A study of Nomophobia and its effects on employee productivity; Case of selected manufacturing firms in Nizwa

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Mahmood Shaikhan Mohammed Alharrasi[1], Khalid Mohsin Hilal Alrawahi[1], Suhaib Sinan Khalfan Almayahi[1], Abdul Rahman Ibrahim Yahya Al Hattali[1], & Dr. Muhammad Tahir[2]

Abstract
This study explores how Nomophobia—the fear or discomfort of not having access to a mobile phone—affects productivity among employees in the manufacturing sector. As smartphones become an essential part of everyday life, even workplaces that restrict phone use can contribute to stress, anxiety, and distractions among staff. The research aims to measure how common Nomophobia is among manufacturing workers, and understand how it impacts job performance. The study is based on a structured survey built around the well-established Nomophobia Questionnaire (NMP-Q), which is distributed among employees at various manufacturing firms in Oman. The results of the study show that there is a moderate level of Nomophobia and its dimensions, including losing connection, losing communication, losing access to information, and sacrificing convenience. Furthermore, regression result shows that out of these dimensions, losing communication and sacrificing convenience has significant negative effects on employee job performance. It is recommended that organizations should develop suitable policies to enable smartphone access at workplace.

Keywords: Mobile Phone Dependency, Employee Productivity, Manufacturing Sector, Workplace Stress, Job Performance, Nomophobia Questionnaire, Technology in the Workplace.

INTRODUCTION

Background of the Study

With the increase in use of smartphones among ordinary individuals, a relevant developing psychological problem that is directly linked to digital dependency and excessive smartphone use is Nomophobia, or the dread or anxiety of being without a cell phone. It has serious effects on the mind and emotions, such as elevated tension, worry, low self-esteem, and disturbed sleep. Nomophobia hinders focus, judgment, output, and general performance in both the workplace and in the classroom, especially for students and healthcare professionals. Common behaviors, which are frequently fueled by social expectations, emotional vulnerability, and fear of missing out, include obsessive phone checking and discomfort while disconnected. In order to lessen its impacts and encourage better technology use, awareness campaigns, behavioral interventions, and digital wellness techniques are becoming more and more necessary. In the present study, we investigate this issue in the manufacturing context. The reason we chose manufacturing as in many manufacturing settings, employees are not allowed to use their mobile phones while at work, which may cause anxiety and

[1] Bachelor Students (Business Studies), College of Economics & Business Administration, University of Technology & Applied Sciences, Nizwa, Oman
[2] Senior Lecturer (HR), College of Economics & Business Administration, University of Technology & Applied Sciences, Nizwa, Oman (ORCID iD: https://orcid.org/0000-0001-8195-513X)
* **Corresponding Author Email**: 21S1999@utas.edu.om

related nomophobia. In the present study, we investigate this issue further by checking its presence and its outcomes in the manufacturing context.

Research Questions

1. What is the overall level of nomophobia among employees in the selected manufacturing organizations?
2. How does nomophobia affect employees in the workplace?

REVIEW OF RELATED LITERATURE

Introduction to Nomophobia

Nomophobia, or the fear of being separated from one's mobile device, has increased as a result of the widespread use of cellphones (Hessari, Busch, & Smith, 2022). This phenomenon has been highlighted by several experts as a significant concern for individuals and society as a whole (Travers, 2023; Elmore, 2014). These professionals emphasize that it is important to recognize and address Nomophobia to improve the individual's mental health as well as the overall effect on society. Additionally, research emphasizes the need to understand the complex connections individuals have with technology (Lai, Mak, Watanable, Ang, Pang, and Ho, 2023; Yildirim & Correia, 2015). This insight is crucial for empowering people to make informed decisions and, if required, seek help for managing nomophobia.

