social networking sites and updates on the latest news and information with it (Mingle, 2015).

1.1. Problem Statement

While platforms like YouTube, WhatsApp, and Instagram facilitate learning and peer discussions, they also contribute to distractions, reduced concentration and procrastination. Many students at Parul University struggle to balance productive use with time-consuming activities such as entertainment and social interactions, as shown by the questionnaire, which shows that 46% spend 5 hours or more on social media using WhatsApp. After Perusal of existing literature on social media and academic performance, it was found that several researchers have studied the impact of social media on academic students in general. However, there exists limited literature on female college students examining the impact of social media sites on their academic performance.

OBJECTIVE OF THE STUDY

This study aims to:

1. Analyze the time spent by female students on social media and its effects on their academic performance

2. To identify the commonly used social media platforms among female students at Parul University

3. To assess the impact of social media on students' concentration, focus and study habits

4. To assess the psychological effects of social media, including stress, motivation and academic pressure

1.2. Research Questions

The following research questions were drawn to guide this study based on the research problem

1. Does time spent on social media negatively impact female students' academic work?

2. What are the most commonly used social platforms among female students at Parul University?

3. How does social media affect students' concentration and focus on academic performance?

4. What are the effects of social media on stress levels and mental health concerning academics?

1.3. Hypothesis

$H_0 1$ Time Spent on social media negatively impacts academic work

$H_0 2$ There is no significant difference in the usage of different social media platforms among female students at Parul University

$H_0 3$ Social media usage has a significant effect on students' concentration and focus on academic performance

II. LITERATURE REVIEW

1. Introduction

The history of social networking sites dates back to 1997, when the first SNS, Six Degrees, emerged as a result of the idea that individuals are linked via six degrees of separation (Boyd, 2008), and is conceived as "the small world problem" in which society is viewed as becoming increasingly inter-connected (Milgram, 2005). In 2004, Facebook was launched as an online community for students at Harvard University and has since become one of the world's most popular SNS. In 2016, there were 2.34 billion social network users worldwide (www.statista.com), and in 2024, the number has increased to 5.17 billion users (dataportal.com). This suggests that social media use has become an important leisure activity for many, allowing individuals to connect online irrespective of time and space limitations. Following decades of researching technology-mediated and online behaviors, Turkle (2015) claims that overreliance on technology has led to an impoverishment of social skills, leaving individuals unable to engage in meaningful conversation because such skills are being sacrificed for constant connection, resulting in short-term attention and decreased ability to retain information. Individuals have come to be described as "alone together": always connected via technology but isolated (Turkle, 2023). This literature review explores the extent to which social media usage influences the academic performance of female students at Parul University, considering both positive and negative aspects.

2. Learning with Social Media

It is not a secret that most students and teachers have smartphones and have used social media in education. There are applications and website tools that offer social media in the education context. With faculty using a variety of software tools such as Google Classroom and free websites applications to enhance learning, communication and engagement, the use of social media is on the rise in higher education classrooms

compared to traditional learning methods that provide few opportunities for learners to develop and maintain their learning activities. A growing number of research efforts have been made to support teaching and learning using a variety of social media networking sites for college students, which are being developed to enhance both collaborative study and social interaction. The research tells that making social media tools a part of traditional learning is attractive to students and can motivate their participation in the learning process(King, 2010).

3. Positive impacts of social media on academic performance

Many researchers suggest that social networking sites, when used effectively, enhance learning and academic performance, thereby making students productive. According to Wang et al (2012), SNS provide a platform for collaborative learning, enabling students to exchange academic resources and engage in discussions beyond classrooms. In addition, social media facilitates the sharing of education content platforms such as YouTube and LinkedIn, which offer tutorials and professional networking opportunities that can provide additional formal education (Manca & Ranieri, 2016). At Parul University, Students leverage WhatsApp groups and telegram channels to discuss assignments, share lecture notes, and receive real-time updates from Faculty members. This agrees with the study that Junco (2016) did, and the results revealed that the use of the internet is a beneficial tool to students and enhances their skills and capability, which will assist them in their studies and professional life.

4. Negative impacts of social media on academic performance

Despite its benefits, excessive use of social media can lead to decreased academic productivity. Research by Kirschner & Karpinski (2010) indicates that students who frequently use social media have lower GPAs compared to those who limit their usage. Distractions caused by non-academic activities, such as scrolling through entertainment content on platforms like TikTok and Facebook Reels, significantly reduce study time and concentration. Just to mention, the impact of sleeping patterns is a growing concern, as shown by the questionnaire, whereby it revealed that a good number of female students at Parul University are disturbed in their sleep because of social media. Levison et al. (2017) found that late-night social media use disrupts sleep quality, leading to fatigue and reduced cognitive function in students. Female students, often engaged in social networking and digital conversations, may struggle to balance online interactions and academic commitments.

