

Article type:
Qualitative Research

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Spiritual Coping amid Technostress among Student Digital Entrepreneurs in Jakarta: An Interpretative Phenomenological Analysis

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Article history:

Received 11 Mar 2026
Revised 18 Apr 2026
Accepted 24 June 2026
Published online 01 Aug 2026

How to cite this article:

Adha, M. A., Suhendry, B., Musyaffi, A. M., Ariyanti, N. S., Sobirov, B., & Farliana, N. (2026). Spiritual Coping amid Technostress among Student Digital Entrepreneurs in Jakarta: An Interpretative Phenomenological Analysis. *International Journal of Body, Mind and Culture*, 13(8), Article e2026-1512.
<https://doi.org/10.61838/ijbmc.v13i8.1512>



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ABSTRACT

Objective: Digital entrepreneurship has created new opportunities for university students while also introducing significant psychological challenges. This study explores the lived experiences of technostress among student digital entrepreneurs and examines the role of spiritual coping as a psychological adaptation strategy.

Methods and Materials: Using an Interpretative Phenomenological Analysis (IPA) approach, qualitative data were collected in Jakarta, Indonesia, through semi-structured interviews with 12 student entrepreneurs as the primary participants, complemented by observations, supporting documents, and interviews with three lecturers and three parents as supporting informants.

Findings: The findings revealed that technostress emerged from technological overload, multitasking demands, rapid digital communication, and the simultaneous management of academic and entrepreneurial responsibilities. These conditions contributed to emotional exhaustion, anxiety, psychological fatigue, and internal conflict. Participants reported using spiritual coping strategies, including prayer, worship, gratitude, spiritual reflection, and emotional surrender, which were perceived as helping them maintain emotional balance, resilience, and psychological adaptation.

Conclusion: The findings highlight the importance of considering both psychological and spiritual dimensions in understanding the well-being of young digital entrepreneurs in digitally intensive environments.

Keywords: Technostress, Spiritual coping, Psychological adaptation, Student entrepreneurs, Digital entrepreneurship.

Introduction

The rapid development of digital technology has transformed entrepreneurial activities among young people, particularly university students who engage in online business while pursuing their studies. Through digital platforms, student entrepreneurs can market products, communicate with customers, manage transactions, and generate income alongside their academic responsibilities. In urban contexts such as Jakarta, Indonesia, digital entrepreneurship has become increasingly common due to widespread internet access, expanding digital markets, and the popularity of social media-based business activities (Adha et al., 2026). Despite these opportunities, digital entrepreneurship also exposes students to significant psychological challenges. Constant connectivity, rapid communication demands, multitasking, and continuous online visibility often blur the boundaries between academic, entrepreneurial, and personal life, creating conditions that may generate psychological strain (Benzari et al., 2024; Truța et al., 2023).

One important issue emerging in digitally intensive environments is technostress. Technostress refers to the stress experienced by individuals due to their inability to cope effectively with technology-related demands (Tarafdar et al., 2024). Previous studies have shown that excessive engagement with digital technologies may contribute to emotional exhaustion, cognitive overload, anxiety, work-life imbalance, and reduced psychological well-being (Kumar, 2024). For student entrepreneurs, these pressures may be particularly pronounced because they must simultaneously manage academic obligations, entrepreneurial activities, customer interactions, and social relationships within highly connected digital environments (Wasim et al., 2024). As a result, academic and entrepreneurial responsibilities frequently compete for time, attention, and emotional resources, potentially creating persistent psychological pressure.

Although technostress has received considerable scholarly attention, several important gaps remain (Brooks et al., 2020; La Torre et al., 2020). First, previous studies have predominantly examined technostress from organizational, technological, or productivity-oriented perspectives, focusing on workplace performance, digital adaptation, and technology use. Consequently, less attention has been devoted to understanding the

lived experiences and subjective psychological meanings associated with technostress. Second, research specifically focusing on student digital entrepreneurs remains limited, despite their unique position as individuals who simultaneously navigate academic and entrepreneurial roles. Third, while coping mechanisms have been widely discussed in technostress research, the role of spirituality as a coping resource has received relatively little attention. Finally, limited evidence exists regarding technostress experiences among young entrepreneurs in Indonesian urban contexts, where digital entrepreneurship is rapidly growing and spiritual values continue to play an important role in everyday life.

Spiritual coping may offer a useful perspective for understanding how young entrepreneurs adapt to technological and psychological pressures. Spiritual coping refers to the use of spiritual beliefs, values, and practices to manage stress, emotional difficulties, and challenging life circumstances (Graça & Brandão, 2024). It encompasses various processes such as prayer, worship, gratitude, reflection, meaning-making, acceptance, and surrender. Positive spiritual coping involves drawing strength, hope, and emotional comfort from spiritual beliefs and practices, whereas negative spiritual coping may involve spiritual conflict, feelings of abandonment, or interpreting difficulties as punishment. Importantly, spiritual coping differs from avoidance. While acceptance and surrender facilitate emotional regulation and constructive adaptation, avoidance involves disengagement from problems without active psychological processing. Previous studies suggest that positive spiritual coping may enhance emotional well-being, resilience, and psychological adjustment during stressful experiences (Goudarzi et al., 2024).

