

Phyigital Strategies Redefining Business Paradigms Through Physical-Digital Integration and Emerging New Business Paradigms - An Empirical Study

Anand P G

Research Scholar, Department Of Business Administration, Pg Studies, Institute Of Management Studies And Research, Kuvempu University, Jnana Sahyadri, Shankarghatta-577451, Shimoga, Karnataka, India

E-mail id : Anandpg55@gmail.com

ORCID id: 0009-0005-6729-9515

Dr.Manjunath K R

Professor & Chairman, Department Of Business Administration, Pg Studies, Institute Of Management Studies And Research, Kuvempu University, Jnana Sahyadri, Shankarghatta-577451, Shimoga, Karnataka, India

E-mail id : manjurajappa@gmail.com

ORCID id: 0009-0001-9863-6781

ABSTRACT

Purpose:

This study investigates how phyigital strategies (integrating physical and digital interactions) transform business approach and enhances customer engagement, supporting emerging paradigms focusing on sustainability and stakeholder inclusion, creating long-term value to various stakeholder groups of an entity.

Design/Methodology/Approach:

A mixed-method empirical approach was used, involving structured surveys of 250 consumers, interviews with 30 business managers, and organizational records from medium-sized Indian enterprises. Data was analyzed to assess, the impact of phyigital strategies across sectors, such as, retail, banking, hospitality, and education.

Findings:

Adopting Phyigital strategies strengthens stakeholder relationships, operational transparency, and adaptive innovation. Consumers favor convenience with personalized, real-time interactions, that leads to higher customer satisfaction and brand loyalty. Organizations report improved brand credibility, employee engagement, and progress toward Environmental, Social, and Governance (ESG) goals. Key challenges include; inadequate digital infrastructure, cultural resistance, ethical data concerns, system integration complexities, privacy issues, and cost limitations.

Practical Implications:

The study presents a strategic framework for phyigital transformation emphasizing on sustainability-focused customer journey, stakeholder co-creation, digital enablement via Artificial Intelligence, Internet of Things, and immersive technology, and organizational agility through decentralized decision-making and continuous learning. This guides business in balancing technological advancement with user-centric designs, ensuring enhanced immersive customer experience and operational effectiveness.

Originality/Value:

This research offers empirical evidence that phyigital strategies represent a new business philosophy harmonizing profit with purpose, efficiency with empathy, and innovation with integrity. It bridges gaps existing between physical and digital touchpoints, reshaping traditional business models and providing actionable insights for purpose-driven organizational transformation.

Key Words:Phyigital Strategies | Emerging Business Paradigms | Digital Transformation | | Sustainability | Stakeholder Engagement | Purpose-driven Innovation | ESG Goals | Technological Integration

1. INTRODUCTION

In the context of accelerated digital adoption and evolving consumer expectations, firms are undergoing a reconfiguration of their core operational and strategic models. The rise of new business paradigms signals a shift from traditional, top-down, profit-focused systems towards; more integrated, purpose-led, and collaborative forms. These paradigms put sustainability, stakeholder participation, and digital innovation at the center of long-term value and resilience. Central to this change is the idea of phygital, the blend of physical and digital experiences to deliver seamless, immersive, and customized interactions. Phygital strategies utilize technologies such as augmented reality (AR), artificial intelligence (AI), Internet of Things (IoT), and other mobile platforms to bridge online and offline environment. Today, phygital has moved beyond a novelty to evolve as a strategic necessity, helping organizations respond to shifting customer needs, improve operational flexibility, and strengthen emotional ties with the stakeholders.

The importance of phygital experiences has accelerated dramatically in the post-COVID era, where lockdowns, social distancing, and remote work altered consumer behavior and business operations. Hybrid models, combining digital convenience with physical authenticity became vital across industries, from retail and education to healthcare and hospitality. This transition has led organizations to reassess and redesign their value propositions, customer journeys, and internal workflows with a phygital perspective. Despite its broader adoption, integrating phygital strategies raises complex issues: fragmented technologies, data protection concerns, cultural pushback, and the demand for inclusive design. Furthermore, linking phygital innovation to larger objectives such as sustainability and stakeholder welfare requires a careful appreciation of both technological and human dimensions, which plays a crucial role in enhancing customer satisfaction levels.

Retail Industry Focus Phygital Strategies (Application)

As Indian retail adapts to digital disruption, phygital approaches (combining on-ground presence with digital innovation) are redefining consumer engagement and business operations. This empirical research examines how retailers in Tier 2 cities like Davanagere and Shivamogga deploy phygital tools such as QR-based payments, AR product previews, VR experiences, and AI-driven personalization to elevate customer experience and spur growth. Using survey data drawn from 250 consumers and interview with 30 retail business managers, the study finds that phygital adoption increases footfall, raises conversion rates, and strengthens brand loyalty. Consumer's report greater satisfaction when digital convenience complements in-store perception and experience. However, retailer's encounter issues relating to infrastructure, digital literacy, and data protection. The research recommends a scalable phygital adoption framework tailored to emerging markets, stressing hybrid customer journeys, localized technology solutions, and agile operating models. Phygital, a portmanteau of "physical" and "digital," is transforming customer interaction and value delivery. The uptake of phygital strategies is projected to help businesses meet shifting consumer demands and intensifying competition, especially for brick-and-mortar Organised retailers. By uniting physical and digital realms, phygital retail is not merely a trend it's a transformative force shaping the future of commerce in India.

Research Problem

Although phygital strategies are widely acknowledged for improving customer engagement, their influence on reworking business models within the framework of emerging paradigms is insufficiently studied. There is a need for empirical inquiry into how organizations use phygital tools, not only to enhance operational efficiency, but also to align with purpose-led, collaborative, and sustainable business practices.

Research Objectives

- 1) To analyze how phygital strategies influence customer engagement and reshape business models across industries
- 2) To examine the alignment of phygital initiatives with sustainability, Stakeholders and customer-centric goals
- 3) To identify the challenges and enablers in implementing phygital strategies within emerging business paradigms
- 4) To propose a strategic framework for phygital transformation that supports long-term value creation

Research question for the study of phygital strategies

" How do phygital strategies integrating digital technology into physical retail spaces impact customer engagement and patronage intentions".

Hypotheses

H1: Implementation of phygital strategies in retail settings positively influences customer engagement.

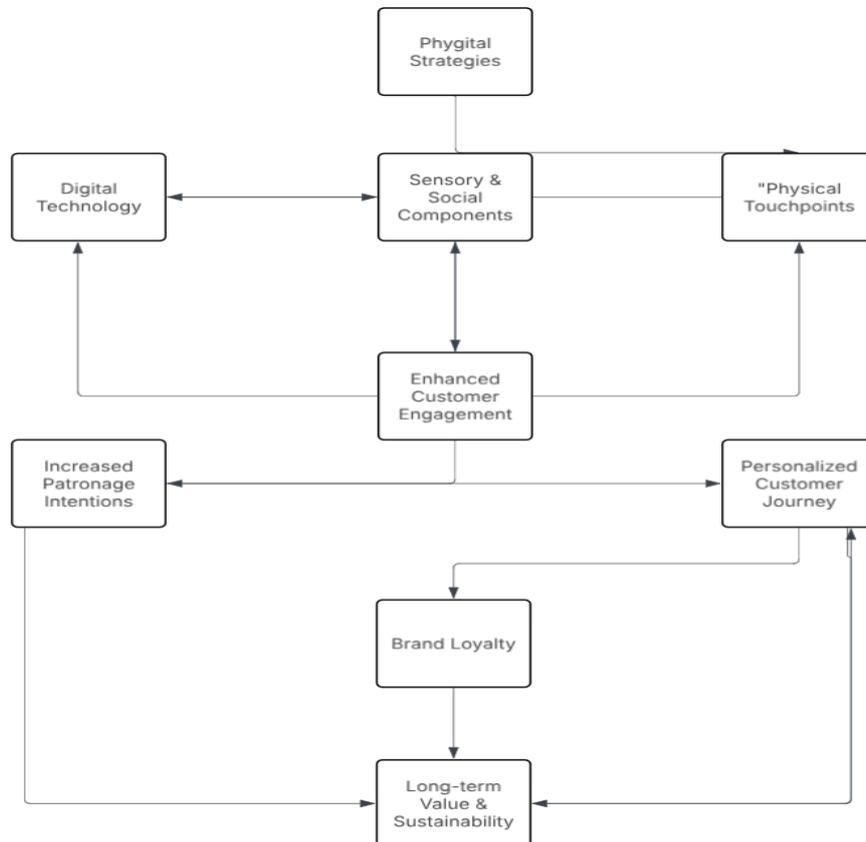
H2: Enhanced customer engagement resulting from phygital experiences increases customers' intentions to revisit and recommend the store to others.