5. Gender-Specific Challenges in Social Media Usage

Gender plays a crucial role in social media engagement patterns. Female students often use social media for academic purposes, socialization, and self-expression (Keles et al., 2020). This can increase exposure to cyberbullying, peer pressure and the tendency to company oneself with others, all of which contribute to stress and reduced focus on academics (Twenge et al., 2018) . As shown by the data collected using the questionnaire, Female students at Parul University are not exceptional; they also experience social pressures to maintain an online presence, affecting their mental well-being and, consequently, their academic performance.

6. Strategies for Effective Social Media Usage

The following are the ways to reduce the negative effects of social media while maximizing its benefits. Parul University can implement digital literacy programs that educate students on time management and healthy online behaviors. Research suggests that self-regulation strategies, such as setting time limits and using productivity applications, can help students maintain focus on academic priorities (Dabbagh & Kitsantas 2012). In addition, Faculty members at Parul University can integrate social media into the academic curriculum, encouraging structured online discussions and knowledge sharing rather than unregulated use (Tess, 2013). By fostering a culture of responsible social media consumption, universities can enhance students' academic success.

III.   RESEARCH METHODOLOGY

1. Research Design

This research adopted mixed designs, integrating both qualitative and quantitative surveys and qualitative interviews. The quantitative component focuses on gathering numerical data related to student's social media usage, study habits and academic performance indicators. The research also relies on the systematic review and synthesis of existing literature, case studies and publications from different researchers including the government. This kind of approach allows an in-depth understanding of historical trends, technological

advancement and performance metrics from reputable sources where by used for statistical approach analysis and pattern recognition (Smith & Anderson, 2018). Combining both methods provides a balanced perspective ensuring both measurable trends and subjective experience are captured.

2. Data Collection

Data from this research was obtained from reliable sources. To begin with, Structured Questionnaires are designed and distributed physically and online to collect quantitative data on student's daily social media habits, the mostly used social media sites, how many hours do they spent on social media and academic metrics such as GPA. The surveys also include Likert scale questions to find out students' perceptions of how social media affects their focus, time management, and overall productivity. The research also used secondary data such as academic journals and conference papers; articles from database such as emerald, google scholar and Harvard Business Review articles were used. Case studies and corporate publications, newspapers and government and policy documents were also used. Lastly, the researcher also used Semi-structured interviews by selecting group of students to gather qualitative insights. These discussions allow female students at Parul university participants to share their personal experiences, challenges, and strategies regarding the use of social media. One importance of open-ended question is that, it encourages student to provide detailed narrative about their engagement in social media and the effects on their concentration, study timing and academic performance. Screening of data was also done where by each source is evaluated based on title, abstract and full text to ensure alignment with the research objectives and key themes and findings from the literature are synthesized to form a coherent narrative on the impact of social media on academic performance of female students at Parul university.

3. Population of the Study

The research focuses Female University students at Parul University. The study is done deliberately among this demographic since they are heavily engaged with social media and they also face academic demands where by there in a need to balance up between social media usage and academic work. Total of 71 female students from various disciplines, academic years and institutions are included to ensure a diverse and representative sample. This combination allows for a broader understanding of how social media influences female students of different age and from different faculties and that is when the research can give free and fair review. The sample size is determined using Cochran's formula ensuring statistical reliability. A total amount of 50-70 Female students is selected to provide a fair dataset that allows for a meaningful analysis while minimizing sampling error.

4. Data Analysis

The collected data from surveys and interviews is carefully processed using SPPS, Python and R-Language to ensure a compressive and accurate understanding of the impact of social media on female students' academic performance at Parul University. Each tool is chosen based on its strengths in statistical analysis. Data visualization and predictive modelling allowing a 360% approach to data interpretation.

1. Statistical Package for Social Science (SPSS) For Statistical Analysis

This is employed to summarize and interpret survey data effectively. Descriptive statistics such as mean, standard deviation and frequency distribution are calculated to provide a clear overview of student's social media usage patterns. In addition, correlation and regression analysis help to explore the relationship between time spent on social media and students' performance (Pallant 2020). Lastly, Factor analysis is also conducted to identify key elements influencing students' productivity by enabling a deeper understanding of the primary drivers behind success or failure in academics (Field, 2018).