Given these gaps, further investigation is needed to understand how student entrepreneurs experience technostress and how spiritual coping contributes to their psychological adaptation. Therefore, this study aims to explore the lived experiences of technostress among student digital entrepreneurs in Jakarta, Indonesia, and to examine the role of spiritual coping in responding to these challenges. Specifically, this study addresses the following research questions: How do student digital entrepreneurs experience technostress in their academic and entrepreneurial lives? What psychological struggles are associated with these

technostress experiences? How do participants use spiritual coping to interpret, regulate, and adapt to technostress?

By addressing these questions, this study contributes to the literature on technostress, digital entrepreneurship, and psychological well-being by providing a deeper understanding of the emotional and psychological experiences of student digital entrepreneurs and the perceived role of spiritual coping in technologically demanding environments.

Methods and Materials

Study Design

This study employed a qualitative research design using Interpretative Phenomenological Analysis (IPA) (Smith et al., 2009). IPA was selected because it enables researchers to explore how individuals interpret and make sense of their lived experiences and psychological responses to particular phenomena. The study was

conducted in Jakarta, Indonesia, where digital entrepreneurship among university students has expanded alongside the rapid growth of social media platforms, e-commerce marketplaces, and internet-based business activities. Purposive sampling was used to recruit participants. The primary IPA participants consisted of 12 university students who were actively engaged in digital entrepreneurship while pursuing their studies. These participants formed a relatively homogeneous group because they simultaneously occupied the roles of student and digital entrepreneur and experienced continuous digital engagement in both academic and entrepreneurial contexts. Participants were eligible if they were currently enrolled in a university, operated an active digital business, used digital platforms for business purposes, had engaged in digital entrepreneurship for at least six months, and regularly balanced academic and entrepreneurial responsibilities. Individuals whose business activities were inactive during the study period were excluded.

Table 1

Characteristics of the Student Entrepreneur Participants

ID	Age	Gender	Semester	Field of Study	Type of Digital Business	Business Duration	Main Digital Platform(s)	Weekly Hours on Business
S1	20	Female	4	Management	Fashion Reseller	2 years	Instagram, WhatsApp Business, TikTok Shop	25
S2	22	Male	6	Accounting	Digital Printing Services	3 years	Shopee, WhatsApp Business	30
S3	21	Female	4	Economics Education	Handmade Accessories	1.5 years	Instagram, WhatsApp Business	18
S4	23	Male	6	Digital Office Administration	Website Development Services	4 years	LinkedIn, Instagram	35
S5	20	Female	4	Management	Beauty Products	2 years	TikTok Shop, Instagram	28
S6	22	Male	6	Information Systems and Technology	Website Development Services	3 years	Instagram, LinkedIn, WhatsApp Business	32
S7	21	Female	4	Office Administration Education	Food and Beverages	2 years	Shopee, Instagram	20
S8	23	Female	8	Electronics Engineering Education	Online Tutoring	4 years	LinkedIn, Instagram, WhatsApp Business	28
S9	20	Female	4	Management	Thrift Fashion Business	1 year	Instagram, TikTok Shop	22
S10	22	Male	8	Informatics and Computer Engineering Education	Graphic Design Services	3 years	WhatsApp Business, Instagram	30
S11	21	Female	4	Digital Marketing	Skincare Reseller	2 years	Tokopedia, WhatsApp Business	24

S12	23	Female	8	Business Education	Online Tutoring	4 years	Instagram, WhatsApp Business	38
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The participant profile demonstrates a relatively homogeneous sample consistent with IPA principles (Table 1). Although participants differed in business type and platform use, they shared the common experience of managing academic and entrepreneurial responsibilities within digitally intensive environments. To strengthen contextual understanding and support triangulation, three lecturers and three parents were recruited as supporting informants. The lecturers were selected because they had direct academic interactions with several student entrepreneur participants through teaching, academic advising, or entrepreneurship-related activities. Parents were recruited through participant referral and had regular involvement in participants' daily lives. Their inclusion aimed to provide contextual insights into participants' academic challenges, behavioral changes, emotional well-being, and coping practices. Data obtained from lecturers and parents were used solely for contextual triangulation and were not included as primary IPA cases.

Data Collection

Data collection was conducted between January and March 2026 through semi-structured interviews, observations, reflective field notes, and document analysis. One in-depth interview was conducted with each student entrepreneur participant, lasting approximately 60–90 minutes. Additional interviews with lecturers and parents lasted between 45 and 60 minutes. All interviews were conducted face-to-face, audio-recorded with participant consent, and transcribed verbatim. The interviews were conducted in Bahasa Indonesia. Quotations reported in this article were translated into English, and translation accuracy was verified through independent review by two bilingual researchers. The interview guide was developed based on the concepts of technostress (Tarafdar et al., 2020) and spiritual coping (Dolcos et al., 2021). Sample questions included: "How are your emotional and mental states related to your digital business activities?", "What challenges do you face in balancing academic responsibilities and digital entrepreneurial activities?", and "How do spiritual values or practices help you cope with stress and emotional pressure?" Observations were conducted to

capture non-verbal expressions, emotional reactions, and contextual behaviors relevant to participants' experiences. Reflective field notes were recorded immediately after interviews to document contextual impressions and preliminary interpretations. Documentary materials consisted of participant-provided business portfolios, promotional materials, screenshots of entrepreneurial activities, and publicly accessible business-related social media content. These materials were used to support contextual understanding and data triangulation. Permission was obtained from participants before reviewing and using any documentary materials. To ensure confidentiality, all data sources were anonymized using identification codes (S1–S12, L1–L3, P1–P3, Obs1–Obs5, and Doc1–Doc5).

