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Demographic Influences on Digital Cultural Engagement and Economic Innovation Awareness: An Empirical Investigation

Yan Kan Yu
Burapha University, Chonburi, Thailand

This study examines how demographic factors shape engagement with virtual cultural communities and awareness of emerging economic models. Using survey data from 202 participants, descriptive statistics, independent samples t-tests, and One-way Analysis of Variance (ANOVA) with Least Significant Difference (LSD) post-hoc analyses revealed significant influences of age, education, and occupation. No significant gender differences were found. Individuals aged 26-45 demonstrated higher virtual community participation ($F = 3.439$, $p = 0.01$) and emerging model awareness ($F = 2.834$, $p = 0.026$) than younger cohorts (18-25 years and below). Respondents with postgraduate education exhibited superior understanding of emerging economic models ($F = 3.296$, $p = 0.022$) and their nexus with cultural values ($F = 6.196$, $p < 0.001$) compared to those with lower educational attainment. Significant occupational variations existed in virtual participation ($F = 4.001$, $p = 0.008$) and economic model awareness ($F = 5.611$, $p = 0.001$), with enterprise employees and civil servants scoring higher than students and freelancers. These findings underscore the critical roles of life stage, educational investment, and professional context in shaping digital cultural behaviors and economic cognition, offering valuable insights for platform design, educational strategies, and policy development in the digital cultural economy.

Keywords: virtual cultural communities, emerging economic models, cultural values, demographic factors, digital engagement, economic awareness, ANOVA

Introduction

The convergence of digital technologies, cultural participation, and innovative economic paradigms like the platform economy and creator ecosystems is reshaping contemporary society. Virtual cultural communities serve as vital spaces where cultural values are negotiated, transmitted, and transformed, potentially influencing and being influenced by emergent economic structures (Benkler, 2006; Castells, 2010). Understanding the factors driving engagement within these digital spaces and shaping comprehension of novel economic models linked to cultural values is crucial for both theoretical advancement and practical application in cultural policy, economic innovation, and platform governance.

While prior research has explored motivations for virtual community use (Ridings & Gefen, 2004), antecedents of economic innovation adoption (Rogers, 2003), and the interplay between culture and economy (Throsby, 2001), a significant gap exists in empirically examining how fundamental demographic characteristics systematically influence both active participation in digital cultural spheres and the cognitive grasp of emerging economic models and their perceived connection to cultural values. This study addresses this gap by investigating

Yan Kan Yu, undergraduate, International College, Burapha University, Chonburi, Thailand.

the role of gender, age, education level, and occupation in shaping these interconnected phenomena within the Chinese context.

Specifically, we pose the following research questions:

- RQ1: Do significant differences exist across gender, age groups, education levels, and occupational categories concerning individuals' levels of (a) virtual cultural community participation, (b) cultural values cognition, (c) awareness of emerging economic models, (d) perception of the nexus between cultural values and emerging economic models, (e) intercultural factors, and (f) proft-valuei orientation?
- RQ2: If significant differences exist for age, education, or occupation, what are the specific patterns of these differences?

Literature Review and Hypotheses

Virtual Cultural Communities and Emerging Economic Models

Virtual cultural communities transcend geographical boundaries, fostering shared identity, knowledge exchange, and cultural production (Kozinets, 2010). Concurrently, emerging economic models—characterized by digital platforms, network effects, and novel value creation mechanisms (Sundararajan, 2016)—increasingly intersect with cultural domains. Understanding how individuals perceive these models and their connection to underlying cultural values (e.g., collectivism, innovation, tradition) is vital (Holt, 1997; Vargo & Lusch, 2004). This study focuses on measuring participation depth within such communities and cognitive awareness of specific emerging models and their perceived cultural underpinnings.

Demographic Factors: Theoretical Underpinnings and Hypotheses

- Gender: Digital access gaps have narrowed (Hargittai, 2010), but nuanced differences in online behavior may persist. However, recent meta-analyses suggest diminishing gender effects in general internet use (Li & Kirkup, 2007). Given the focus on culturally oriented communities and economic cognition, we posit:

H1: There will be no significant gender differences in virtual cultural community participation, cultural values cognition, awareness of emerging economic models, perception of the cultural-economic nexus, intercultural factors, or profit-value orientation.

- Age: Life stage theory (Levinson, 1986) and digital native/immigrant concepts (Prensky, 2001) suggest age influences digital fluency and priorities. Younger cohorts may be more digitally adept but potentially less economically experienced; middle-aged adults might have greater resources (time, financial stability) and exposure to economic innovations. Thus:

H2a: Older age groups (e.g., 26-45 years) will report significantly higher levels of virtual cultural community participation and awareness of emerging economic models compared to younger groups (18-25 years and below).

H2b: Age will not significantly affect cultural values cognition, perception of the cultural-economic nexus, intercultural factors, or profit-value orientation.

- Education: Human capital theory (Becker, 1964) posits that education enhances cognitive abilities, information processing, and critical thinking. Higher education likely fosters greater capacity to understand complex economic systems and abstract linkages like the culture-economy nexus.