Antecedents of Nomophobia

Numerous elements have been identified by research as contributing to an individual's increased susceptibility to Nomophobia. For instance, it has been discovered that personality traits like neuroticism are more closely linked to Nomophobia (Yildirim & Correia, 2015; Arpaci, 2019). Likewise, nomophobia has been linked to other personality traits, such as obsessive-compulsive behaviors and dysfunctional beliefs (Kilic & Griffiths, 2023). Additionally, studies indicate that Nomophobia and anxiety are related (Alharthi, Alghamdi, Alzahrani, Alzahrani, & Alshehri, 2024). Higher screen use has been linked to a higher degree of Nomophobia in terms of behavior (Lin, 2023). Nomophobia has also been linked to the use of social networking sites like Facebook and Instagram (Lin et al., 2023). Nomophobia has also been linked to cultural norms, including the group's incessant need to connect (Alharthi et al., 2024). Moreover, nomophobia has been linked to demographic characteristics such as being younger and male (Dabhi, Satodiya, Garg, Goel, & Vala, 2024). Overall, it can be argued that Nomophobia is caused by several personality and demographic-related factors as well as external factors.

Outcomes of Nomophobia

Nomophobia is commonly associated with elevated anxiety, difficulty focusing, difficulty adjusting to social circumstances, and difficulty regulating stress. Reliance on social media and excessive mobile phone use are typical traits of this kind of behavioral addiction. Research on the subject indicates that among employees, Nomophobia is linked to several psychological problems, such as stress, anxiety, and emotional tiredness (Yildirim & Correia, 2015). Bulbuloglu Yilmaz, & Kilic (2024), for instance, looked into the problem among nurses and discovered that nomophobia had a detrimental effect on nurses' decision-making. Similarly, a study by Kilic and Griffiths (2023) linked Nomophobia to a decreased capacity for task management and attention control. The incapacity of employees to manage work-life balance is another adverse consequence of Nomophobia (Erdurmazli, Erdem, Turen, Gokmen, & Yalcm, 2024).

Dimensions of Nomophobia

Nomophobia generally refers to a fear of being without a mobile phone, as we discussed earlier. Regarding its dimensions, the credit goes to Yildirim and Correia (2015), who conceptualize the four dimensions of nomophobia and later validated these dimensions. The details of these dimensions are as follows:

Not Being Able to Communicate

The dimension of not being able to communicate is related to inability of an individual and related fear of unable to communicate using mobile devices (Yildirim & Correia, 2015). The stress is caused due to fear of missing important calls from family or close ones, missing messages, and other similar communications. It is more common in individuals who have a heavy reliance on smartphones for managing their personal and professional relationships. Nowadays, most individuals with higher professional responsibilities such as a manager on call, an engineer on site, and a doctor who need to be online for medical consultation depends heavily on their smart phone and similar devices for connection and experience stress if communication lines are disrupted (Erdurmazli et al., 2024).

Losing Connectedness

This dimension is related to an individual's perceived need to remain socially connected (Yildirim & Correia, 2015). Individuals feel isolated or socially excluded in situations when they are not able to use smart phone for messages or calls. The concept is closely related to Fear of Missing Out (FoMo), which is a situation where individuals constantly look for social validation and updates through their devices (Kuss, Harkin, Kanjo, & Billieux, 2018). Individuals also use compulsive checking means repetitive behavior to check their smartphones to stay connected and updated. Furthermore, if individuals are not able to connect, it may lead to discomfort and feeling of loss of information and inability to remain informed (Yildirim and Correia, 2015).

Not Being Able to Access Information

A lot of individuals use smart phone for accessing information such as news, facts, work related updates and so on. If they are not able to use their smartphone for prolonged time, they may experience anxiety due to the inability to get access to such information (Yildirim and Correia, 2015). The dimension is found to be present in individuals who are mostly using their smartphones for accessing information, such as students. The background of the dimension is that individuals now a days are over dependent on their smart phone for completion of their tasks and any lack of access to such information can lead to the anxiety (Yildirim & Correia, 2015).

Giving Up Convenience

This dimension is about smartphone usage and associated convenience, such as use of phone for entertainment, checking emails, using calendar, scheduling tasks, online banking and so on (Suh & Wang, 2018). As a matter of fact, now a days, smart phone are used for variety of usages which creates a lot of convenience for individuals. Lack of access to a phone means giving up such convenience, which leads to stress and discomfort among individuals. Studies such as Kang and Jung (2021) show that lack of access to smartphones among professionals leads to disruption in workflow and increase cognitive load. Overall, it shows that smartphones create convenience which individuals are not willing to give up even for a temporary time period.

