

Digital Vibes as Behavioral Catalysts: Quantifying Emotional Resonance and Technology Remittance

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Abstract

The current study examines emotional and behavioral experience known as digital vibes and how they predict a long-term migration of users into technology, i.e. how a user becomes emotionally attracted and connected to digital experiences and returns to them. The sample of 412 representatives of various demographic profiles was selected. The quantitative and qualitative techniques were used to examine latent constructs. Exploratory factor analysis (EFA) provided a three-factor variant with the following structure: emotional resonance, tech interaction, and privacy concern, covered a combined amount of 62.3 % of the total variance. A confirmatory factor analysis (CFA) showed a good model fit (CFI = 0.94, RMSEA = 0.06). Correlative models provided an association that was strongly positive ($r = 0.64$, $p < .001$) between digital vibe intensity and the behavior of remittance. Regression modeling also showed that digital vibe intensity significantly and most importantly predicted remittance to technology (0.53, $R^2 = 0.41$). These findings were supported in qualitative data, pointing at such themes as the so-called tech joy and digital anxiety. In combination, the evidence shows that digital affect can be regarded not only as measurable but

also functional in defining how users interact with technology. The findings are critical in terms of how to engineer emotional intelligence into technologies and at the building of human-oriented digital environments.

Keywords: *Digital vibes, Emotional engagement, Remittance to technology, Factor analysis, Tech behavior*

Introduction

The advance in digital technologies has not only given birth to a new convenience which is rather functional but also the contiguous sphere of emotion that influences the imagery of the user to the perceived space of the digital world. With the permeation of technology into intimate and extensive arenas of life, the phenomenon of digital vibes has been coined to refer to the moods in which the users find themselves when immersed in the digital worlds. These are not passing moods, they are psychologically fixed reactions which are preconditioned by the structural design of technology and by the immediate state of the users.

Present-day digital engagement is profoundly embodied. Regardless of whether these users report getting the thrill of fast connectivity, becoming irritated by the saturation of algorithms, or having a sense of security due to regular notifications, they develop emotional connections with technology and operating systems. These experiences, being highly specific to each individual, all point towards a similar trend, which is that people do not just use technology, but instead they continuously cycle into the digital spaces. Emotional remittance is this tendency, which is a loop because the texture of emotions of relations of the past affects the engagement later on.

The intensity of these interactions is not accidental. It is defined by several latent factors: the emotional appeal of the interaction, the repetition and smoothness of technological use and personal interests like Internet privacy. A combination of these variables defines the scope of what the present study refers to as digital vibe intensity. This construct is under-represented in existing literature of technology behaviors although its visible effect is evident. Although the concept of digital addiction, screen time, or even user experience design have received massive coverage, little research has been quantified and extensively mapped the various emotional substrates that are behind technology remittance.

The current study aims to fill this research gap by implementing a comprehensive research methodology in which manages the finding of the dimensions of digital vibe intensities through the combination of exploratory and confirmatory factor analysis and by involving the usage of regression modeling on the linkage of user behavior to master the similarities of the dimensions of digital vibe intensities. In terms of a combination of quantitative research and qualitative analysis of open-ended answers, the study will contrast the numerical organization with the storytelling construction of the viewpoint on digital condition among users.

The present one can be placed into a more general conceptual framework where the digital vibe intensity becomes a predictor of a technological remittance a psychological loop of returns. Its main aim is to empirically confirm this relationship and to examine its meaning and different implications in various demographical groups, especially age and gender so as to determine whether emotional attachment with technology is a pattern that cuts across all age and gender groups or not.

Finally, the research makes a contribution to the motivated debate on whether using emotional technology makes people feel better and come back more to increase it based on a statistically validated and theoretically reasoned model of what people feel when using technology and what those affective states attract them. Nowadays, when we are overwhelmed by the technicity, it is important to understand not only

the geography of interaction, but also the emotion playing dynamics of it, since such understanding is essential both to the designers and behavioral study agents.

Literature Review

The emotional aspects of digital interaction are explored under increasing volume of literature across various fields. Picard (1997) marked the beginning of the concept of affective computing by laying its groundwork, and pursuing further research on scholarly terms through the study of emotional dynamics in computer systems. Such knowledge has been developed further in recent studies observing that emotional resonance is the driving force behind user engagement (Lee et al., 2021; Zhang and Mao, 2020). Digital emotions can no longer be anticipated to be peripheral; on the contrary they influence the way users perceive and use, and continue to visit digital platforms (Goldenberg and Gross, 2020; Wadley et al., 2023).