Data Analysis

Interpretative Phenomenological Analysis (IPA) was used to analyze interview data obtained from the 12 student entrepreneur participants (Smith et al., 2009). The analysis was conducted manually by two researchers experienced in qualitative inquiry. Consistent with IPA procedures, each interview was analyzed individually before cross-case comparisons were undertaken. The researchers first engaged in repeated reading and rereading of transcripts to become immersed in participants' narratives. Initial noting was then conducted to identify descriptive, linguistic, and conceptual comments relevant to participants' experiences of technostress and spiritual coping. Emergent themes were subsequently developed for each individual case to preserve idiographic depth and participant-specific meanings. Following individual case analysis, patterns across cases were examined to identify higher-order themes and shared experiential structures. Differences in interpretation were discussed until consensus was reached. Consistent with IPA principles, only interviews with the 12 student entrepreneurs were subjected to the full phenomenological analysis. Data obtained from lecturers, parents, observations, reflective notes, and documentary materials were used as supplementary sources to contextualize, corroborate, and enrich interpretations emerging from the primary participant interviews.

Trustworthiness was established through credibility, transferability, dependability, and confirmability. Credibility was enhanced through triangulation of interviews, observations, field notes, and documentary materials. Member checking was conducted with eight student entrepreneur participants who reviewed interview summaries and thematic interpretations, resulting in minor clarifications incorporated into the final analysis. Dependability was supported through an audit trail consisting of interview guides, field notes, coding records, analytic memos, and theme development documents. Peer debriefing sessions were conducted among the research team, while reflective journaling was maintained throughout the study to enhance reflexivity and reduce researcher bias. Thick descriptions of participants, contexts, and experiences were provided to support transferability.

Ethical approval for this study was obtained from the Ethical Committee of the Research and Community Service Institute (LP2M), Universitas Negeri Jakarta, Indonesia (Ref. No. UN39.5.FEB/PT.01.03/2025; approval date: 6 March 2026). Written informed consent was obtained from all participants prior to data collection. Participants were informed about the study objectives, confidentiality procedures, voluntary participation, and their right to withdraw at any stage without consequence. All data were anonymized using participant codes and stored on password-protected devices accessible only to the research team. Separate consent was obtained for the use of observational and documentary materials, including screenshots and social media content. Participants could request the removal of any documentary materials from the study and were free to decline any question or discontinue participation if they experienced discomfort during discussions related to stress, anxiety, emotional fatigue, or spirituality.

Findings and Results

Technostress in Digital Entrepreneurial Activities

The findings indicated that technostress was an integral part of student entrepreneurs' everyday entrepreneurial and academic lives. Participants described experiencing technostress through multiple interconnected demands associated with operating digital businesses while simultaneously fulfilling academic responsibilities. One of the most prominent

experiences was technological overload. Most participants reported feeling overwhelmed by the need to manage online business operations, communicate with customers, complete academic assignments, promote products on social media, and create digital content simultaneously. This constant engagement with multiple digital tasks generated cognitive strain and required continuous monitoring of communication applications, online marketplaces, and social media platforms. As one participant explained:

"When I'm using my device to work on college projects, business alerts frequently show up, which makes it difficult for me to concentrate because these two things need to be answered right away." (S7)

Participants often interpreted these technological demands not merely as operational requirements but as responsibilities attached to their entrepreneurial roles. Responding to customers, maintaining communication, and monitoring business activities were perceived as essential obligations for sustaining customer trust and business continuity. Consequently, technological overload was experienced not only as excessive exposure to digital demands but also as pressure to meet expectations associated with being a reliable entrepreneur.

The findings further revealed that digital entrepreneurial activities frequently extended beyond the boundaries of academic life, personal time, and rest. Participants commonly described themselves as being "always on" because smartphones and social media platforms enabled constant access to customers and business activities. Although digital entrepreneurship provided flexibility and opportunities for growth, it also created a persistent expectation of availability. Several participants explained that they felt uneasy when unable to monitor business activities or respond to customers promptly. Delayed responses were often interpreted as potential threats to customer satisfaction, business reputation, and future sales opportunities. As a result, participants developed routines of repeatedly checking notifications, social media interactions, and marketplace applications, even during study sessions, family activities, or rest periods.