2. Python for Data Processing and Visualization

Python plays a significant role in data preprocessing and data cleaning, this is done by utilizing the powerful libraries such as pandas and NumPy to structure and organize the collected data (Mckinney, 2021). Visualization tools like Matplotlib and Seaborn are leveraged to create Powerful and insightful graphical representation of social media trends among students. Geron (2019) added that Python's machine learning capabilities are explored with algorithms such as logistic regression and decision trees applied to predict the potential outcomes based on different social media behaviors.

3. R-Language for Advanced Statistical Modeling

This language is used for more complex statistical modelling and hypothesis testing. Using text mining techniques, sentiment analysis is conducted to analyze students' attitudes toward social media and its impact on their studies (Silge & Robinson, 2017). Subsequently, cluster analysis is performed to categorize students into groups based on their social media engagements and correlations to academic results, providing a various understanding of different behavioral patterns (James et al, 2021). By combining these advanced analytical tools, the study ensures a multi-dimensional. The combination of traditional statistical methods, machine learning models and sentiment analysis allows for a data-driven, insightful and human-centered interpretation of student's engagement with social media and its implications for their academic journey.

5. Ethical Consideration

The research obtains ethical approval from the relevant institutional review before data collection began. Participants were fully informed about the purpose of the study, and their consent is obtained before they start participating in survey or interviews. Confidentiality of the responses are strictly maintained to protect the privacy of the participants. Lastly, all data collected is securely stored and used for solely for research purpose.
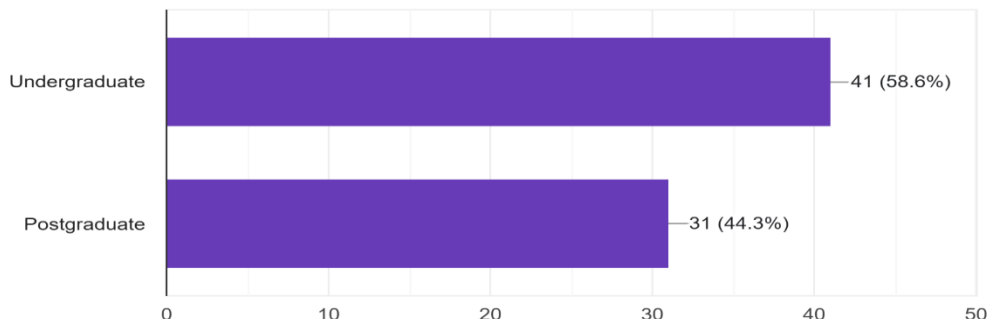
IV.   RESULTS AND DISCUSSION

Presentation of Data and results

1. Demographic data of the survey collected responses from female students at Parul University at different educational levels. Below were the results out of 70 valid responses.
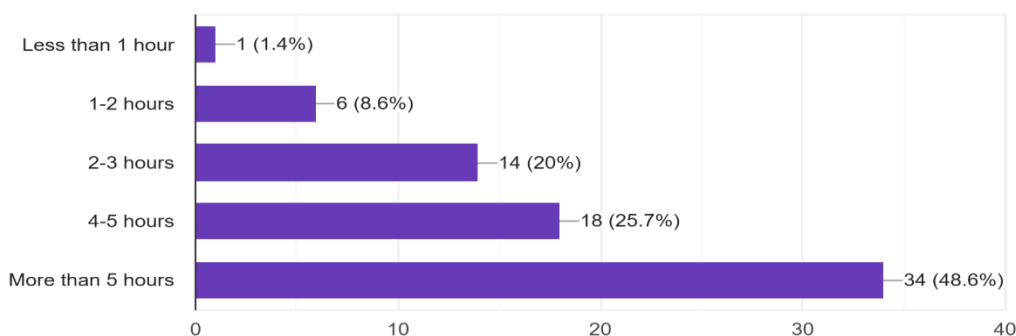

Educational Level:
70 responses

39 respondents representing 58.6% female students are undergraduate

31 respondents representing 44.3% female students are postgraduates

2. Daily Social media usage. The data indicates that students spend significant time on social media

How many hours do you spend on social media daily?
70 responses

34 female student (48.6%) use social media for more than 5 hours daily

18 female students (25.7%) spend 4-5 hours daily

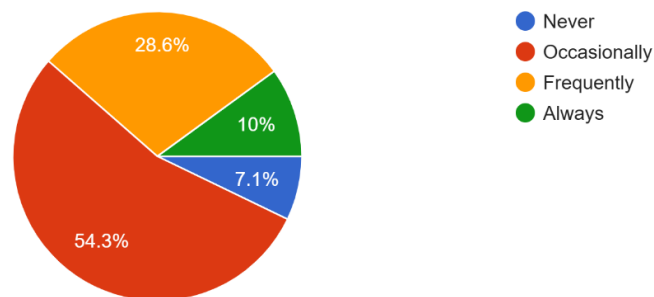14 female students (20%) spend 2-3 hours daily

6 students (8.6%) spend 1-2 hours daily

Lastly, 1 student representing (1.4%) uses social media for less than an hour on a daily basis.