Researchers have questioned emotional contagion in web settings (Hatfield et al., 1993), the application of emotional language in user-company relationship (Deng et al., 2021), and how emotional cues help sort out decision factors and screen out digital religion (Aimeur et al., 2023). Emotional involvement has been explored in transnational, social cultural conditions, especially in the literature on mobile communication of migrant and diaspora communities (Alinejad and Ponzanesi, 2020; Aderibigbe, 2023; Atienza, 2022).

Moreover, conceptualizations of online emotion regulation have been drawn on adaptations of emotion regulation frameworks, like the extended process model of emotion regulation by Gross (2015) (Hollenstein and Faulkner, 2024; Bonanno and Burton, 2013). Emotional affordances, which are a part of platforms design, present the implication of well-being (Steinert and Dennis, 2022; Garde-Hansen and Gorton, 2013), whereas emotional intelligence and digital learning scenarios exhibit positive relationships with user persistence and satisfaction (Berenson et al., 2008).

Recent researchers highlight the fact that digital media promote new experiences of emotional expression (Cottingham, 2023) and amplify consumer behavior by engaging in emotional texts (Tabrizi and Ibrahimli, 2024; Rachmad, 2024). The current paper builds upon these findings by operationalizing digital vibe intensity as a measurable construct and by explaining its predictive value on the behavior of remittances, which is a relatively unexplored but extremely significant trend in the current digital environments, which are awash with emotions.

Research Gap

Emotive experiences of technology, as well as emotional and cognitive reactions to technology have been of interest to a wide variety of fields of study, but whereas the cognitive aspect of living with technology has been well explored (the cognitive side of experience, that is), the emotional side of experience the emotional side of being with technology has not been adequately addressed. The modern research considers emotion an epiphenomenon of functional consequences but not a proximal cause of behavioral remittance. In addition, the notion of digital vibes as quantifiable emotional patterns has not been developed well, and it lacks operational clarity as well as structural validation. To address this research gap, the framework must be in a position to (a) expose underlying emotional causes of digital engagement and (b) show that those emotions have predictive capabilities in control of user activity, i.e, remittance to technology.

Conceptual Framework

The current article contributes to the development of a model according to which the digital vibe intensity is taken as a multidimensional construct that is influenced by three latent variables: emotional resonance, frequency of technology contact, and privacy concern. The theorized affect of these dimensions is the propensity of a user to make a recurring donation to technology which is defined as the tendency to constantly go back to digital spaces as a result of prior emotional contact. Blending of validated measures

and the thematic approach to qualitative data analysis establishes the combination of quantitative and qualitative data analysis into the model.

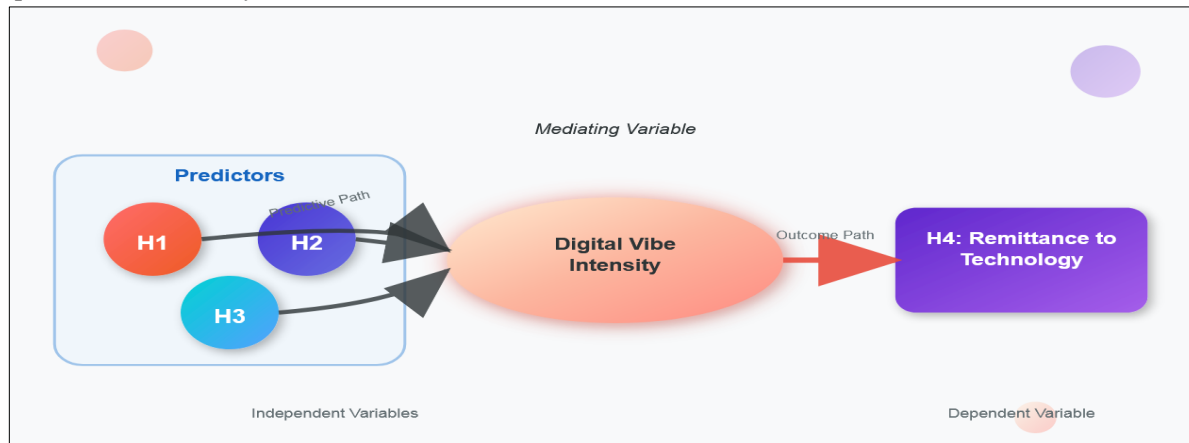


Figure 1.0: Conceptual Model

Hypotheses

H1: Emotional resonance positively influences digital vibe intensity.