Related Empirical Literature

We present a selective review of empirical literature on the issue of Nomophobia and its outcomes in a variety of contexts. A relevant study was conducted by Yildiz, Kutlu, and Yildiz (2023), who explored the effect of Nomophobia on cyberloafing among employees in tourism enterprises. This quantitative study surveyed 300 hotel employees in Antalya, Turkey, using validated scales to measure levels of smartphone dependency and online distractions during work hours. Results showed moderate levels of both Nomophobia and cyberloafing, with Nomophobia explaining 34.2% of the variance in cyberloafing behaviors. The findings revealed that employees who experienced anxiety from being disconnected were more likely to engage in non-work-related internet use, especially activities like content sharing and browsing.

A study conducted by Yang, Zhang, and Chen (2024) explored the effect of Nomophobic behaviors among nurses on their clinical decision-making perceptions in a tertiary hospital in Nanjing, China. This cross-sectional study surveyed 272 nurses using the Nomophobia Questionnaire (NMP-Q) and the Clinical Decision-Making in Nursing Scale (CDMNS), revealing a moderate level of nomophobia and a significant negative correlation with clinical decision-making perception. The findings showed that increased nomophobia was linked to decreased cognitive clarity and decision-making ability, with disruptions including distraction, reduced focus, and clinical errors.

Daniel (2022) conducted a doctoral dissertation titled The Effects of Fear of Being Offline on Employee Engagement at Wright State University, examining how nomophobia impacts employee engagement through the lenses of psychological availability, workplace productivity, and motivation. Using the Nomophobia Questionnaire (NMP-Q), the study revealed that employees with high levels of Nomophobia were more likely to be distracted, disengaged, and exhibit poor job performance due to anxiety about being without their phones. The findings also showed a strong link between phone dependence and decreased job satisfaction and workplace morale.

A study conducted by Moreno-Guerrero, Lopez-Belmonte, Marin-Marin, & Romero-Rodriguez (2020) investigated the impact of Nomophobia among future teachers. This research examined how sacrificing rest time for mobile phone use correlates with higher levels of Nomophobia among education students. The findings revealed that younger individuals and those with strong digital habits are more susceptible to Nomophobia, suggesting that age, profession, and screen time behavior significantly influence its severity. This study is important for understanding how early professional habits can shape mobile phone dependency and stress levels, offering useful insight for educators and policy developers.

A study conducted by Murugan & Srivastava (2024) assessed the impact of nomophobia on job performance across IT, teaching, and banking sectors. This cross-industry investigation analyzed how mobile phone dependence affects cognitive functioning and productivity, revealing that the effects vary depending on the nature of the work. For roles requiring high concentration, Nomophobia was found to significantly disrupt task performance. This study is essential for highlighting industry-specific challenges related to digital dependence, and it offers comparative insights into how nomophobia may affect different professional contexts.

There are several other studies that also found similar results (Green, 2024; Aslan, & Aslan, 2022). Overall, studies from different contexts show that Nomophobia is associated with stress and other negative employee and individual outcomes.

Conceptual Framework

The operational definition of Nomophobia is the fear or worry that accompanies being unable to use or having no access to one's mobile phone, which includes behavioral, cognitive, and emotional symptoms. According to Yildirim and Correia (2015), there are four primary characteristics of nomophobia, which are examined using a standardized instrument of Nomophobia Questionnaire (NMP-Q): losing connection, communicating, accessing information, and sacrificing convenience. We used these four dimensions as part of our theoretical framework and intend to check their individual effects on employees. Based on Nomophobia and relevant studies, we propose the following theoretical framework.