3. **Checking social media while Studying:** Students frequently check social media during study sessions:

How often do you check social media while studying?
70 responses

38 students (54.4%) check their social media occasionally
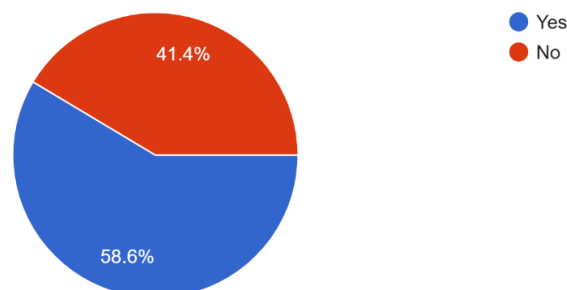
20 students (28.6%) check their social media frequently

7 students (10.0%) always check their social media handles

5 students (7.1%) never check social media while studying

4. **Impact on Academic Responsibilities**

Have you ever ignored academic responsibilities (homework, studying, assignments) due to social media?
70 responses

52 students (74.3%) admitted to ignoring academic tasks due to social media use

43 students (61.4%) reported that social media negatively affected their concentration in class

57 students (81.4%) acknowledged using social media for academic discussions and research

5. Effects on Sleep and well-being

Has social media affected your sleep schedule or daily routine?
70 responses
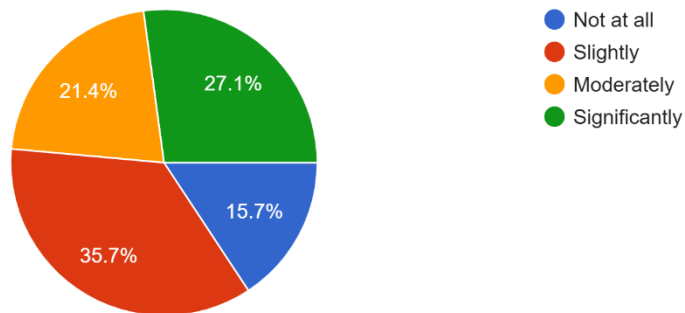
29 female students (35.7%) reported that social media slightly affected their sleep schedule

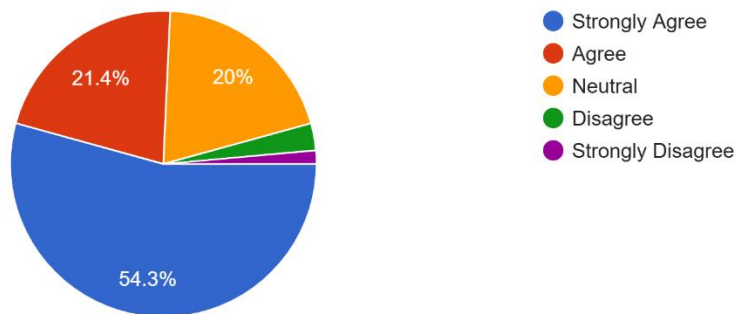20 female students (27.1%) stated that it moderately affected their sleep

13 female students (21.4%) experienced significant disruptions in their sleep routine

8 female students (15.7%) reported no impact on sleep

6. Perception of Social media Addiction

Now that you know the meaning, do you think social media addiction is a problem among students?
70 responses

62 students (88.6%) were aware of social media addiction

58 students (82.9%) agreed that social media addiction is a problem among female students at Parul university.

30 students (42.9%) reported feeling anxious when unable to access social media

7. Emotional and Psychological Effects

How often do you feel the urge to check social media while working or studying?
70 responses
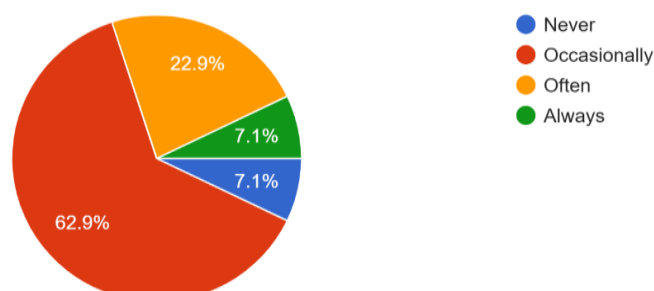
20 students (28.6%) reported feeling pressured to attain likes and comments

18 students (25.7%) admitted feeling lonely or depressed due to social media interactions

42 students (60.0%) preferred in person interactions over online ones while 28 students (40.0%) occasionally preferred online communication.