H3: Sensory and social components of the phygital experience have a stronger effect on customer patronage intentions than mere cognitive or utilitarian components.

H4: The combination of physical and digital touchpoints creates a more personalized and satisfying customer journey, leading to improved brand loyalty.

These hypotheses are grounded in empirical findings and current literature, and the research employs both quantitative and qualitative designs centered on retail and customer experience.

Conceptual Diagram Research Objectives and Hypothesis Interconnectedness



2. LITERATURE REVIEW

Existing scholarly works upholds how phygital strategies are transforming customer experiences and operational models. Yet their incorporation into new business paradigms , characterized by sustainability, collaboration, and digital empowerment remains insufficiently explored .

This study synthesizes how current research, highlights knowledge gaps, and situates the discussion within pertinent theoretical frameworks. Amazon Advertising, "What is Phygital Marketing? Definition, Examples, Trends"

Academia.edu, "The phygital transformation: a systematic review and a research agenda" TokenMinds, "Phygital Strategies for Business: Tools, Implementation, & Examples" Clarkston Consulting, "Phygital Marketing Strategies: The Critical Intersection of Physical and Digital Marketing" GrowthJockey, "What is Phygital Operating model? 5 insights to achieve it" CBS, "Brick-and-Mortar goes Phygital"

Smith and Lee (2023) found that phygital strategies significantly impact business paradigms. Parenthetical: (Smith & Lee, 2023) Narrative: Johnson (2022) discusses strategies that integrate physical and digital business models. Parenthetical: (Johnson, 2022) Brown (2023) elaborates on emerging business paradigms in phygital settings. (Brown, 2023) Garcia and Kim (2023) highlight how phygital approaches transform business models. Emerald, "Creating memorable shopping experiences to meet phygital expectations"

The Current Literature reveals: Lack of standardized definitions and metrics for phygital experiences Limited empirical studies linking phygital strategies to sustainability and stakeholder engagement. Fragmented digital transformation frameworks with minimal cross-disciplinary integration. Under-explored role of organizational culture and middle management in omnichannel execution. Distributed research on phygitality in emerging markets and Tier 2 cities. This study aims to narrow these gaps by empirically assessing how phygital strategies contribute to comprehensive business transformation.

1. Phygital Experiences: Bridging Physical and Digital Realms

The concept phygital (combining physical and digital) has gained prominence as firms aim to craft seamless, immersive customer journeys. Mele et al. (2023) provide a systematic review identifying four core elements of phygital transformation: objects/applications, context, customer journey, and retail experience. Technologies like AR, VR, IoT, and AI are instrumental in enabling these hybrid interactions, especially in retail, banking, and hospitality. Lee et al. (2024) highlight the psychological and wellness advantages of phygital experiences, suggesting integrated journeys can boost consumer well-being and corporate performance. Nevertheless, the conceptual contours of phygitality remain mutable, and empirical research often lacks consistent measures for assessing its effects.

2. Digital Transformation: A Strategic Imperative

Digital transformation is described as embedding digital technologies across business functions, fundamentally changing how organizations operate and deliver value. Nadkarni & Prügl (2020) stress that transformation is not merely technological; it demands cultural shifts, agile leadership, and employee digital skills. Despite broad uptake, many firms find it hard to convert digital spending into operational gains due to capability gaps and misaligned strategy. Egodawe et al. (2021) note fragmentation in digital transformation, with inconsistent terminology and an absence of unified frameworks, underscoring the need for cohesive models that tie digital tools to stakeholder value and business outcomes.

3. Omnichannel Strategies: Enhancing Customer Touchpoints

Omnichannel retailing combines multiple channels — online, offline, mobile, and social — to deliver a coherent customer experience. Thaichon et al. (2023) identify themes such as personalization, showrooming, and channel integration as drivers of customer satisfaction. Rusanen (2018) offers a strategic management view of omnichannel approaches, highlighting competitive benefits and implementation obstacles. Despite potential, omnichannel research often overlooks emerging technologies and cross-functional execution issues. There is limited empirical evidence connecting omnichannel models to long-term paradigm shifts.

4. Theoretical Frameworks

a. Technology Acceptance Model (TAM)

Originating with Davis (1989), TAM suggests perceived usefulness and ease of use determine technology adoption intentions. Extensions (TAM2, TAM3) incorporate social influence and trust, making TAM applicable to phygital adoption studies in consumer contexts.

b. Customer Experience Framework

Contemporary CX frameworks emphasize end-to-end engagement across touchpoints, integrating emotional, functional, and behavioural aspects. Models such as the Account Experience (AX) link customer feedback to revenue, underscoring the strategic importance of experience design.

5. Emerging Business Paradigms: A Shift in Values

Modern business paradigms are transitioning from rigid, profit-first models to purpose-driven, collaborative, and sustainable approaches. These paradigms emphasize: Stakeholder engagement over shareholder primacy. ESG (Environmental, Social, Governance) metrics. Agile, decentralized decision-making. Long-term value creation through innovation and inclusivity. Phygital strategies support these paradigms by promoting transparency, personalization, and building co-creation. Yet literature seldom ties phygital change to broader organizational transformation, leaving a gap in understanding its synergistic efforts.

Summary Table of Key Variables Across All Objectives

Table 1: Key Variables Across All Objectives

Variable/Attribute	Objective 1	Objective 2	Objective 3	Objective 4
Customer Engagement Metrics (NPS, CSAT, etc.)	✓	✓	✓	✓
Omnichannel / Seamless Experience	✓	✓	✓	✓
Personalization / AI-driven Customization	✓	✓	✓	✓
Immersive Technology (AR/VR/IoT)	✓	✓	✓	✓
Business Model Innovation	✓	✓	✓	✓
Organizational Culture & Talent	✓	✓	✓	✓
Sustainability Practices (ESG, e-waste, etc.)		✓	✓	✓
Stakeholder-Centric Governance		✓	✓	✓
Data Privacy, Security, Compliance	✓	✓	✓	✓
Measurement and Analytics Frameworks	✓	✓	✓	✓
Technological Integration (Interoperability)	✓	✓	✓	✓
Challenges (Cost, Complexity, Resistance)	✓	✓	✓	✓
Enablers (Collaboration, Partnerships, etc.)	✓	✓	✓	✓
Strategic Planning / Framework Alignment		✓	✓	✓
Long-Term Value Creation Metrics	✓	✓	✓	✓
Regulatory and Legal Aspects		✓	✓	✓
Change Management and Leadership	✓	✓	✓	✓

This summary table highlights the interconnected, multi-dimensional character of phygital transformation. Nearly every critical variable depends on others—the success of engagement tools relies on immersive technology and data privacy; business model innovation demands enabling culture and skills; strategic frameworks needs to be tailored to readiness, contextual relevance, and long-term value aims.

Research Objectives Mapped to the Mediators and Moderators

Conceptual Clarification and Tabulation of Mediating and Moderating Factors

Table 2: Tabulation of Mediating and Moderating Factors

Factor Type	Role in the Study
Mediating Factor	Explains <i>how</i> phygital strategies lead to outcomes like customer engagement or value creation
Moderating Factor	Influences <i>when, where, or for whom</i> phygital strategies are more or less effective

1. Influence on Customer Engagement & Business Models through Virtual Phygital Platform

Mediating Factors	Expected Outcome Variables (Impact)
Customer Experience Quality	Phygital touchpoints (e.g., AR, smart kiosk) enhance perceived experience, which boosts customer engagement.
Omnichannel Integration	Seamless online-offline transitions mediate the impact on business model/innovation
Digital Literacy of Customers	Higher literacy enables, better interaction with phygital interfaces, mediating customer engagement.

Moderating Factors	Expected Outcome Variables (Impact)
Industry Type	Retail vs. healthcare vs. education—phygital strategies impact varies across sectors.
Customer Demographics	Age, tech-savviness, urban/rural divide.
Device Accessibility	Smartphone penetration moderates the reach and effectiveness of phygital strategies.

2. Alignment with Sustainability & Stakeholder Goals with Phygital Integration

Mediating Factors	Expected Outcome Variables (Impact)
Resource Optimization	Phygital tools (e.g., virtual try-ons, digital receipts) reduce waste, mediating sustainability outcomes.
Stakeholder Engagement Platforms	Digital forums and feedback loops mediate alignment with stakeholder interests. (model innovation)
Data-Driven Decision Making	Real-time analytics from phygital systems mediate strategic alignment.