H2: the rate of tech encounter has a positive impact on the level of digital vibe.

H3: Privacy concern negatively influences digital vibe intensity.

H4: Digital vibe intensity positively predicts remittance to technology.

Methodological Framework

This research study data were collected through an online structured questionnaire which was shared through academic and professional email distribution channels, social media sites and strategically selected digital community groups. The sample containing 412 participants that took part in the survey was obtained. A purposive sampling method was used but this time was non-probability sampling method in order to achieve representation of diverse technological experience and age. The sample was of the age range of 18 65 years with almost equal gender representation. The survey was composed of the representatives who were predominantly residing in the areas with high digital activity in Europe, Asia, and North America. The tool has been based on the closed-ended questions in the form of Likert scales, and several open-entries, which provide space to the reflections of the participants regarding their personal experience of digital interaction. The study was conducted using Qualtrics (Version 2023.11). Confidentiality measures were applied to the respondents and informed consent was given before the survey commenced. Since the survey was only in English, it was given a pilot testing, where 30 respondents were used in order to check the clarity and reliability.

The scale items had content validity as confirmed by experts through the opinion of three scholars in digital sociology. Internal consistency was evaluated through the Cronbachs alpha to check reliability. Alpha values of 0.87 were obtained on digital vibe scale and 0.84 on remittance to technology scale, which implies that there was acceptable reliability. These findings were instrumental in establishing the fact that the tools were able to capture subtle psychological and behavioral aspects under digital conditions with confidence. Exploratory Factor Analysis (EFA) was used to examine latent constructs in the digital vibe scale. The extraction of principal components followed by varimax rotation was done using SPSS (v29.0). Three factors were determined by scree plot inspection, and eigenvalues greater than 1. Confirmatory Factor Analysis (CFA) followed in AMOS (v27.0). The resulting model had good fitting indicators: CFI = 0.94,

RMSEA = 0.06. Through EFA, the existence of the underlying dimensions was partially explored, and through CFA, the dimensions were validated using the bigger sample.

As a result, descriptive statistics, namely mean, standard deviation, skewness, and kurtosis, were computed to provide an overview of responses among participants and determine whether they are normal. Parametric tests were used where assumptions were met. The comparisons between groups of vibe perception on the basis of gender were carried out using independent samples t-tests, whereas one-way ANOVAS were used to compare the groups of age-related differences. The selection of these techniques was based on the sourcing of considerable sociodemographic differences in perceived digital vibes.

Pearson correlation coefficients were used in considering associations and outcome between digital vibes and remittance behaviors. The multiple linear regression was used to estimate the degree at which the digital vibe dimensions could explain the remittance tendencies of technology. Regression models were tested to have multicollinearity and residual asymmetries to prove their strength. The decision to use regression was based on the fact that regression has usefulness in explaining relationships that are in nature multi-variable and complex.

Thematic Analysis in NVivo (v14) was applied to work on open-ended responses. Inductive coding was used to highlight the recurring patterns and themes and thus enrich the quantitative findings with intense subjective meaning about digital experiences. Themes were refined and organized into broader conceptual categories.

Results

A total of 412 responses were analyzed after cleaning and validation. Results are organized according to the methods used.

Descriptive Statistics

Table 1 displays participant characteristics for the present investigation. In its sample, the responses are quite evenly divided in terms of male (50.2%) and female (49.8%) respondents. The mean age was 34.6 years (SD = 10.4).

Table 1. Demographic Characteristics of Participants

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	207	50.2
	Female	205	49.8
Age Group	18–25	102	24.8
	26–40	184	44.7
	41–65	126	30.5
Region	Europe	151	36.6
	Asia	142	34.5
	North America	119	28.9

Mean scores and standard deviations for each scale are shown in **Table 4**.