V.   INTERPRETATION AND DISCUSSION OF FINDINGS

The findings from the study shows that there is a strong correlation between social media usage and students' academic performance, daily routines, and overall, well-being. A substantial number of students reported spending over 5 hours a day on various platforms, a habit that appears to directly impact their focus and productivity. Shockingly, 82.9% of participants admitted to checking their social media during study sessions or academic activities leading to procrastination and incomplete task (Moran et al, 2011).

It is undeniable that social media has become popular platform for academic collaboration and sharing education resources, its overuse has adverse effect. Most of the female students at Parul University, to be specific, 61.4% reported struggling to concentrate in class and 74.3% confessed that social media distractions sometimes led them to neglect their school work. These outcomes reflect the findings of Kush & Griffiths (2017) which recognized social media as double-edged sword capable of promoting and supporting academic engagement, but equally promoting avoidance and delay behaviors such as procrastination and lose of focus.

Another notable observation was the impact of social media on students sleeps patterns. Greater than 46% percent of participants experienced moderate to severe disruption in their sleeping schedules due to night time scrolling and notifications. Billieux et al (2015) in his psychological book stated that poor sleep not only affect s physical health but also weakens memory retention and cognitive abilities both of which are critical for academic success.

Subsequently, mental health implications were also evident in this research. Around 25.7% of students reported feeling of anxiety and loneliness coming from their interactions and comparisons on social media. While 28.6% felt under pressure to attain validation through likes, shares and comments. These experiences underline the psychological cost of constant online engagement and the emotional toll of digital peer comparison (Griffiths et al, 2017).

In a nutshell, it is not all negative. A promising of 81.4% of female students acknowledged that social media positively contributes to academic discussions and knowledge sharing. This shows that when used wisely, social platforms can serve as valuable educational tools. Female students at Parul university themselves suggested practical strategies such as promoting academic online content, ban of explicit websites and introducing time boundaries to minimize distractions.

Limitations and potential Biases

To begin with, Word limitation per chapter is considered as limitation in this study and time constraints is also a limit. Due to academic and logistical constraints, the study was conducted over a short period of time, which limited the depth of data collection and analysis.

Secondly, Sample representation. The study sample was limited to a specific group of students which may not accurately reflect the views and behaviors of wider student population. Factors such as geographical location, academic background and access to technology could influence the outcomes and, in this research, it was not fully diversified.

Selection is considered a bias in this study. Participants were primarily volunteers and from a single institution, Parul University. The results might reflect only those most willingly and able to participate. Technological bias is can also be shown where by students without consistent internet access may have been underrepresented, skewing the results towards more digitally active individuals.

VI.   CONCLUSION

In this paper**,** the study has shown that while social media platforms offer immerse educational benefit like access to online resources, academic discussions and peer collaborations they can also become major sources of distraction when used without control. Excessive engagement often results in procrastination, disrupted sleep

patterns, and reduced academic focus (Kuss & Griffiths, 2017). This is reinforcing the need for students to find a balance between online activity and academic responsibilities (Junco, 2012).

This study findings revealed that platforms such as YouTube, LinkedIn and academic forums can enhance learning by providing tutorials, lectures and research materials. In contrast, Anderson & jiang, 2018) added that entertainment driven application such as Facebook, Instagram and WhatsApp though engaging, tend to reduce efficiency when not managed responsibly. The key lies in developing self-discipline and integrating digital literacy into educational systems to ensure students use these tools to their advantage.

Looking ahead, future research could explore the long-term impact of social media habits on students' academic and career outcomes. Longitudinal studies would help to understand how digital behavior in school in general, not only college translates into workplace productivity. In addition, it would also be valuable to investigate how social media affects students differently based on their academic disciplines, allowing institutions to tailor strategies that suit specific fields (Perrin, 2015).

In addition, with the rise of Artificial Intelligence and immersive technologies, future studies should explore how tools like Virtual Realities (VR), Augmented Realities (AR) and AI learning platforms shape educational experience (Ellison, 2012).

In a nutshell, social media is neither inherently good nor bad. It is how students engage with it that matters, with better digital awareness, institutional support, and policy development, social media can be transformed from a distraction to a powerful tool in academics.

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