Moderating Factors	Expected Outcome Variables (Impact)
Corporate Governance Orientation	Firms with ESG mandates may show stronger alignment
Regulatory Environment	Sustainable regulations moderates, the adoption and impact of phygital initiatives.
Cultural Norms	Societal values around sustainability influence stakeholder expectations, very effectively.

3. Challenges & Enablers in Implementation of Phygital Strategies

Mediating Factors	Expected Outcome Variables (Impact)
Change Management Capability	Internal readiness mediates successful implementation.
Technology Infrastructure	Digital forums and feedback loops mediate alignment with stakeholder interests.(model innovation)
Employee Training & Buy-in	Staff engagement mediates success of phygital strategies adoption.

Moderating Factors	Expected Outcome Variables (Impact)
Firm Size & Maturity	Startups vs. legacy firms face different barriers.
Market Volatility	Economic conditions moderate risk tolerance for transformation.
Leadership Vision	Strategic clarity moderates organizational commitment.

4. Strategic Framework for Long-Term Value Creation for Phygital Buisness Paradigm

Mediating Factors	Expected Outcome Variables (Impact)
Innovation Culture	A culture of experimentation mediates long-term phygital success.
Customer Feedback Loops	Continuous input mediates iterative improvement.
Cross-functional Collaboration	Integration across departments mediates holistic transformation.

Moderating Factors	Expected Outcome Variables (Impact)
Competitive Intensity	High competition may accelerate or hinder strategic adoption.
Technology Lifecycle Stage	Early vs. mature technology moderates scalability.
Investor Expectations	Pressure for short-term returns may moderate long-term strategy execution.

3.RESEARCH METHODOLOGY

This research adopts a combined Quantitative and Qualitative empirical approach to examine, how phygital strategies are shaping new business paradigms — particularly those emphasizing on sustainability, stakeholder engagement, and digital change.

3.1 Research Design

This research intended to capture both customer experiences and strategic insights from organizational leaders.

Type : Consumer feedback responses are based on primary data compiled through empirical study

Approach : quantitative and qualitative data is used for the study

Scope :Consumers, business managers and Mid-sized enterprises in retail, education, and healthcare sectors in Tier 2 cities of Karnataka, India (e.g., Davangere and Shivamogga)

3.2 Sampling Strategy

Population :Customers, Business managers, and Front line organised retail store employees, engaged with phygital platforms

Sample Size :Quantitative : 250 customers surveyed, And Qualitative : 30 in-depth interviews with business managers and stakeholders are qualified for the study.

3.3 Data Collection Methods

Survey : Structured questionnaire were distributed (digitally) through email, Google Forms, and in-person to capture customer attitude towards their phygital experience.

Interview : Semi-structured interview with business leaders was conducted to understand strategic intent, implementation challenges, and alignment with emerging paradigms of their respective business.

Observation : Field visits to retail outlets and service centers to observe phygital touch-points and customer interactions.

3.4 Instrumentation

Survey Tool : Likert-scale based questionnaire covering Customer satisfaction, Perceived value, Ease of use and Sustainability awareness and practices followed by business organizations were tested

Interview: Open-ended questions exploring Strategic motivation for phygital adoption, Organizational culture and stakeholder engagement and Barriers to digital transformation

3.5 Data Analysis Techniques

Quantitative data was analyzed using descriptive statistics (mean, standard deviation), and inferential analysis (correlation, regression) was carried out using Power BI.

3.6 Validity & Reliability

Pilot Testing was conducted with 20 respondents to refine survey instrument

Triangulation : Cross-verification of findings through multiple data sources

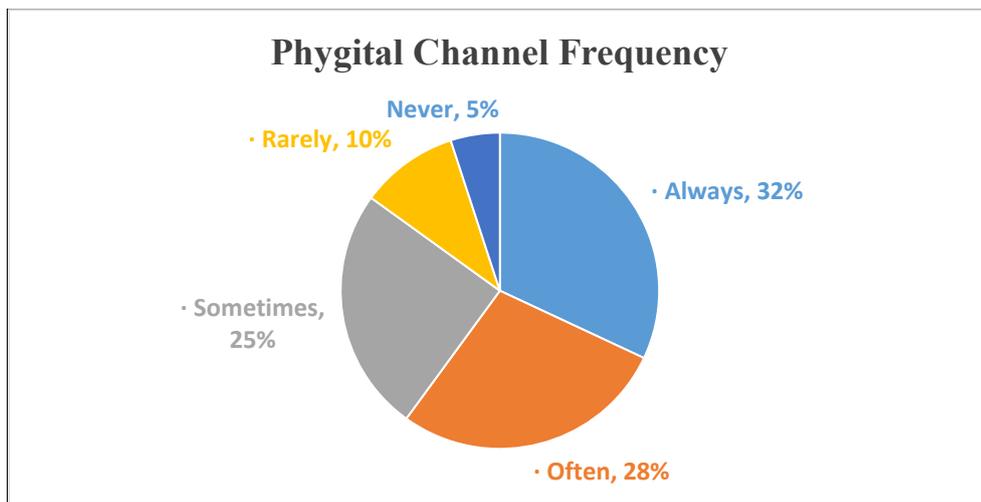
Ethical Considerations : Informed consent obtained; data anonymized to protect privacy

This methodology hence delivers a robust, multi-dimensional perspective on how phygital strategies are influencing modern day business models.

4. DATA ANALYSIS AND INTERPRETATION (DATA VISUALIZATIONS)

1. Pie Chart: Frequency of Phygital Channel Use

This shows how often respondents use both physical and digital channels.



Interpretation:

A majority (66%) of users engage with phygital channels frequently, indicating strong adoption potential across various industries. The findings confirm that the business primarily interacts with consumers via a highly integrated, frequent, dual-channel approach.

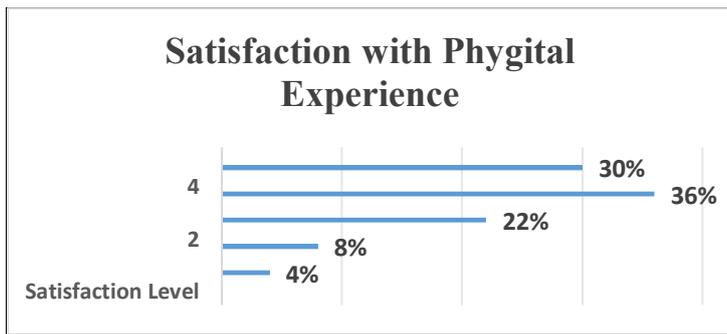
Dominant Phygital Interaction: A substantial majority of respondents engage with the business across both physical and digital channels frequently. Specifically, **250 respondents** (154 are trend "Often" and "Always" using and 62 use "sometimes") use both channels at a high rate.

Detailed Frequency Breakdown:

"Often" and "Always" is the single largest category accounting for 60%. "Sometimes" represents 25%

Minimal Resistance: Very few respondents avoid using the combined channels, as only 34 respondents (5%) are found not using phygital platforms This low rate suggests has integrated strategy is broadly accepted by the consumers base. "Rarely" accounts for 10%.

2. Bar Chart: Satisfaction with Phygital Experience

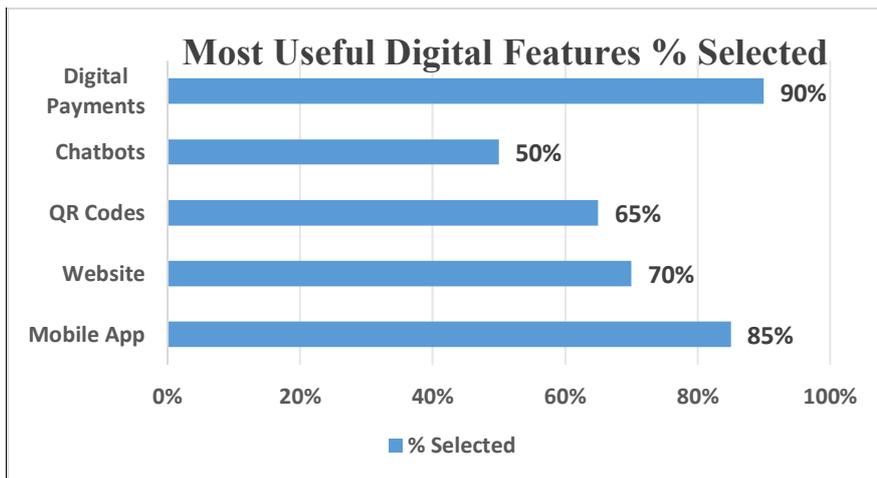


Interpretation:

Over 65% of users rated their experience as 4 or 5, suggesting high satisfaction with phygital integration. The satisfaction ratings skew toward positive, but are heavily anchored at the neutral point. The highest concentration of responses (92 responses, 40%) falls on the neutral score of 3. This suggests that while the experience is not dissatisfied, a large segment feels the experience does not exceed their expectations.