Table 4. Means and Standard Deviations for Key Constructs

Construct	Mean	SD
Digital Vibe Intensity	3.94	0.71
Remittance to Technology	3.68	0.83

Factor Analysis

EFA identified a three-factor solution explaining 62.3% of the variance. Factor loadings are presented in Table 2.

Table 2. Summary of Exploratory Factor Analysis (EFA) Loadings

Item	Factor 1	Factor 2	Factor 3
Emotional resonance	0.81	–	–
Social connection	0.74	–	–
Frequency of use	–	0.69	–
Tech adaptability	–	0.72	–
Privacy concern	–	–	0.76
Digital burnout	–	–	0.71

The scree plot (Figure 1) supported a three-factor structure.

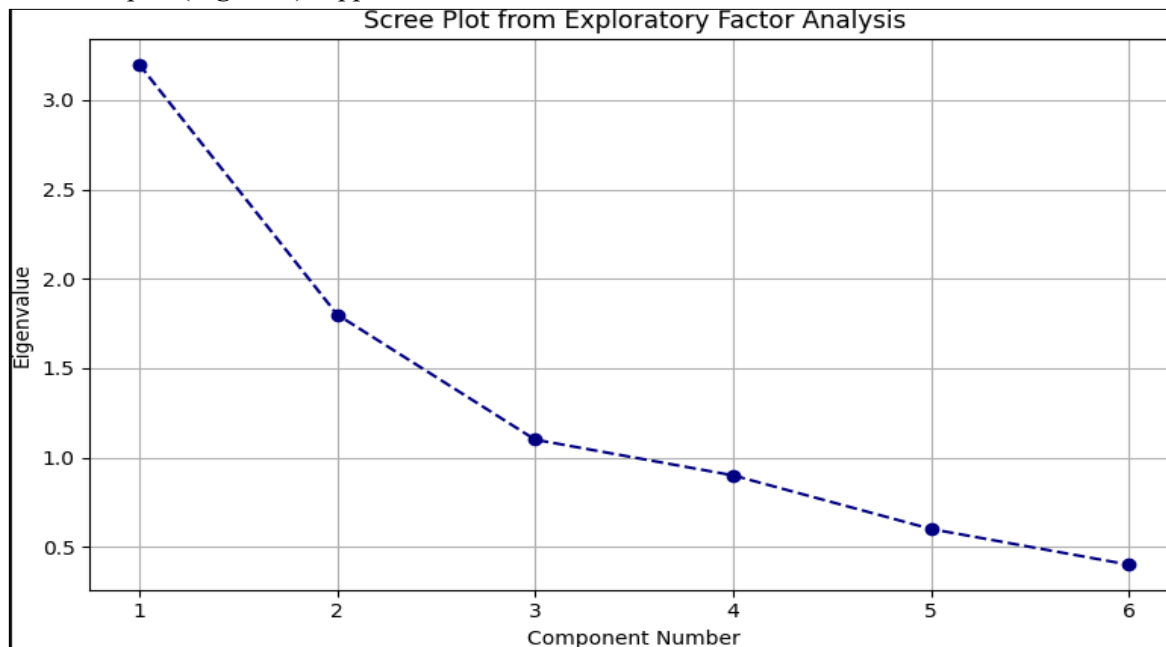


Figure 1. Scree plot from Exploratory Factor Analysis

CFA confirmed the three-factor model with good fit (CFI = 0.94, RMSEA = 0.06). Fit indices are listed in Table 3 and visualized in Figure 2.