"I feel anxious when I do not check my phone for a long time because I am afraid of missing customer orders or complaints." (S1)

Participants frequently framed responsiveness as an entrepreneurial responsibility rather than a purely technical task. The fear of missing customer messages, complaints, or orders reflected concern about fulfilling expectations associated with being a dependable entrepreneur. Remaining continuously connected became normalized within their daily routines despite their awareness of the emotional costs involved. This suggests that technostress was embedded within participants' interpretations of business commitment, responsibility, and entrepreneurial success.

Another important source of technostress was the pressure to maintain digital visibility. Participants explained that social media algorithms, online competition, and customer expectations encouraged them to remain active and visible online. While social media served as a critical business tool, participants also perceived it as a psychologically demanding environment that required continuous creativity, responsiveness, and self-presentation. The need to constantly produce content, engage with audiences, and monitor online performance generated emotional strain and contributed to feelings of exhaustion.

"Not only do I sell items, but I also do promotions on the internet, give comments, which of course is mentally exhausting." (S9)

For many participants, maintaining online visibility was closely linked to their identity as digital entrepreneurs. Success was often associated with being consistently active, responsive, and visible within digital spaces. Consequently, participants imposed expectations on themselves to continuously engage with customers and digital platforms. This self-imposed pressure intensified the experience of technostress because periods of disconnection were often interpreted as lost opportunities for business development and growth.

The findings also indicated that multitasking demands played a significant role in shaping participants' experiences of technostress. Student entrepreneurs were required to simultaneously manage academic assignments, customer interactions, online marketing, product management, and financial administration. The convergence of these responsibilities frequently created difficulties in maintaining concentration and prioritizing tasks. Participants described moving repeatedly between academic and entrepreneurial roles throughout the day,

often without clear boundaries separating the two domains.

In addition, the immediacy of digital communication heightened participants' sense of urgency. Many participants perceived that customers expected immediate responses regardless of time or personal circumstances. This expectation created pressure to remain constantly attentive to business-related notifications and communications. Supporting informants reported observing similar patterns among student entrepreneurs. One lecturer and one parent stated:

"What I see is that students who are involved in digital business often seem psychologically tired." (L2)

"My child rarely rests because business activities continue day and night. Sometimes I see signs of fatigue and emotional instability due to excessive phone usage." (P1)

Observational data further illustrated the intensity of participants' digital engagement. During several interviews, participants were frequently distracted by smartphone notifications, incoming messages, and online business activities. Some temporarily interrupted interviews to check marketplace applications or respond to customers, demonstrating how deeply digital business activities had become embedded within their everyday routines (Obs2). Documentary materials, including screenshots of social media interactions and online business activities, also showed continuous customer engagement, promotional efforts, and digital communication throughout the day (Doc3).

The findings suggest that technostress among student digital entrepreneurs emerged from an interconnected combination of technological overload, multitasking demands, rapid digital communication, pressure to maintain online visibility, and the absence of clear boundaries between academic, personal, and entrepreneurial domains. More importantly, participants did not interpret these demands solely as technological challenges. Rather, they understood them as inseparable from their entrepreneurial identities, responsibilities, and aspirations for business success. Consequently, technostress was experienced not only as exposure to digital technologies but also as an ongoing effort to fulfill personally and socially constructed expectations of what it means to be a successful digital entrepreneur.

Psychological Struggles amid Academic and Entrepreneurial Demands

The findings indicated that participants' experiences of technostress gradually extended beyond technology-related pressures and became broader psychological struggles associated with managing multiple roles and responsibilities. Participants described feeling emotionally and mentally burdened by the simultaneous demands of academic study and digital entrepreneurship. Rather than experiencing stress solely because of technology use, participants frequently struggled with balancing competing expectations arising from their identities as students, entrepreneurs, family members, and individuals seeking personal well-being. These overlapping demands often generated feelings of emotional exhaustion, persistent worry, role conflict, and difficulties maintaining psychological balance.

One of the most commonly reported experiences was emotional exhaustion. Participants explained that they were required to remain productive in both academic and entrepreneurial domains, often within the same day and through the same digital devices. Academic assignments, customer communication, marketing activities, business management, and entrepreneurial decision-making frequently competed for attention. This continuous shifting between responsibilities contributed to feelings of mental depletion and reduced opportunities for psychological recovery.

"I become emotionally drained because my thoughts are constantly racing. Everything, from my job and my business, bothers me, even when I'm not working." (S4)

Observational data suggested that participants often continued engaging in both academic and business-related activities outside conventional working hours (Obs4). Documentary materials similarly showed ongoing customer interactions, promotional activities, and academic tasks during evenings and periods normally associated with rest (Doc2). The absence of clear boundaries between academic and entrepreneurial responsibilities appeared to intensify participants' feelings of emotional fatigue and reduced their ability to disengage psychologically from work-related concerns.

Participants also described experiencing persistent worries regarding both academic and entrepreneurial outcomes. Rather than reflecting clinical anxiety, these concerns were expressed as ongoing apprehension about meeting expectations, maintaining business

performance, satisfying customers, and achieving academic success. Participants frequently reported overthinking future possibilities and feeling pressure to avoid failure in either domain.