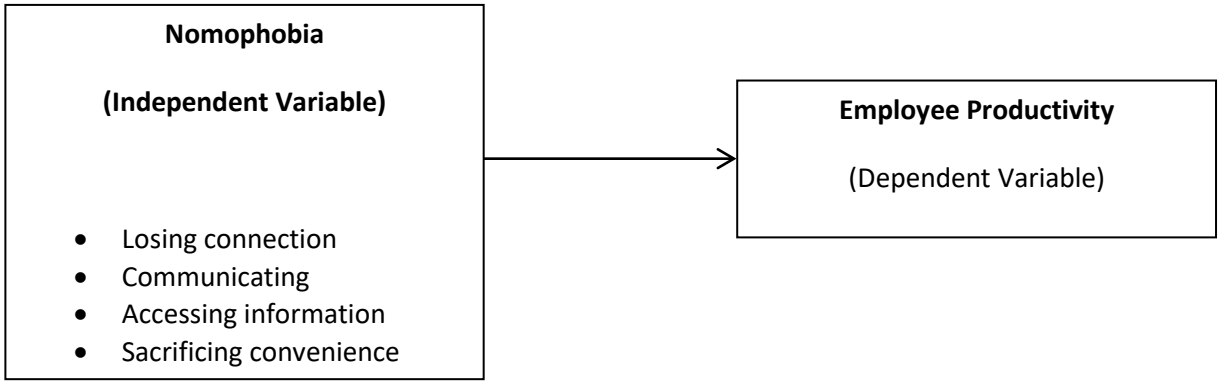

Figure 1: Variables and their Relationships:

RESEARCH METHODOLOGY

Type of Research

In this study, a quantitative paradigm was employed. This paradigm was relevant to the research because it allowed for the handling of numerical data using a structured instrument, such as a questionnaire. Additionally, this method enabled researchers to quantify Nomophobia and its influence on productivity.

Research Design

The design of the study was descriptive and causal. The design is appropriate for determining the presence of Nomophobia among workers within the manufacturing company. It enabled the researchers to determine if relationships between the identified parameters, such as workers' ages, gender, phone usage, or employee performances, exhibit patterns that match or differ from what is found in the review of literature.

Population & Sample

The population of this study was composed of personnel who worked for selected manufacturing companies within Oman. Because the population is quite big and difficult, we used convenience random sampling for selecting a usable sample of 119 individual workers from three selected manufacturing firms in Nizwa, Oman.

Research Instrument

The main tool for data gathering was a structured questionnaire, modified from the Nomophobia Questionnaire (NMP-Q) and extended to include questions for work-related activities. The instrument was made up of demographic questions, Nomophobia and its four dimensions, and employee productivity statements. The measure of Nomophobia was adapted from Yildirim & Correia (2015); and the measure for perceived productivity was adapted from Belanger, Collins, & Cheney (2001). The final instrument was tested for content validity by academic supervisors. Additionally, pilot testing was done among a small population before full development.

Research Procedure

Both print and Web-based questionnaires were distributed to company employees after obtaining their voluntary consent. They had prior knowledge about the objectives of this study. Anonymity and confidentiality were maintained.

Ethical Issues

Ethical clearance was sought from the academic department. Participants were made aware of their right to withdraw from the study at any time without reprisal. The collected data was strictly for academic purposes.

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

Table 1

Demographic Information

		Frequency	Percentage
Gender	Female	35	29.2%
	Male	85	70.8%
Age	18 to 30	60	50.0%
	31 to 40	46	38.3%
	41 to 50	13	10.8%
	Above 50	1	0.8%
Work Experience	1 to 5 Years	48	40.0%
	5 to 15 Years	31	25.8%
	Above 15 years	11	9.2%
	Less than 1 year	30	25.0%

Out of the 120 participants in the study, 85 were men (70.8%) and 35 were women (29.2%). Half of the participants (50%) were between 18 and 30 years old, while 38.3% were aged between 31 and 40. A relatively smaller number of participants (10.8%) were in the 41 to 50 years age category. Only a small fraction (0.8%) were above 50 years. These figures suggest that the workforce is largely composed of young to middle-aged employees. Most participants had between one and five years of work experience (40%). About a quarter (25%) had less than one year of experience, and another 25.8% had between five and fifteen years. Only 9.2% had been working for more than fifteen years. This indicates that the sample mainly consisted of early-career professionals.