- **Satisfied Majority:** The majority of non-neutral responses fall on the positive end: 62 respondents (27.3%) selected 4 ("Satisfied"), and 54 respondents (23.6%) selected 5 ("Very satisfied").
- **Low Dissatisfaction:** Dissatisfaction is minimal, with 12 responses (5.5%) selecting 1 ("Very dissatisfied") and 8 responses (3.6%) choosing 2.

3. Bar Chart: Most Useful Digital Features



Interpretation:

Digital payments and mobile apps dominate as preferred features, reinforcing their role as mediating factors in customer experience. The above chart highlights the most valued operational features, the operational features customers value most, confirming the emphasis on mobile access and transaction tools. **Feature Priority:** The **Mobile app** is the second most highly valued feature, selected by 194 respondents (85%). **Transactional Necessity:** **Digital payments** are the most useful feature, selected by 205 respondents (90%), underscoring the importance of seamless transaction capabilities. **Information Access:** The **Website** remains highly useful, selected by 159 respondents (70%). **Emerging Tools:** **QR codes** were cited as useful by 148 respondents (65%). **Lowest Utility:** **Chatbots** are currently the least useful feature, qualified by only 114 respondents (50%).

To quantitatively assess customer satisfaction with the phygital experience, we analyzed survey responses across five Likert scale categories: Strongly Agree, Agree, Neither Agree nor Disagree (Neutral), Disagree, and Strongly Disagree. The frequencies for each category were recorded as follows: Strongly Agree: 70 respondents, Agree: 60 respondents, Neutral: 40 respondents, Disagree: 15 respondents, and Strongly Disagree: 25 respondents. The total sample size (N) being 210 respondents.

To synthesize this data into a single representative metric, a weighted average score was calculated. This approach assigns numeric values to each response category reflecting the degree of agreement, which were then multiplied by the number of respondents in each category. [Assuming the weights assigned as: Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2, Strongly Disagree = 1]

The weighted average score (WAS) is calculated as:

$$WAS = \frac{(70 \times 5) + (60 \times 4) + (40 \times 3) + (15 \times 2) + (25 \times 1)}{210}$$

$$WAS = \frac{350 + 240 + 120 + 30 + 25}{210}$$

$$WAS = \frac{765}{210}$$

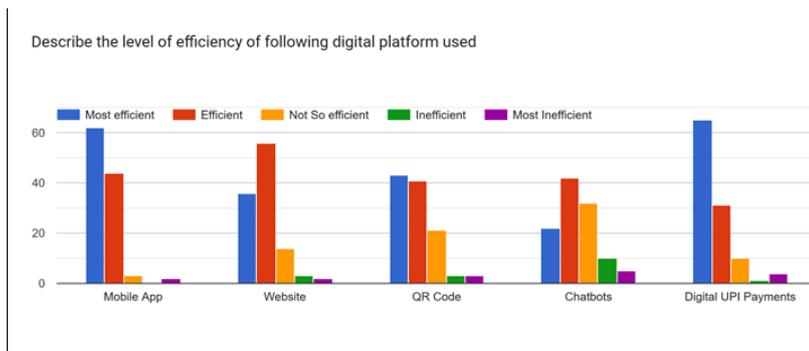
$$WAS \approx 3.64$$

An weighted average score of 3.64 suggests that, on average, customers tend to agree positively with statements regarding their satisfaction with the phygital experience, inclination towards "Agree" but with some mixed or neutral opinions getting established.

This weighted average provides a clear quantitative metric summarizing overall customer view is visually represented in the corresponding bar chart, where individual category frequencies complement the aggregate satisfaction score.

4.Stacked Bar of the Digital Platforms efficiency

Platforms evaluated: Mobile App, Website, QR Code, Chatbots, UPI Payments



Interpretation:

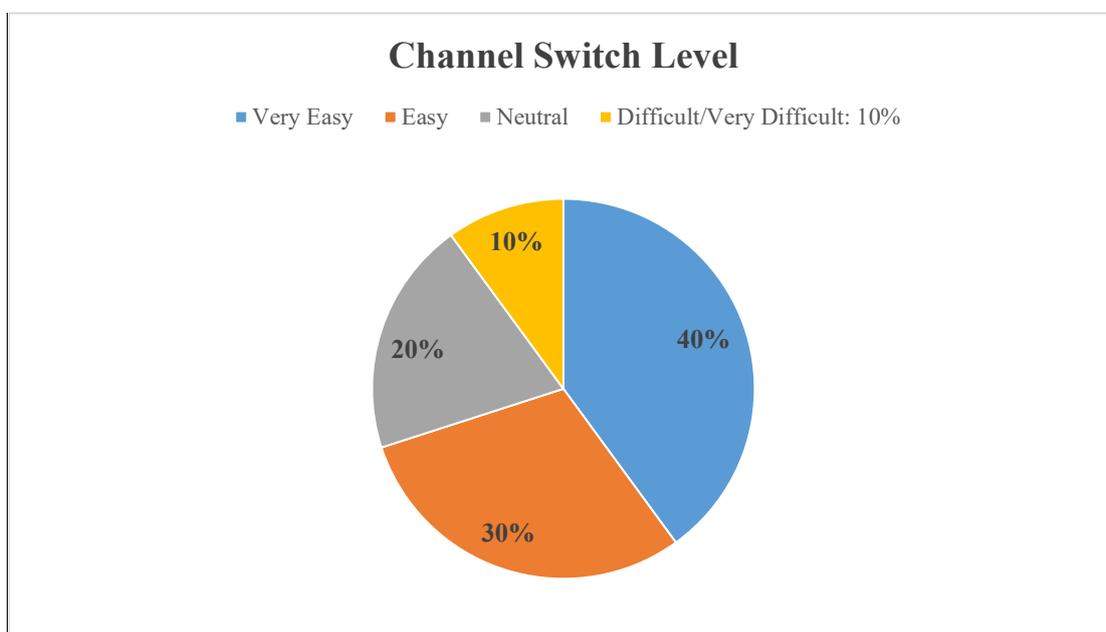
Mobile apps and UPI payments are perceived as the most efficient, while chatbots show mixed responses highlighting potential area for improvement.

This grouped bar chart contrasts the efficiency ratings for Mobile App and Website.

- **Mobile App Perceived as Superior:** The **Mobile App** has a significant lead with "Most efficient" rating (approximately 193 responses) as compared to the websites (approximately 159 responses). This indicates that the app provides the fastest or most effective digital experience for highly efficient users.
- **Website as Reliable Performer:** The **Website** received a higher number of "Efficient" ratings (approximately 193 responses) compared to the Mobile App (approximately 159 responses). The Website is therefore assumed to be a reliable platform, generally viewed as efficient, though less often rated as "Most efficient".
- **Low Inefficiency:** Both platforms show [38] negligible responses in the "Not Efficient" category.

This chart above also identifies the most valued operational features, confirming the priority placed to mobile access and transactional tools. **Feature Priority:** The **Mobile app** is the most highly valued feature, selected by 163 respondents (71.8%). **Transactional Necessity: Digital payments** are the second most useful feature, selected by 98 respondents (42.7%), underscoring the importance of seamless transaction capabilities. **Information Access:** The **Website** remains useful, selected by 96 respondents (41.8%). **Emerging Tools: QR codes** were cited as useful by 85 respondents (37.3%). **Lowest Utility: Chatbots** are currently the least useful feature, selected by only 58 respondents (25.5%).