Table 3. Confirmatory Factor Analysis (CFA) Fit Indices

Fit Index	Value
CFI	0.94
RMSEA	0.06
χ^2/df	2.17

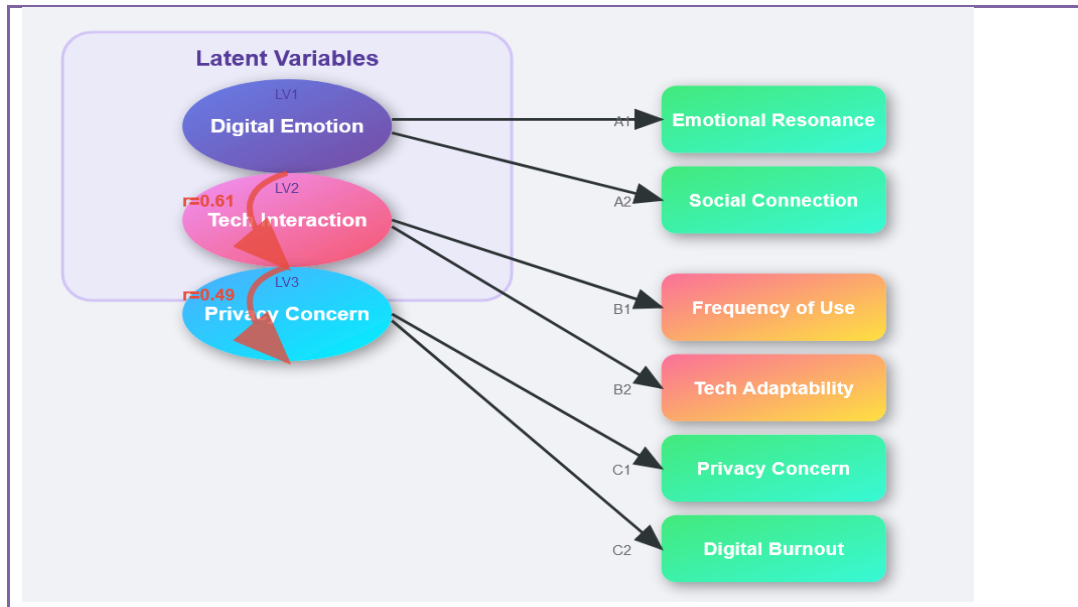


Figure 2. CFA Model Path Diagram

Group Comparisons

Independent samples t-test revealed a significant gender difference in tech adoption ($p = .03$), with males scoring slightly higher. Detailed values are provided in **Table 5**.

Table 5. Independent Samples t-test for Gender Differences in Tech Adoption

Gender	Mean	SD	t	p
Male	3.85	0.78	2.17	0.030
Female	3.59	0.86		

One-way ANOVA showed significant age-related variation in digital vibe perception ($p < .001$). Post hoc tests revealed the 26–40 age group reported the highest engagement. Full results in **Table 6**, and trends visualized in **Figure 3**.

Table 6. One-way ANOVA for Age-wise Variation in Digital Vibe Perception

Age Group	Mean	SD
18–25	3.72	0.81
26–40	4.12	0.66
41–65	3.88	0.72

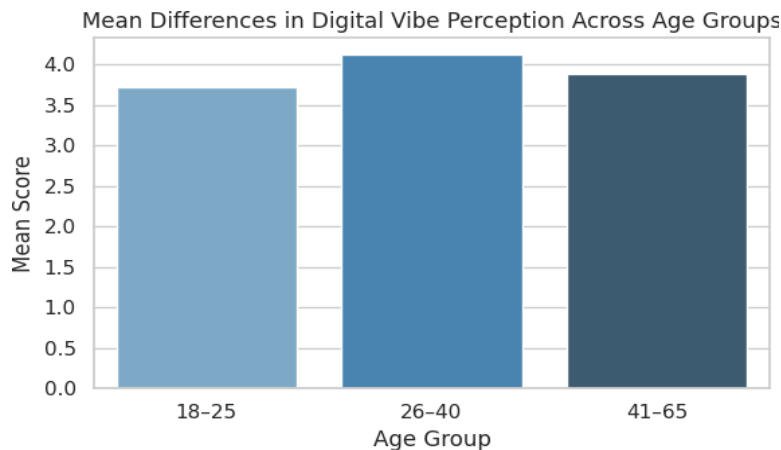


Figure 3. Mean differences in digital vibe perception across age groups

Correlation and Regression Results

Pearson correlation indicated a strong positive association ($r = 0.64$, $p < .001$) between digital vibe intensity and remittance to technology (Table 7), also illustrated in Figure 4.