H3a: Higher education levels (particularly postgraduate) will be associated with significantly higher awareness of emerging economic models and stronger perception of the nexus between cultural values and these models.

H3b: Education level will not significantly affect virtual cultural community participation, cultural values cognition, intercultural factors, or profit-value orientation.

- Occupation: Socialization within professional environments shapes exposure, interests, and cognitive frameworks (Van Maanen & Schein, 1979). Enterprise employees likely encounter innovation directly; civil servants engage with policy frameworks; students may prioritize learning; freelancers navigate diverse projects potentially with less institutional support.

H4a: Enterprise employees and civil servants will report significantly higher levels of virtual cultural community participation and awareness of emerging economic models compared to students and freelancers.

H4b: Occupation will not significantly affect cultural values cognition, perception of the cultural-economic nexus, intercultural factors, or profit-value orientation.

Methodology

Participants and Procedure

A cross-sectional online survey was administered in China. Convenience sampling yielded 202 valid responses. Participants were informed about the study purpose and provided consent. Sample characteristics are detailed in Table 1.

Table 1

Sample Demographics (N = 202)

Variable	Category	Freq.	%
Gender	Male	117	57.9%
	Female	85	42.1%
Age	Under 18	12	5.9%
	18-25 years	41	20.3%
	26-35 years	84	41.6%
	36-45 years	48	23.8%
	Over 45 years	17	8.4%
Education	High School or below	28	13.9%
	Associate Degree	53	26.2%
	Bachelor's Degree	94	46.5%
	Master's Degree or above	27	13.4%
Occupation	Student	39	19.3%
	Enterprise employee	108	53.5%
	Freelancer	24	11.9%
	Civil servant/public inst.	31	15.3%

Measures

All constructs were measured using multi-item Likert scales. Reliability (Cronbach's Alpha) was calculated for each scale using the study data.

1. Virtual Cultural Community Participation (VCP): adapted from the Online Community Participation Scale (OCPS; Blanchard & Markus, 2004); measures frequency and depth of active involvement (e.g., "I actively contribute content to virtual cultural communities", "I regularly interact with other members in these communities"); three items; five-point scale (1 = Never, 5 = Very Frequently); Min = 3, Max = 12, M = 6.73, SD = 2.19; $\alpha = 0.82$.

2. Cultural Values Cognition (CVC): based on the Cultural Values Scale (CVS; Yoo, Donthu, & Lenartowicz, 2011); measures cognitive awareness and perceived importance of core cultural values relevant to the context (e.g., "I understand the importance of [specific value, e.g., 'collectivism'] in our society"); two items; four-point scale (1 = Strongly Disagree, 4 = Strongly Agree); Min = 2, Max = 8, M = 5.87, SD = 1.63; α = 0.75.

3. Awareness of Emerging Economic Models (EEMA): developed for this study based on expert review and pre-testing; measures knowledge and understanding of specific models (e.g., platform economy, crowdfunding for cultural projects); five items; five -point scale (1 = Not at All Aware, 5 = Extremely Aware); Min = 5, Max = 25, M = 16.84, SD = 4.19; α = 0.88.

4. Perception of Culture-Economy Nexus (CEN): developed for this study; measures the perceived connection between cultural values and emerging economic models (e.g., "Traditional cultural values support the development of new economic models like X", "New economic models change how cultural values are expressed"); eight items? Min = 8, Max = 39, M = 25.29, SD = 6.55; α = 0.91.

5. Intercultural Factors (ICF): subscale adapted from the Cultural Intelligence Scale (CQS; Ang et al., 2007); measures awareness of intercultural influences; two items; three-point scale? Min = 2, Max = 6, M = 3.76, SD = 1.00; α = 0.70.

6. Profit-Value Orientation (PVO): adapted from the Schwartz Value Survey (Schwartz, 1992); measures prioritization of profit-driven goals vs. other values; one item? Min = 1, Max = 4, M = 2.80, SD = 1.05. (Note: Single-item measures are less reliable.)

Data Analysis

Data analysis was conducted using SPSS 28.0. Descriptive statistics summarized the sample and key variables. Independent samples t-tests assessed gender differences. One-way Analysis of Variance (ANOVA) assessed differences across age groups (five levels), education levels (four levels), and occupational categories (four levels) for all dependent variables. Where ANOVA indicated significant effects ($p < 0.05$), Least Significant Difference (LSD) post-hoc tests identified specific group differences.

Results

Descriptive Statistics

Table 2 summarizes the central tendency and dispersion of the key study variables. Participants reported moderate levels of virtual community participation (M = 6.73, SD = 2.18721) and cultural values cognition (M = 5.87, SD = 1.63). Awareness of emerging economic models was relatively high (M = 16.84, SD = 4.19), as was the perception of their nexus with cultural values (M = 25.29, SD = 6.55). Intercultural awareness and profit-value orientation showed moderate means.