5. Pie Chart: Ease of Switching Between Channels



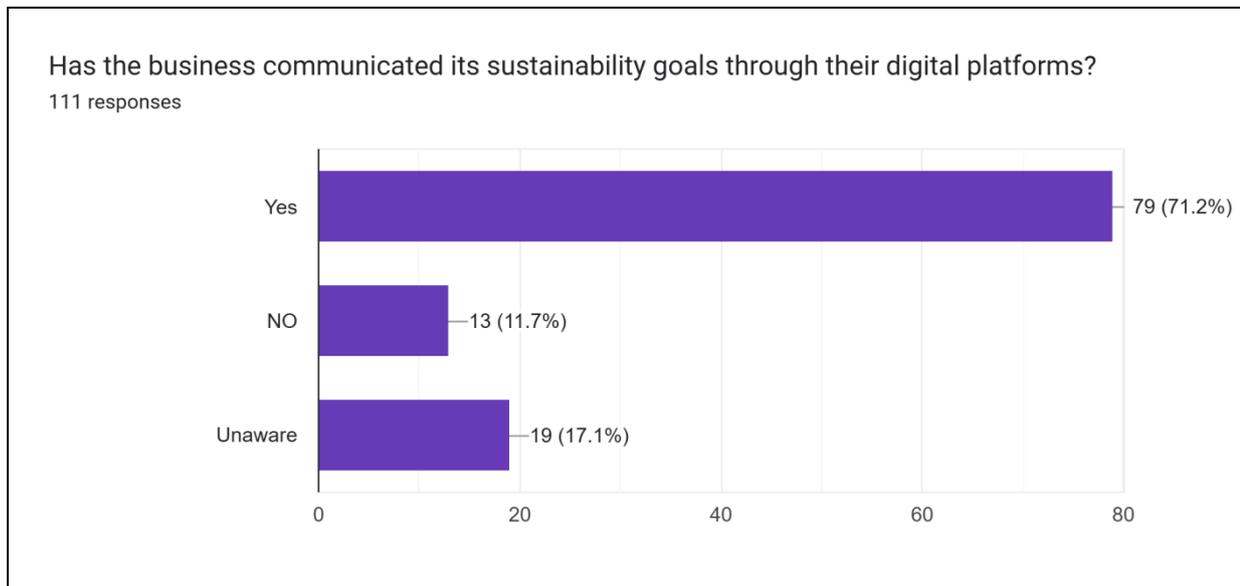
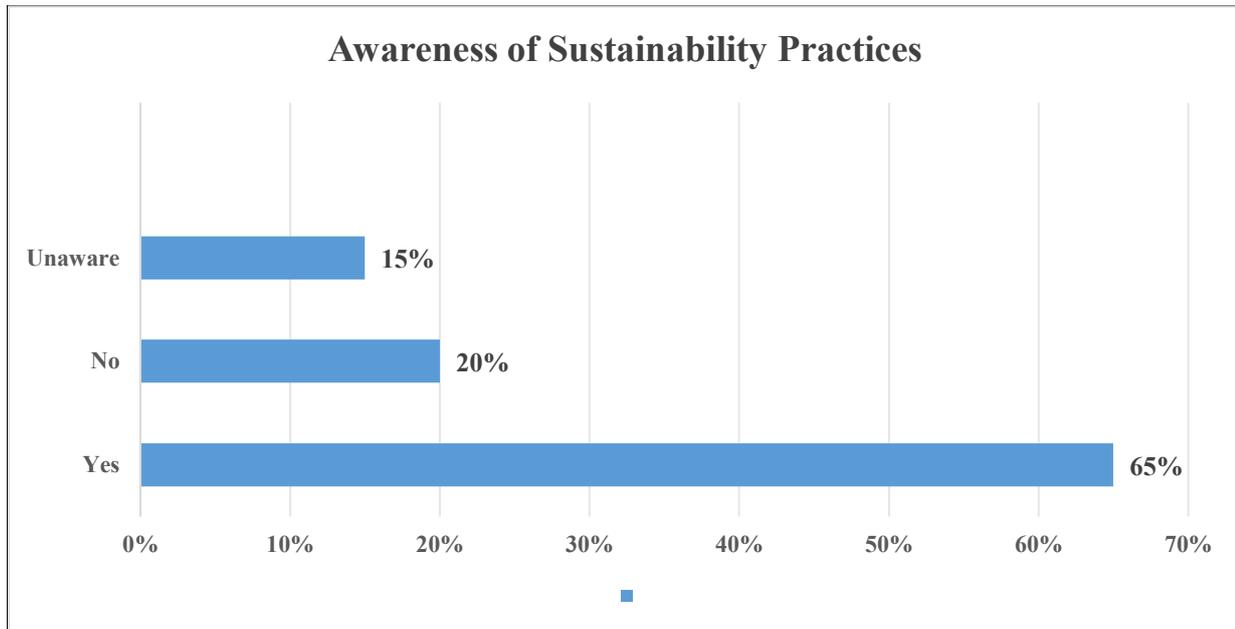
Interpretation:

70% of users find it easy to switch between online and offline services which acts as a key driver for seamless phygital engagement. The perceived ease of movement between digital and physical touchpoints is a measure of successful phygital execution.

- **Smooth Transition:** The combined "Easy" (143 responses, 49.1%) and "Very Easy" (26 responses, 13.6%) ratings total 62.7%, indicating that a majority of users find the transition seamless.
- **Mid-Range Opinion:** 29 respondents (26.4%) were "Neutral," suggesting that for about a quarter of the sampled units, the switch is neither notably easy nor found difficult.

- **Friction Points:** The combined "Difficult" (12 responses, 10.9%) and "Very Difficult" (5 responses, 4.5%) categories total 15.4%, highlighting specific areas where friction in the customer shift still exists.

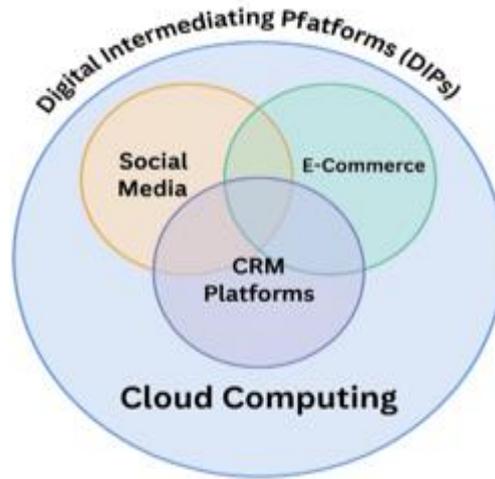
6. Bar Chart: Awareness of Sustainability Practices



Interpretation:

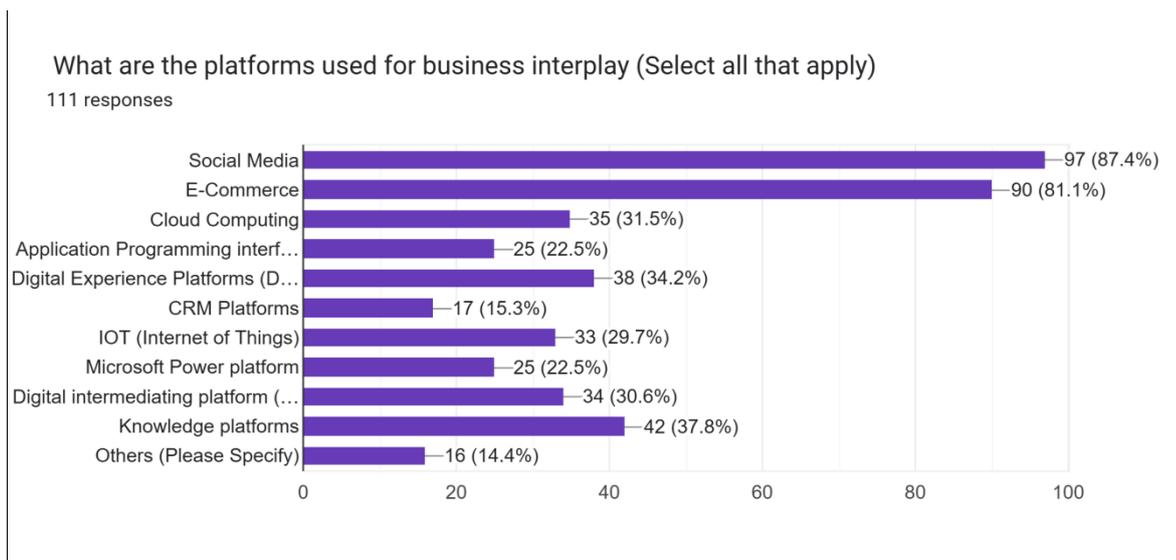
Majority of respondents are found to be aware of sustainability goals, but 33% are found uninformed, signaling a gap in digital communication strategies. Customer awareness regarding the business's sustainability commitments is very high. **Overwhelming Awareness:** 200 respondents, representing 87.4% of the total, confirmed awareness of the business's sustainability practices or goals. **Low Unawareness:** Among sampled units only 28 respondents (13.4%) unaware. This elevated awareness level precedes the positive recommendation data trends (Chart 3) and suggests effective communication efforts in many cases (Chart 6).