Table 2

Descriptive Statistics

	No. of Items	Cronbach Alpha	Mean	Median	SD	Min	Max
Losing Connection	05	.879	2.90	3.00	0.961	1.00	4.80
Losing Communication	06	.890	2.99	3.17	0.925	1.00	4.67
Losing Access to Information	04	.873	2.97	3.00	0.960	1.00	5.00
Sacrificing Convenience	05	.844	3.00	3.20	1.173	1.00	5.00
Job Performance	04	.856	4.07	3.96	1.660	1.00	5.00

The descriptive results show moderate mean values for losing connection (M=2.90), losing communication (M=2.99), losing access to information (M=2.97), and sacrificing convenience (M=3.00). In contrast, job performance scored relatively high (M=4.07), suggesting that employees reported strong performance levels. A high degree of internal consistency and reliability was indicated by Cronbach's Alpha values above 0.80 for every variable. Sacrificing Convenience had the lowest but still acceptable reliability ($\alpha = 0.844$), while Losing Communication had the highest ($\alpha = 0.890$). These values attest to the consistency and dependability of each construct's items for additional study.

Table 3

Model Coefficients - Job Performance

Predictor	Estimate	SE	t	P	VIF
Intercept	7.3263	0.278	26.336	<.001	
Losing Connection	-0.0623	0.194	-0.321	0.749	3.38
Losing Communication	-0.4918	0.211	-2.331	0.021	2.89
Losing Access to Information	-0.0722	0.175	-0.412	0.681	2.38
Sacrificing Convenience	-0.7952	0.110	-7.209	<.001	3.59
R= 0.854					
Rsquare= 0.730					
Fstat= 77.7 (P<0.05)					

The regression analysis produced a statistically significant model ($F = 77.7$, $p < .001$) that shows that the overall model is fit and significant. Furthermore, an R^2 value of 0.73 indicating that the independent variables collectively explain 73% of the variance in job performance. This high explanatory power demonstrates that the predictors are strong and reliable determinants of employee performance outcomes.

Furthermore, findings show that sacrificing convenience ($\beta = -0.7952$, $p<.001$) and losing communication ($\beta = -0.4918$, $p=.021$) have significant negative effects on job performance. However, losing connection and losing access to information did not show a significant influence ($P>0.05$). This means that reduced convenience and communication breakdowns most strongly affect how well employees perform. Variance Inflation Factor (VIF) values ranged from 2.38 to 3.59, well below the threshold of 5. This confirms that there were no multicollinearity issues, and the independent variables were sufficiently distinct for regression analysis.

Discussion of Key Findings

The results of this study found that all smartphone-related disruptions, such as loss of communication, loss of convenience, loss of connection, and loss of information access, had a negative effect on employee performance, which is in line with other literature indicating that Nomophobia and digital dependency are linked to decreased productivity (e.g. Kilic and Griffiths, 2023; Suth & Wong, 2018; Yildiz et al., 2023). There are other studies that have also found similar results, indicating the negative effects of Nomophobia on employees in different contexts, such as among nursing staff from China (Yang et al., 2024); future teachers (Moreno-Guerrero et al., 2020); and IT, teaching, and banking sectors (Murugan & Srivastava, 2024). Strong reliability of data and the regression model explaining 73% of performance variation provide evidence that the underlying factor of smartphone dependency plays a substantial role in shaping modern workplace effectiveness.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The study concludes that, while employees were able to demonstrate high levels of job performance, they faced moderate challenges in relation to losing connection, losing communication, losing access to information, and sacrificing convenience. The results indicated that all four digital disruption factors were negatively related to job performance; among them, losing communication and sacrificing convenience turned out to be the strongest predictors of productivity reduction. Despite these challenges, the overall stability of employee performance underlines strong resilience within the workforce. However, the findings again pinpoint that organizations need to strengthen their policy on smartphone usage at work to ensure seamless access to information and enhance operational convenience in order to sustain and further improve employee performance in technology-dependent work environments.

Recommendations

- It is recommended that manufacturing organizations should focus on developing a suitable guideline on smartphone usage as it is essential for work and family related communication. The guideline should clearly state the use of smartphones at workplace.
- Manufacturing organizations should provide employees suitable wellness and digital awareness program that enable employees to make reasonable use of smartphones without overusing it.
- Manufacturing organizations can introduce a smartphone-free focused time period in which employees cannot use smart, followed by breaks where staff can use smart phone. This way it can reduce disruption to the work but also enable employees to remain connected after a suitable interval.

- Manufacturing organizations should provide training to their line managers to observe, report, and intervene if necessary for any tech-related serious distractions.

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