"As a business owner, I worry that juggling all of my responsibilities may cause a decline in my academic performance." (S10)

"I often overthink about whether my business will continue growing or whether customers will leave if I make mistakes." (S2)

These worries were closely linked to participants' experiences of role conflict. Many participants perceived themselves as simultaneously responsible for being successful students and successful entrepreneurs. Academic obligations often competed directly with business responsibilities, forcing participants to prioritize one role at the expense of another. Such situations generated feelings of tension and uncertainty because participants believed they should perform well in both domains simultaneously.

Periods of heightened academic and entrepreneurial activity also contributed to emotional instability and increased emotional sensitivity. Participants reported becoming more easily irritated, emotionally reactive, or overwhelmed when multiple responsibilities accumulated. Supporting informants observed similar patterns. One lecturer noted that some student entrepreneurs appeared distracted during academic activities because their attention was divided between coursework and business concerns. Parents also described changes in participants' emotional states during periods of intense entrepreneurial engagement.

"When there are many things I become more sensitive and angry easily. Little things can feel emotionally overwhelming." (S6)

"Some students are psychologically pressured because they are thinking about commercial problems all the time throughout the lectures." (L1)

"The more hectic things get at work, the more my child becomes emotionally fragile and prone to stress." (P2)

An important finding concerned the blurring of boundaries between participants' different life domains. Several participants explained that thoughts about business activities frequently persisted during study sessions, family interactions, leisure time, and even periods intended for rest. Business concerns often

remained psychologically present even when participants were physically engaged in other activities. This ongoing cognitive involvement reduced opportunities for emotional recovery and contributed to feelings of being continuously occupied.

Participants further described experiencing internal conflict arising from their multiple identities. They often felt torn between investing time in their academic responsibilities and attending to their businesses. Some participants reported feelings of guilt when focusing on one role while neglecting another. For example, concentrating on academic work sometimes generated concerns about declining business performance, whereas prioritizing entrepreneurial activities occasionally led to worries about academic achievement.

"Studying for business makes me feel guilty. Despite my academic focus, I worry about business performance." (S5)

These experiences suggest that participants' psychological struggles were not solely consequences of technological demands. Rather, they emerged from the interaction between technostress and the challenges of managing competing identities and responsibilities. The combination of academic expectations, entrepreneurial commitments, family relationships, and personal well-being created a complex psychological environment in which participants were continually negotiating priorities, obligations, and self-expectations. Emotional exhaustion, persistent worries, overthinking, emotional sensitivity, and internal conflict reflected the broader psychological consequences of attempting to maintain multiple roles within digitally intensive environments.

Spiritual Coping and Psychological Adaptation

The findings demonstrated that spiritual coping played an important role in helping participants manage the psychological pressures associated with technostress and the competing demands of academic and entrepreneurial life. Participants described spirituality not merely as a religious obligation but as a psychological resource that enabled them to regulate emotions, reinterpret stressful experiences, maintain perspective, and adapt to uncertainty. As they navigated continuous digital connectivity, academic responsibilities, customer expectations, and entrepreneurial challenges, spirituality emerged as a meaningful source of psychological support. Several forms of spiritual coping were identified, including

prayer, worship, gratitude, spiritual reflection, emotional surrender, and meaning-making.

One of the most frequently reported forms of spiritual coping involved emotion regulation through prayer and religious worship. Participants explained that prayer often became their immediate response when they felt overwhelmed, emotionally exhausted, or mentally burdened by multiple responsibilities. Rather than attempting to solve problems directly, prayer helped them calm their emotions and regain psychological balance before addressing the challenges they faced. Several participants described prayer as creating a sense of inner peace that reduced emotional tension and enabled them to think more clearly.

"I usually pray first when I feel mentally weary since that makes me calmer and helps me think more clearly." (S3)

"I am overwhelmed with responsibilities and business activity. I attempt to calm myself and feel quiet via worship and prayer." (S7)

Participants emphasized that prayer did not remove academic pressures, customer demands, or business uncertainties. Instead, it changed how they emotionally responded to these situations. In this sense, prayer functioned as an emotion regulation strategy that enabled participants to manage the emotional consequences of technostress and role-related pressures.

Participants also described worship activities as creating structured pauses within their daily routines. Digital entrepreneurship often required continuous engagement with smartphones, social media platforms, online marketplaces, and customer communication. Periods of worship allowed participants to temporarily disengage from these demands and create moments of reflection and recovery. Such routines helped establish psychological boundaries within otherwise highly connected environments, providing opportunities to step back from business concerns and focus on personal well-being.

Another important form of spiritual coping involved cognitive reappraisal through spiritual reflection. Participants reported that spirituality helped them reinterpret stressful experiences from broader and more constructive perspectives. Rather than viewing business setbacks, academic difficulties, or uncertainty solely as threats, they frequently interpreted them as

opportunities for learning, growth, and self-improvement. Spiritual reflection appeared to facilitate a process in which stressful events were assigned positive meanings, thereby reducing their emotional impact.