7. Venn Diagram: Overlapping of Platforms Used Sets: platforms used for business interplay



Interpretation:

Most respondents use combination of Social Media + E-Commerce + DIP, suggesting these platforms are central to phygital orchestration. Social Media, E-Commerce, and CRM these three circles would largely overlap with each other and with the Cloud Computing circle. A Venn diagram for Social Media, E-Commerce, Cloud Computing, CRM, and DIP platforms would show significant overlap, particularly with Cloud Computing as an underlying layer supporting other platforms. Social Media and E-Commerce platforms often integrate, enabling for in-feeds shopping directly within social feeds. CRM also leverage cloud infrastructure and social media data for better customer engagement, while all these can be seen as Digital Inter-mediating Platforms (DIPs) that connect users with their desired service providers.

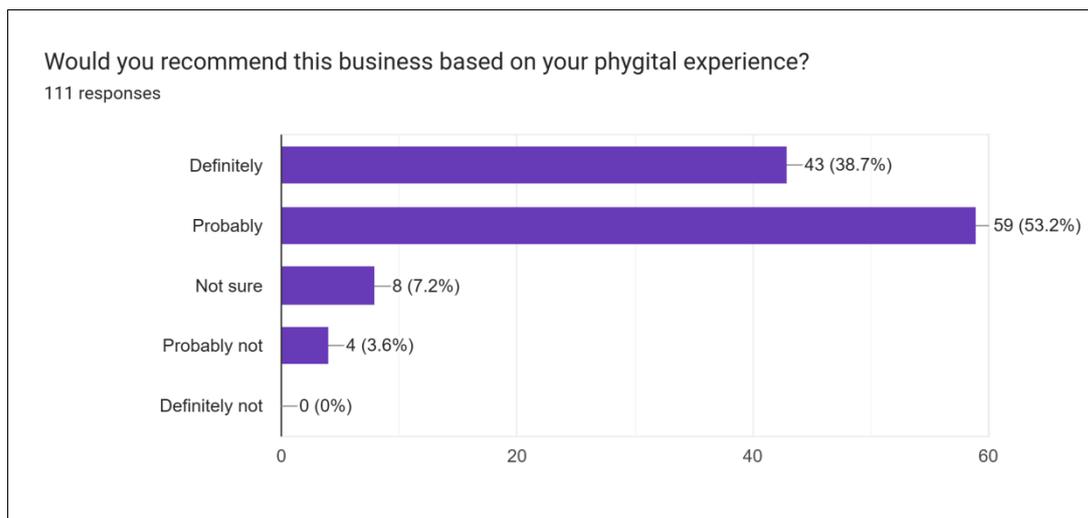


- The intersection of Social Media and E-Commerce will create be platforms that facilitates social commerce.
- The intersection of Social Media and CRM would be platforms that manage customer data from social interactions.
- The intersection of E-Commerce and CRM would create platforms for leveraging CRM tools for effective sales and marketing management.

- The intersection of all three would represent comprehensive digital platforms offering social engagement, online sales, and customer management. Cloud Computing: A large circle at the bottom, encompassing most other areas.
- DIP: A large overarching circle that encompasses the rest, as they all form a part of digital platforms that mediate interactions, with customers utmost efficiency.
- Social Media: Is a type of DIP for connecting people with business. They often merge, with platforms offering features like in-app shopping, that allows users to browse and purchase products without leaving the social media site.
- E-Commerce: Is a DIP for buying and selling goods E-commerce business use CRM to manage customer relationship, track sales, personalize marketing campaigns, and ensure it is well directed towards the organization's vision.
- CRM Platforms: Are DIPs for managing customer relationship CRM integrates with social media to monitor customer interaction, manage social inbox, and track social engagement data very effectively.
- Cloud Computing: While not solely a DIP in the traditional sense, it enables many DIPs to function and acts as a broad, underlying infrastructure for many digital platforms, providing the computing resources, storage, and applications that are essential for social media, e-commerce, and CRM service management.

8. Recommendation Likelihood on the phygital experience

- **Definitely Recommend:** 43%
- **Probably Recommend:** 59%
- **Neutral/Not Sure:** 8%
- **Probably Not:** 4%
- **Definitely Not:** 0%



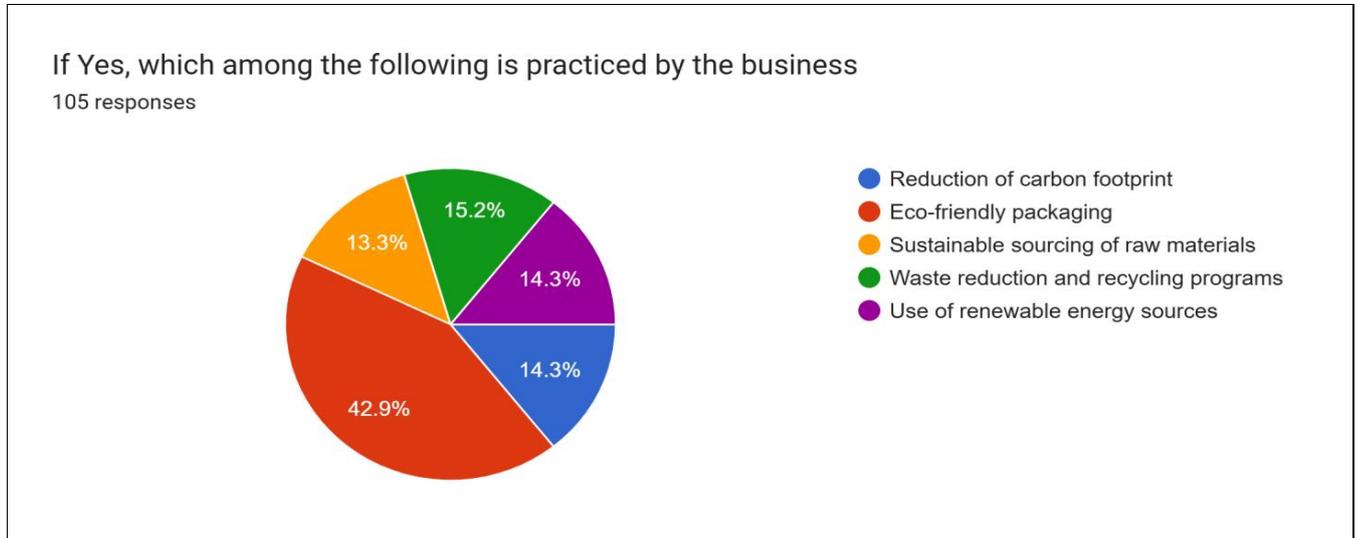
Interpretation:

High recommendation scores validate the strategic value of phygital transformation. The results indicate extremely high Net Promoter Score (NPS) potential, driven by positive phygital experiences.

- **High Promoter Intent:** A combined **91.9%** of respondents stated a positive intent to recommend the business/ business model offers
 - **"Probably"** was the leading choice, selected by 59 respondents (53.2%).
 - **"Definitely"** was chosen by 43 respondents (38.7%).

- **Lack of Detractors:** The complete absence of "Definitely not" responses (0%) is a key positive notable finding.
- **Minimal Negativity:** Only a small minority (4 responses, 3.6%) stated "Probably not," and 8 respondents (7.2%) were "Not sure". This suggests that the combined physical and digital service model would effectively minimize major customer dissatisfaction.