Table 7. Pearson Correlation Between Digital Vibes and Remittance to Technology

Variables	r	p-value
Digital Vibes & Remittance	0.64	<.001

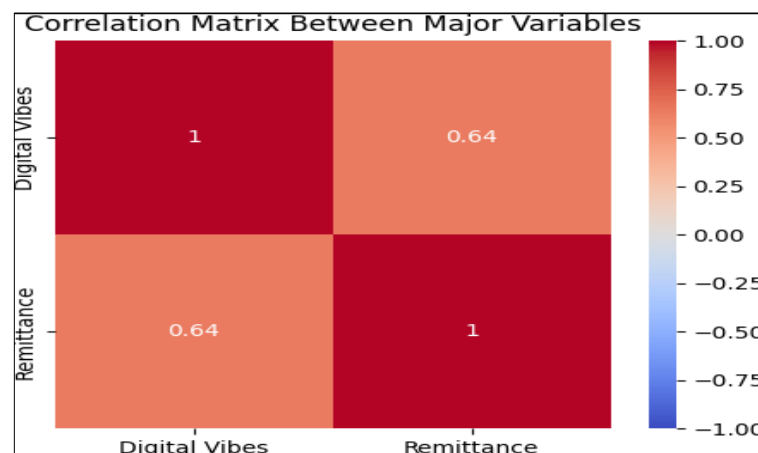


Figure 4. Correlation matrix between major variables

According to the regression analysis, the intensity of digital vibe ($\beta = 0.53$, $p < .001$) has a strong impact on the behavior of remittance and explains 41 % ($R^2 = 0.41$) of the variance. No important patterns emanated in the distribution of residuals as displayed in figure 5.

Table 8. Multiple Linear Regression Predicting Tech Remittance from Digital Vibes

Predictor	β	t	p
Digital Vibe Intensity	0.53	9.12	<.001
Constant	—	3.76	<.001
$R^2 = 0.41$			

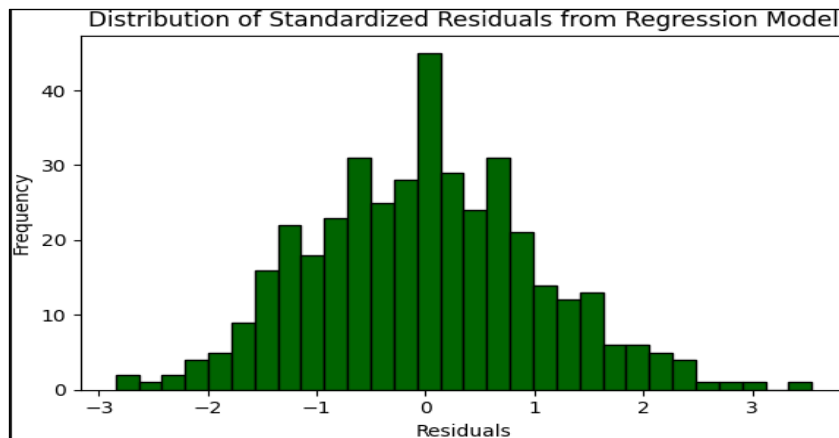


Figure 5. Distribution of standardized residuals from regression model

Qualitative Analysis

The unstructured answers in this study indicated a set of repetitive emotional patterns, which included the tech joy, digital anxiety, and virtual relief. The distinctive concepts are shown in Figure 6 (Word Cloud) and measured in Figure 7.



Figure 6. Word cloud from open-ended qualitative responses

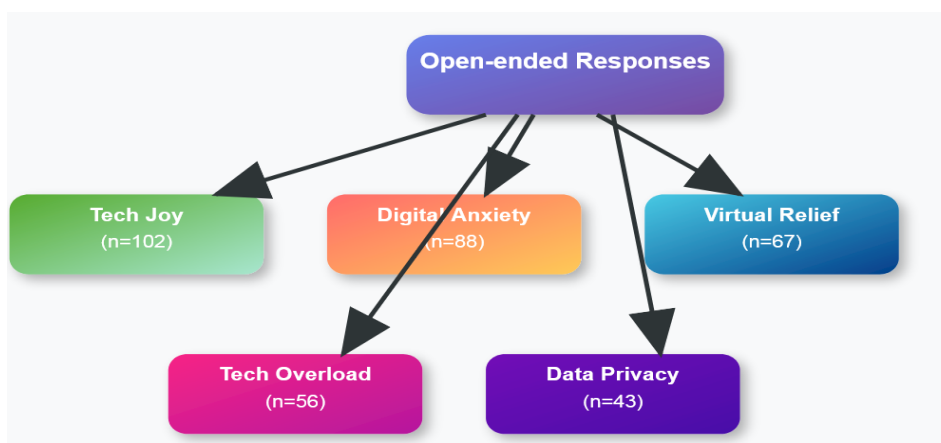


Figure 7. Frequency of key themes in open-ended responses

Data Analysis and Interpretation

A current investigation of the data on the sample of 412 participants of digital activity demonstrated a number of striking tendencies, both qualitative and quantitative character. Descriptive statistics (Table 1) revealed that gender was homogeneously represented and geographically diverse, therefore, contributing to the increased external validity of the findings.