“The best way for me to deal with adversity is to view it as a learning experience. I am able to strengthen my patience and resilience via spiritual contemplation.” (S5)

Participants explained that spiritual reflection encouraged them to focus on long-term personal development rather than immediate setbacks. Failures and challenges were often interpreted as experiences that strengthened patience, perseverance, and emotional maturity. Through this process, spirituality appeared to support cognitive reappraisal by transforming stressful experiences into opportunities for development rather than sources of distress.

The findings also highlighted the role of gratitude as a form of positive attentional refocusing. Several participants explained that gratitude helped them redirect attention away from problems and disappointments toward positive aspects of their lives and achievements. During periods of stress related to academic performance or business outcomes, participants intentionally focused on opportunities, accomplishments, and sources of support for which they felt thankful. This process appeared to reduce excessive preoccupation with difficulties and helped maintain a more balanced psychological perspective.

For many participants, gratitude functioned as a psychological counterweight to the pressures associated with digital entrepreneurship. By focusing on positive experiences and available resources, participants were better able to manage frustration and avoid becoming overwhelmed by ongoing demands. Gratitude therefore contributed to emotional balance by redirecting attention from stressors toward sources of encouragement and hope.

Another prominent finding involved emotional acceptance and surrender toward circumstances beyond participants' control. Participants recognized that many aspects of entrepreneurial and academic life could not always be predicted or controlled, including customer behavior, market conditions, competition, academic outcomes, and future opportunities. Spiritual beliefs helped them acknowledge these limitations and accept uncertainty without becoming consumed by worry.

“I learned that not everything can be controlled perfectly. Spiritual practices help me accept situations more calmly.” (S6)

“When I feel anxious about business or college, I try to surrender and focus on what I can do step by step.” (S10)

Importantly, participants did not describe surrender as passivity, avoidance, or resignation. Rather, surrender was understood as recognizing the limits of personal control while continuing to take responsibility for actions that remained within their influence. Participants frequently emphasized that spiritual surrender enabled them to reduce excessive self-pressure and focus on manageable tasks. Through this process, spirituality appeared to facilitate psychological adaptation by helping them cope with uncertainty without disengaging from their responsibilities.

The findings further revealed that spirituality supported meaning-making during periods of adversity. Participants frequently reflected on the purpose and significance of difficult experiences associated with technostress, academic pressure, and entrepreneurial uncertainty. Instead of viewing challenges merely as obstacles, many interpreted them as meaningful experiences that contributed to personal development and character formation. Such interpretations appeared to strengthen perseverance and encourage participants to continue pursuing both academic and entrepreneurial goals despite ongoing pressures.

Supporting informants also observed the role of spirituality in participants' psychological adaptation. Lecturers reported that some student entrepreneurs appeared more emotionally balanced and better able to cope with pressure when they maintained regular spiritual practices. Parents similarly described reductions in emotional tension and greater psychological stability following prayer, worship, or participation in religious activities.

“Some students appear to be better at managing stress when they include good spiritual practices into their daily life.” (L2)

“I notice my child becomes calmer after praying or participating in religious activities when feeling stressed.” (P3)

Observational and documentary evidence further supported these findings. Participants frequently referred to spiritual values when discussing stressful experiences and emotional challenges (Obs5). Reflective

notes and social media content also contained recurring references to gratitude, patience, faith, perseverance, and emotional endurance during periods of pressure (Doc5). These findings suggest that spirituality was integrated into participants' everyday coping practices rather than activated only during moments of crisis.

Notably, participants' narratives predominantly reflected positive forms of spiritual coping. Although the analysis remained attentive to possible expressions of spiritual struggle, fatalism, guilt, avoidance, or perceptions of divine punishment, such experiences were not prominent in the data. Instead, participants consistently described spirituality as facilitating emotional regulation, acceptance, reflection, gratitude, and resilience. This pattern suggests that participants primarily drew upon spiritual resources as constructive means of adapting to demanding circumstances. The findings suggest that spiritual coping functioned through several interconnected psychological processes, including emotion regulation through prayer, cognitive reappraisal through spiritual reflection, gratitude as positive attentional refocusing, acceptance and surrender toward uncontrollable outcomes, meaning-making through adversity, and the creation of reflective pauses through worship routines. Together, these processes enabled participants to adapt to technostress and the challenges associated with balancing academic and entrepreneurial responsibilities. Spirituality therefore emerged not merely as a source of emotional comfort but as a meaningful psychological mechanism through which participants interpreted, regulated, and responded to the pressures of digitally intensive environments.

Discussion and Conclusion

Technostress as Boundaryless Digital Labor

The findings suggest that technostress among student digital entrepreneurs extends beyond technology use itself and reflects a form of boundaryless digital labor. Participants described being continuously connected to customers, social media platforms, online marketplaces, and business communications regardless of time or location. Consequently, the boundaries separating academic activities, entrepreneurial responsibilities, personal life, and rest became increasingly blurred. Digital platforms were therefore experienced not only as

business tools but also as psychologically demanding spaces requiring constant responsiveness and availability. Similar observations have been reported in previous studies showing that intensive digital engagement may extend work-related demands into personal domains and reduce opportunities for psychological recovery (Giudice da Silva Cezar & Maçada, 2021; Shahzad et al., 2021).