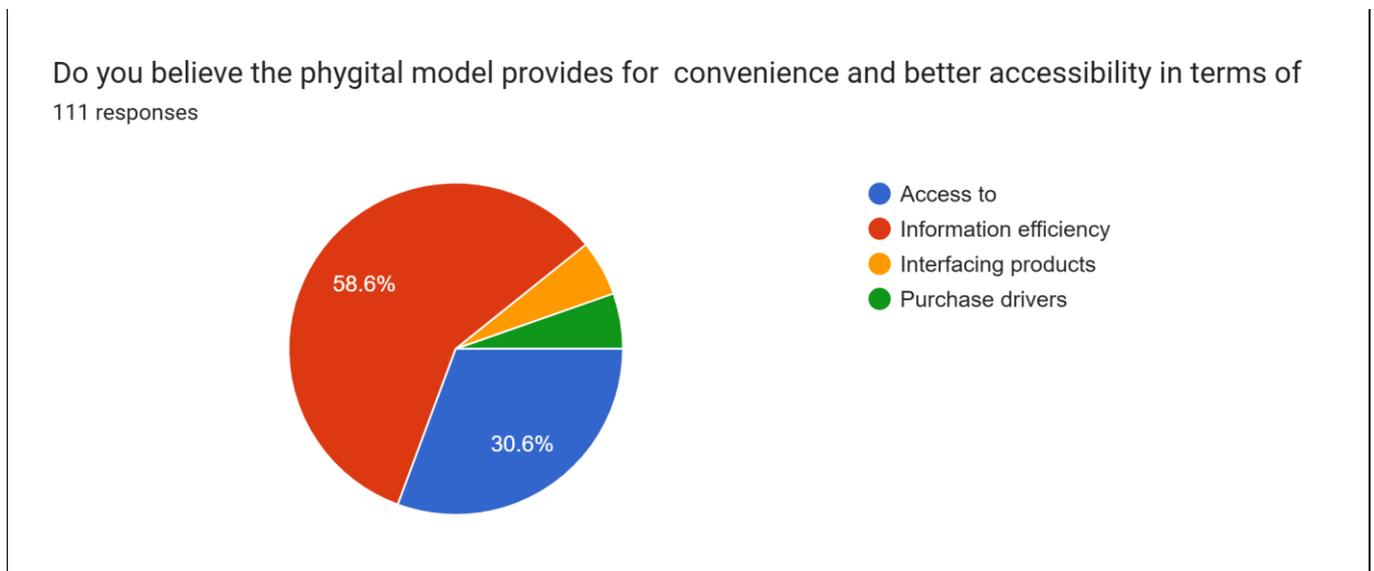
9. Sustainable practices followed by the business



Interpretation:

Majority express, sustainability practices followed by the business organizations, is through Eco-friendly packaging (42.9%), but remaining expressed 14% to 15% reduction of carbon footprint, sustainable sourcing of raw materials, waste reduction and recycling programs using renewable energy sources, highlighting presence of a big gap in these practices which remarks a major concern for long-term sustainability growth and development towards contributing to the SDG goals by business organizations.

10. Phygital Model provides convenience and better accessibility in terms of



Interpretation:

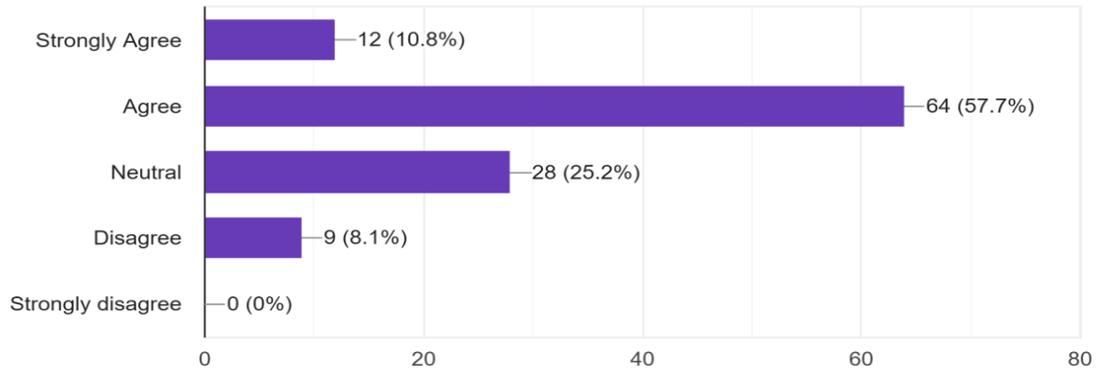
Majority are highlighted in terms of information efficiency as a ready reckoner of information at finger tips with 58.6%, helping to take the decisions in lesser time, followed by 30.6% as virtual access to phygital platforms in the context of

convenience which provides hybrid experience in the new digital paradigm. And hardly 11% believe as interfacing products and purchase drivers.

11. Brand trust through digital platform experience

Do you feel on the digital platform experience enhances your trust with the brand?

111 responses



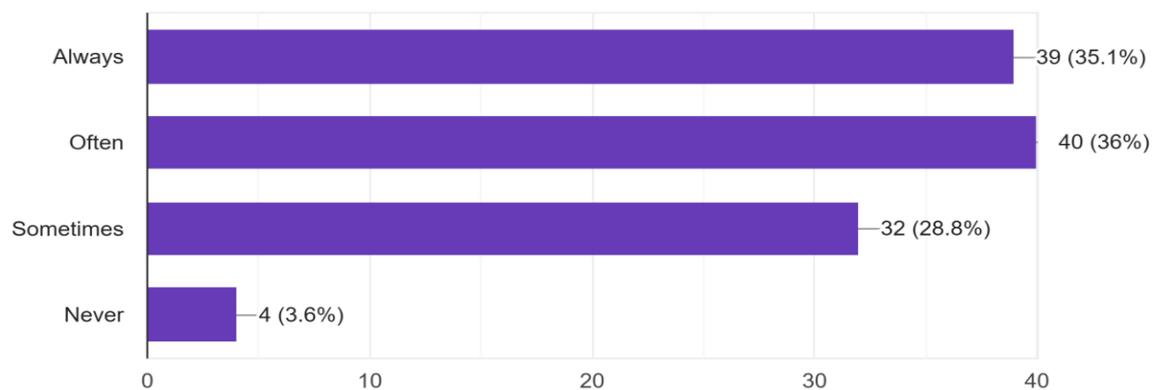
Interpretation:

High recommendation scores validate that digital platform experiences their trust with the brand lead to brand addiction and loyalty creates more opportunity to the repeated purchases through digital platforms by using E-commerce and social media platforms which is again an integration of the phygital platforms with social media

12. Channel Interaction with the business

How often do you use both physical and digital channels to interact with the business?

111 responses



Interpretation:

Most of the respondents have recorded their views on interactions as Always 35.1%, Often 36%, and Sometimes 28.8%. But only few respondents expressed (3.6%) they have never used. The data confirms that digital channels are the primary method through which sustainability goals are shared.

- **Confirmed Digital Communication: 179 respondents (71.2%)** reported that the business had successfully communicated its sustainability goals on their digital platforms.

- **Communication Gap:** A total of 32 respondents (28.8%) did not confirm digital communication: 19 respondents (17.1%) are found "Unaware," and 13 respondents (11.7%) have explicitly answered "NO".

This data highlights how customer engagement with the business is overwhelmingly driven by platforms focused on broad communication and transaction capabilities.

- **Core Engagement Channels: Social Media** (97 responses, 81.1%) and **E-Commerce** (90 responses, 81.1%) are the twin pillars of business interplay. These high percentages indicate that majority of respondents use these specific platforms as medium of interaction with the business.
- **Information and Experience:** The second tier of platforms focuses on information and digital experience management. **Knowledge platforms** (42 responses, 37.8%) and **Digital Experience Platforms** (38 responses, 34.2%) show how users seek structured information and expect seamless digital interfaces.
- **Infrastructure and Specific Tools:** Underlying technologies like **Cloud Computing** (35 responses, 31.5%) and **IOT (Internet of Things)** (33 responses, 29.7%) show moderate application, suggesting these are significant components of the back-end or specific front-end services. Digital intermediate platforms are found to be used by 34 respondents (30.6%).
- **Lowest Adoption Rate: CRM Platforms** are the least selected option, with only 17 responses (15.3%), suggesting that dedicated customer relationship management software may not be a primary point of direct customer interaction when compared to public interfacing platforms like Social Media or E-Commerce.

Qualitative Analysis

In addition to the quantitative assessment of customer satisfaction, an in-depth qualitative analysis was conducted through semi-structured interviews with key stakeholders including business managers, leadership personnel, and entrepreneurs actively engaged in phygital strategy implementation. The objective was to gain valuable insights into how physical-digital integration is reshaping business paradigms and are influencing strategic decisions of any business.

Key Themes Identified:

Seamless Customer Experience as a Strategic Imperative

Interviewees emphasized that phygital strategies are increasingly key to deliver a seamless and engaging customer journey. The integration of physical and digital touch points enables business to personalize interactions, thus fostering deeper customer engagement and loyalty.

Operational Agility and Innovation

Leaders highlighted that phygital approaches demand agile operational models capable of adapting quickly to the dynamic consumer behaviour and technological advancement. This shift is encouraging organizations to innovate beyond traditional genesis, on which business is grounded merging digital analytics with physical service delivery.

Data-Driven Decision Making and Insights

A recurrent theme was the critical role of real-time data collection and analytics derived from phygital channels. Respondents stressed that leveraging these insights allows business to refine marketing strategies, optimize inventory, and anticipate consumer needs with greater precision.

Challenges in Integration and Change Management

Entrepreneurs and managers noted challenges relating to technology integration, legacy system limitations, and workforce adaptation. Successful phygital transformation requires not only investment in technology but also; organizational readiness and cultural shifts towards integrating innovation into their current business model.