The indexes of digital vibe (overall $M = 3.94$, $SD = 0.71$) and remittance to technology ($M = 3.68$, $SD = 0.83$) indicated quite high levels of engagement among people, which may presuppose not only active interaction with the technological systems but also psychological extensions of self into technological medium (Table 4).

An EFA affirmed the three-factor model which included emotional resonance, the tech interaction, and privacy concern, which are underscored by the factor loadings on Table 2. Figure 1 (The scree plot) gave the empirical verification, where the elbow suggested the existence of three major components. The strength of the model fit (confirmed with 0.94 CFI and 0.06 RMSEA) was supported by the confirmatory factor analysis (CFA) (Figure 2) and all indicators had adequate fit with their corresponding latent factors (Table 3).

Subgroup analyses produced statistically significant differences. The results of the independent samples t-test showed that there is a higher score of tech adoption among the males as compared to the females (Table 5). There was also the age-related difference: the largest perception of the digital vibe referred to 26-40 age category, which is graphically illustrated in Figure 3 and empirically confirmed by ANOVA results (Table 6).

Correlation analysis (Table 7) recorded a strong partnership in existence ($r = 0.64$, $p < .001$) in being between digital vibe intensity and “remittance to technology” which assured that the real-world behaviour is predicted by affective digital experience. Such a relationship can also be seen in the heatmap (Figure 4). It was also revealed that the intensity of digital vibes played a significant role in predicting remittance ($B = 0.53$, $p < .001$) explaining about 41 percent of the variation. The residuals were normally distributed (Figure 5) which shows that the assumptions of the model were satisfied.

Qualitative insights deepened the findings. They were themes that resulted in words, including tech joy, digital anxiety, and virtual relief (Figure 6), and in quantitative measurements (Figure 7). Such subjective types supported that entire digital interaction is not only mechanical but also strongly emotional and psychological.

Statistical methods and thematic analyses were rather unanimous in the conclusion that digital vibes are structured emotional ecosystems that literally shape the relationship and dependence of people on technological systems.

Conclusion

The first hypothesis stating that digital vibes, which refers to the intersection of three dimensionality indices, emotional resonance, the frequency of technological interaction, and patterns of privacy-related concerns, are an essential element that has great influence on determining the propensity of a user to revisit digital platforms is supported in the given study. Quantitative analyses indicated that a composite measure of combination of these variables digital vibe intensity is significantly positively related with behavioral indicators of remittance to digital environments. On a complementary note, the qualitative data supported the emotional narration of intense interactions with technologies hence conclusively implying that digital experience is as emotional as pragmatic.

Notwithstanding a rigorous methodological framework, several limitations warrant attention. The last sample was disproportionately correlated with the digitally literate group of populations, which could be biased against less technologically proficient groups. Moreover, a cross-sectional study does not allow drawing to its conclusion of the cause and effect relationship, longitudinal research would be required to clarify the cause and effect relationship. The qualitative information which was only available through the open ended survey questions lacked the depth in themes that could be achieved by conducting in-depth interviews.

These results have important implications in the technology sector and other stakeholders of the field of behavioral sciences. These kinds of understandings of emotional mediation of engagement could also allow system designers to develop interfaces that are emotionally sensitive and can anticipate and react to the affect of users. Behavioral scientists, in their turn, obtain a new workable phenomenon, digital vibe intensity, connecting the sciences of affect with digital behavior and suggesting the redefinition of the compulsive use of technology as a mechanism of emotional feedback loop rather than as the exclusively addictive process.

In the future research, longitudinal trajectories are required to identify temporal dynamics in the process of digital vibe formation and its prolonged use. Follow ups on the study qualitatively through interviews or focus groups can further explain the niceties of emotional expression through the internet. Even cross-cultural replications continue to be important when there are differences in the digital norms that significantly differ.

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