These findings can be interpreted through the technostress creators framework proposed by Tarafdar et al. (2024), Tarafdar et al. (2007) and Ayyagari et al. (2011). The most prominent dimensions reflected in participants' experiences were techno-overload and techno-invasion. Techno-overload was evident in participants' descriptions of simultaneously managing academic assignments, customer communication, online marketing, content creation, and business administration. Techno-invasion emerged through the inability to disconnect from digital business activities, resulting in entrepreneurial responsibilities extending into academic and personal domains. Elements of techno-uncertainty were also apparent, particularly in participants' concerns regarding customer expectations, market competition, and the pressure to remain continuously visible in digital environments. In contrast, techno-complexity and techno-insecurity appeared less prominent within participants' narratives. These findings support previous evidence suggesting that technostress is often generated when technology increases workload, accelerates communication demands, and intrudes into personal life (Simba et al., 2024). Importantly, participants did not perceive continuous connectivity solely as a technological burden. Rather, they interpreted responsiveness and online visibility as responsibilities associated with maintaining customer trust, business continuity, and entrepreneurial success. As illustrated in Figure 1, technostress was experienced not only as a consequence of technology use but also as a social and psychological phenomenon embedded within participants' entrepreneurial identities and everyday routines.

Student Entrepreneurship as Role Conflict

A second important finding concerns the psychological consequences of managing multiple roles simultaneously. Participants experienced emotional exhaustion, persistent worries, overthinking, emotional sensitivity, and feelings of guilt while attempting to

balance academic and entrepreneurial responsibilities. These experiences can be understood through role conflict theory, which suggests that psychological strain emerges when competing expectations associated with multiple social roles require the same limited resources, including time, attention, and emotional energy (Kahn, 1964; Liao et al., 2022). The findings indicate that participants were not simply coping with technology-related pressures. Rather, they were continuously negotiating multiple identities as students, entrepreneurs, family members, and individuals seeking personal well-being. The blurring of boundaries between these domains reduced opportunities for emotional recovery and intensified psychological pressure. Business-related concerns frequently remained psychologically present during study activities, family interactions, and periods intended for rest. Such findings extend previous research suggesting that technostress may be amplified when individuals simultaneously manage multiple role expectations in highly connected environments (Cook & Van Belle, 2022).

Participants also described feelings of guilt when prioritizing one role at the expense of another. Academic commitments sometimes generated concerns about business performance, whereas entrepreneurial responsibilities occasionally created worries about academic achievement. These experiences suggest that technostress among student entrepreneurs is closely intertwined with role conflict and competing identity demands. Rather than representing clinical conditions, the emotional exhaustion, persistent worries, and psychological strain reported by participants reflect the challenges of balancing multiple responsibilities within digitally intensive environments.

Spiritual Coping as Meaning-Making and Emotion Regulation

The central contribution of this study concerns the role of spiritual coping in participants' experiences of psychological adaptation. Participants described prayer, worship, gratitude, spiritual reflection, acceptance, and emotional surrender as meaningful resources for responding to technostress and role-related pressures. Importantly, the findings do not suggest that spirituality directly produced resilience. Rather, participants perceived spiritual practices as helping them regulate emotions, reinterpret stressful experiences, and maintain psychological balance. Several psychological

processes emerged from the findings. First, prayer and worship were experienced as mechanisms of emotion regulation that helped reduce emotional tension and restore calmness during periods of stress. This interpretation aligns with emotion regulation theory, which emphasizes individuals' efforts to modify emotional responses to challenging situations (Gross, 1998). Second, spiritual reflection appeared to facilitate cognitive reappraisal by encouraging participants to reinterpret challenges as opportunities for learning, growth, and self-development rather than solely as sources of pressure (Anggadwita et al., 2021). Third, spiritual acceptance and surrender helped participants cope with uncertainty by recognizing the limits of personal control while continuing to engage actively with their responsibilities. Fourth, gratitude functioned as a form of positive attentional refocusing, directing attention toward sources of support, achievement, and meaning rather than exclusively toward stressors and difficulties. These findings are consistent with theories of positive religious coping (Pargament, 2001) and meaning-making (Park, 2010), which propose that spiritual beliefs and practices help individuals interpret adversity, regulate emotions, and construct meaningful understandings of stressful experiences.

Through these processes, spirituality appeared to provide participants with culturally meaningful ways of understanding and responding to stressful experiences. Similar findings have been reported in studies highlighting spirituality as an important resource for coping with uncertainty, emotional strain, and psychological challenges (Abbas et al., 2024; Haddoud et al., 2025). As illustrated in Figure 1, participants experienced spiritual coping as a resource that helped them interpret psychological struggles, regulate emotional responses, and adapt to the demands of academic and entrepreneurial life. Importantly, Figure 1 should be understood as an interpretative representation of participants' lived experiences rather than a causal model. Notably, expressions of negative spiritual coping, such as spiritual struggle, fatalism, guilt, or perceptions of punishment, were not prominent within participants' narratives. Instead, spirituality was consistently described as a constructive psychological resource that participants drew upon when facing uncertainty, emotional strain, and competing role demands.