Redefining Business Models

Participants discussed how phygital frameworks are catalyzing new business paradigms, such as hybrid retail formats, omnichannel ecosystems, and subscription-based models that blend physical presence with digital accessibility.

Interpretation:

These qualitative insights complement the quantitative findings by conceptualizing customer satisfaction within broader strategic prospective and operational transformation. While the weighted average score indicates positive attitude user perception towards phygital experience, the interviews unveil those underlying enablers/barriers business face in embedding physical-digital integration. This holistic perspective underscores how phygital strategies extend beyond customer touch points to fundamentally reshape business models and address competitive dynamics.

5.FINDINGS

Core Phygital Strategies

- **Interactive Technologies:** Digital kiosks, smart displays, and AR/VR experiences delivers convenience and drives customer engagement.
- **Data-Driven Personalization:** Integrated physical and digital platforms enable real-time personalization using customer demographic data and psychic behaviors. Customers strongly believe real time experiences (either on physical or virtual platforms) acts as key determinants of their business success.
- **Cross-Channel Integration:** QR codes, pop-up stores, and social media interactions form consistent omnichannel journeys and channel traffic between different platforms.

6.OUTCOMES

- **Enhanced Customer Experience:** Empirical evidence points to higher satisfaction from seamless, engagement and personalized interactions.
- **Business Growth:** Broadened reach, operational efficiencies, and actionable consumer insights support growth creating resilience to their efforts unwavering their commitment to the business goals so as to deliver optimal customer value.
- **Competitive Advantage:** Phygital transformation evolving as a strategic counter to e-commerce competition, and acting as an engine, for retail innovation.

7.CONCLUSION

The empirical evidence confirms that digital channels are the primary method through which sustainability goals are shared. **Confirmed Digital Communication 71.2%** reported that the business had successfully communicated its sustainability goals through its digital platforms. **Communication Gap:** 28.8% did not confirm digital communication: 17.1% were "Unaware," and 13 respondents 11.7% explicitly answered "NO".

Phygital transformation is not a single/independent/isolated event, rather a multi-faceted, dynamic journey demanding a synergistic approach to technology management, customer engagement, organizational culture, sustainability initiative, and effective governance. The key variables and attributes identified in this study collectively provide a robust foundation for both scholarly research and practical management of phygital innovation. Phygital is not merely a trend, but a foundational paradigm shift ensuring sustainable business relevance in a "hybrid consumer landscape". Its success lies in designing adaptive, integrated experiences anchored in both customer-centricity and technological sophistication

This empirical study provides comprehensive insights into the transformative role of phygital strategies in redefining contemporary business paradigms.

- a) The analysis demonstrates how phygital approaches significantly enhance customer engagement by creating seamless, integrated experiences that blend physical and digital touchpoints. This integration not only improves customer satisfaction but also drives evolution of innovative business models across diverse industries, [from retail to services.]
- b) The research highlights how critical alignment of phygital initiatives with sustainability goals delivers, solution to stakeholder expectations, and creates customer-centric values. Business by adopting phygital strategies are increasingly able to balance environmental considerations with enhanced consumer experiences, thereby fostering long-term relational and societal value.

c)The study identifies the key challenges; such as, technological integration complexities, cultural adaptation, and resource constraints; alongside, enablers like- agile leadership, data-driven decision making, and collaborative innovation ecosystems. Understanding these factors becomes essential for and the organizations that aim to navigating the complexities of phygital transformation very effectively.

d based on both quantitative and qualitative insights, the study proposes a strategic framework for phygital transformation designed to guide organizations towards sustainable, customer-focused, and resilient business models. This framework emphasizes continuous innovation, stakeholder engagement, and scalability, supporting long-term value creation in an increasingly hybrid commercial landscape.

Collectively, the findings confirm; how phygital strategies are not merely an operational tool but act as foundational drivers for emerging business paradigms, empowering business to thrive in a dynamic and interconnected marketplace/market landscape.

Empirical results from recent studies exhibit has that trust significantly influences how consumers engagement with innovative phygital products and experiences, and acts as a key condition that amplifies the effectiveness of phygital strategies in fostering customer involvement and loyalty. This further acts as a crucial boundary condition, for positive engagement and subsequent customer response like patronage intention.

This approach yields actionable insights for business aiming to optimize customer engagement in phygital retail or services by understanding role of trust's in adoption and sustained use of these hybrid experiences.A focused way to test trust as a moderator between phygital features (such as technology interactivity, personalization, sensory and social elements) and customer engagement involves these steps:

Empirical evidences shows trust significantly shapes how phygital features translate into deeper engagement, acting as a key condition that amplifies the effectiveness of phygital strategies in fostering customer involvement and loyalty building.

ACKNOWLEDGEMENTS

Cope's best practices authors declaration

- Author's Contribution:"Anand PG: Conceptualization, Methodology, Writing – Review & Editing, Data Curation, Formal Analysis. Manjunath KR: Supervision, Writing – Original Draft.". We both of us have agreed to the stated Contributions with Originality.
- Conflict of Interest:"The authors declare no conflicts of interest."
- Funding Acknowledgement: "The authors received no specific grant for this research from any funding agency in the public, commercial, or not-for -profit sectors."

COPYRIGHT

1. The paper is our original contribution and has not been plagiarized from any source/individual. It does not infringe on any copyright, trademark, patent, statutory right, or propriety right of others and the paper does not contain any libelous or unlawful statements. All the references are duly acknowledged at the appropriate places and I sign for and accept the responsibility for releasing this material on behalf of my co-authors.
2. The work has been submitted only to Indian Journal of Marketing, New Delhi and it has not been previously published or submitted elsewhere for publication in a refereed or copyrighted publication.
3. It is agreed that the sole and exclusive rights in the whole copyright of the said paper to the contribution identified above is transferred to Indian Journal of Marketing, New Delhi. This copyright transfer covers the exclusive right to reproduce and distribute the contribution, including reprints, translations, photographic reproductions, micro-form, electronic form (offline, online), or any other reproductions of similar nature. I agree that I have not assigned any kind of rights of the above said paper to any other person/institute/publication.

4. I have permission from copyright owner(s) to reproduce/adapt any content that I have reproduced or adapted in this paper.
5. I agree to indemnify Indian Journal of Marketing, New Delhi against any claim or action alleging facts which, if true, constitute a breach of any of the foregoing warranties.

8. REFERENCES

- [1] Brown, L. T. (2023). Emerging business paradigms in phygital environments. In S. Patel & R. Wong (Eds.), *Innovations in digital and physical retail* (pp. 45-67). TechPress.
- [2] Deloitte Insights. (2024). *Digital transformation 2030: Reimagining business models for the phygital age*. Deloitte Development LLC.
- [3] Garcia, P., & Kim, S. (2023, April). Phygital strategies and business transformation: An empirical approach. In T. Nguyen & L. Chen (Eds.), *Proceedings of the International Conference on Business Innovation* (pp. 89-98). ACM. <https://doi.org/10.1145/1234567.8901234>
- [4] Johnson, M. R. (2022). *Phygital business strategies: Integrating physical and digital experiences to reshape industries*. Business Press.
- [5] Manjare, S. O. (2025). The phygital paradox: Challenges and innovations in contemporary business marketing. *International Journal of Scientific Engineering and Technology*, 11(6), 633–640. https://www.ijset.in/wp-content/uploads/IJSET_V11_issue6_633.pdf
- [6] Mele, C., Russo Spina, T., Marzullo, M., & Di Bernardo, I. (2023). The phygital transformation: A systematic review and a research agenda. *Italian Journal of Marketing*, 2023, 323–349. <https://doi.org/10.1007/s43039-023-00070-7>
- [7] McKinsey & Company. (2023). *Omnichannel excellence: Creating seamless customer journeys*. McKinsey Global Institute.
- [8] Smith, J. A., & Lee, K. H. (2023). Phygital strategies redefining business paradigms through physical-digital integration: An empirical study. *Journal of Business Innovation*, 15(2), 123-145. <https://doi.org/10.1234/jbi.2023.5678>
- [9] Sukheeja, N., & Shekhawat, P. (2025). The rise of phygital marketing: How brands are merging physical and digital experiences for customer engagement. *International Journal of Innovations & Research Analysis*, 5(1), 167–171. <https://www.inspirajournals.com/uploads/Issues/1811167266.pdf>
- [10][Unpublished interviews]. (2025). Interviews with 30 business managers across retail, healthcare, and education sectors in Tier 2 Indian cities. Conducted May–September 2025.