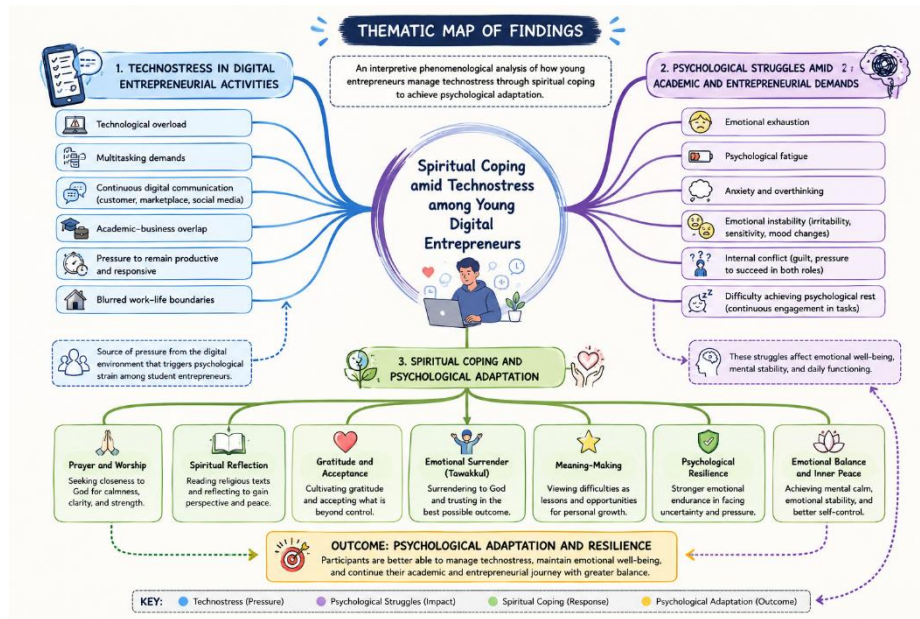


Figure 1

Thematic Map of Findings

Implications for University Entrepreneurship Support

The findings have several practical implications for higher education institutions. Entrepreneurship programs often emphasize innovation, business development, and financial sustainability, while psychological well-being receives comparatively less attention. The present findings suggest that student entrepreneurs may benefit from support initiatives addressing technostress, emotional well-being, and role management alongside entrepreneurial skill development. Universities may consider integrating stress-management programs, mentoring systems, reflective well-being activities, and mental health support services into entrepreneurship education. Given the importance participants attributed to spirituality, institutions may also provide inclusive opportunities for reflection, personal development, and well-being while respecting diverse spiritual and religious backgrounds. Such initiatives may help student entrepreneurs maintain psychological balance while pursuing both academic and entrepreneurial goals.

Limitations and Future Research

Several limitations should be acknowledged. First, the study involved a relatively small sample of student digital entrepreneurs from Jakarta, Indonesia. Therefore, the findings should be understood as context-specific and exploratory rather than representative of all student

entrepreneurs. Second, the findings were derived from participants' subjective interpretations and lived experiences, which are consistent with the objectives of Interpretative Phenomenological Analysis but may not reflect broader population patterns. Future research could examine technostress and spiritual coping among student entrepreneurs from different cultural, educational, and religious contexts. Comparative studies may provide further insights into how coping processes vary across populations, while longitudinal and mixed-methods designs may help explore how technostress experiences and coping strategies evolve over time.

Conclusion

This study explored the lived experiences of technostress among student digital entrepreneurs in Jakarta, Indonesia, and examined how participants used spiritual coping to respond to the psychological demands associated with digital entrepreneurship and academic responsibilities. The findings suggest that technostress was experienced through continuous digital connectivity, multitasking demands, blurred boundaries between life domains, and academic-entrepreneurial role conflict. Participants described emotional exhaustion, persistent worries, emotional sensitivity, overthinking, and internal conflict as part of their everyday experiences. Participants also perceived spiritual coping as a culturally meaningful resource for

psychological adaptation. Prayer, worship, gratitude, spiritual reflection, acceptance, and emotional surrender were experienced as helping participants regulate emotions, reinterpret stressful experiences, and maintain psychological balance. Rather than implying causal effects, the findings highlight how participants themselves understood spirituality as an important source of meaning-making and emotional support. Given the qualitative and context-specific nature of this study, the findings should be interpreted as exploratory rather than generalizable. Future research is needed to examine how spiritual coping functions across different student entrepreneur populations, cultural settings, and forms of digital entrepreneurship.

Acknowledgments

The authors express their gratitude and appreciation to all participants.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Declaration of Helsinki, which provides guidelines for ethical research involving human participants. Ethical considerations in this study were that participation was entirely optional. This study was reviewed and approved by Ethical Committee of the Research and Community Service Institute (LP2M), Universitas Negeri Jakarta, Indonesia (Ref. No. UN39.5.FEB/PT.01.03/2026; approval date: 1 March 2026).

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

Faculty of Economics and Business, Universitas Negeri Jakarta, Indonesia, provided funding for this research under Grant number T/310/UN39.5.FEB/PM.01.00/2026.

Authors' Contributions

All authors equally contribute to this study.

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