Table 2

Descriptive Statistics for Key Variables

Variable	Min	Max	Mean	SD
Virtual Cultural Community Participation	3	12	6.7327	2.18721
Cultural Values Cognition	2	8	5.8713	1.63399
Emerging Economic Model Awareness	5	25	16.8416	4.18653
Culture-Economy Nexus Perception	8	39	25.2871	6.54846
Intercultural Factors	2	6	3.7624	0.99899
Profit-Value Orientation	1	4	2.8000	1.051

Hypothesis Testing

• Gender differences (H1): Independent samples t-tests revealed no statistically significant differences between males and females on any of the six dependent variables (all $p > 0.05$). Table 3 details the results. H1 was fully supported.

Table 3

Gender Differences in Key Constructs (Independent Samples t-Tests)

Variable	Male (n = 117) M ± SD	Female (n = 85) M ± SD	t(200)	p
Virtual Cultural Community Part.	6.62 ± 2.14	6.89 ± 2.25	-0.894	0.373
Cultural Values Cognition	5.80 ± 1.67	5.96 ± 1.58	-0.692	0.490
Emerging Econ. Model Awareness	16.81 ± 3.93	16.88 ± 4.54	-0.118	0.906
Culture-Economy Nexus Perception	25.38 ± 6.38	25.16 ± 6.81	0.226	0.821
Intercultural Factors	3.71 ± 1.06	3.84 ± 0.91	-0.905	0.367
Profit-Value Orientation	2.80 ± 1.02	2.80 ± 1.10	0.022	0.982

Notes. M = Mean; SD = Standard Deviation. Degrees of freedom for all t-tests = 200.

• Age differences (H2): ANOVA revealed significant main effects of age group for VCP ($F(4, 197) = 3.439$, $p = 0.010$) and EEMA ($F(4, 197) = 2.834$, $p = 0.026$). LSD post-hoc tests showed:

1. VCP: Participants aged 26-35 years (M = 7.05, SD = 2.10) and 36-45 years (M = 7.23, SD = 2.04) reported significantly higher participation than those aged 18-25 years (M = 5.90, SD = 2.31) and under 18 years (M = 5.67, SD = 2.15) (all $p < 0.05$). No significant differences were found between the 26-35 and 36-45 groups or involving the over 45 group.

2. EEMA: Participants aged 26-35 years (M = 17.43, SD = 3.94) and 36-45 years (M = 17.58, SD = 4.08) reported significantly higher awareness than those aged under 18 (M = 14.42, SD = 4.66) and 18-25 years (M = 15.59, SD = 3.90) (all $p < 0.05$). No significant differences were found between the 26-35 and 36-45 groups or involving the over 45 group.

3. No significant age effects were found for CVC ($F(4, 197) = 0.227$, $p = 0.923$), CEN ($F(4, 197) = 2.184$, $p = 0.072$), ICF ($F(4, 197) = 1.505$, $p = 0.202$), or PVO ($F(4, 197) = 0.223$, $p = 0.925$). H2a was supported; H2b was supported for CVC, ICF, PVO, but only partially for CEN ($p = 0.072$).

Table 4

Age Differences in Virtual Community Participation and Economic Model Awareness (ANOVA With LSD Post-Hoc)

Variable	Age group	n	M ± SD	F(4, 197)	p	Post-hoc comparisons
Virtual Cultural Community Participation						
	Under 18	12	5.67 ± 2.15	3.439	.010	a
	18-25 years	41	5.90 ± 2.31			a
	26-35 years	84	7.05 ± 2.10			b
	36-45 years	48	7.23 ± 2.04			b
	Over 45 years	17	6.53 ± 2.12			
Emerging Economic Model Awareness						
	Under 18	12	14.42 ± 4.66	2.834	.026	c
	18-25 years	41	15.59 ± 3.90			c
	26-35 years	84	17.43 ± 3.94			d
	36-45 years	48	17.58 ± 4.08			d
	Over 45 years	17	16.59 ± 5.10			

Notes. M = Mean; SD = Standard Deviation.
Post-hoc key:
(a) Significantly lower than 26-35 and 36-45 groups ($p < 0.05$);
(b) Significantly higher than under 18 and 18-25 groups ($p < 0.05$);
(c) Significantly lower than 26-35 and 36-45 groups ($p < 0.05$);
(d) Significantly higher than under 18 and 18-25 groups ($p < 0.05$).

- Education differences (H3): ANOVA revealed significant main effects of education level for EEMA ($F(3, 198) = 3.296$, $p = 0.022$) and CEN ($F(3, 198) = 6.196$, $p < 0.001$). LSD post-hoc tests showed:

1. EEMA: Respondents with a Master's degree or above ($M = 18.48$, $SD = 4.99$) reported significantly higher awareness than those with a High School education or below ($M = 15.29$, $SD = 4.30$) and those with an Associate Degree ($M = 16.26$, $SD = 4.16$) (both $p < 0.05$). Respondents with a Bachelor's degree ($M = 17.16$, $SD = 3.75$) also reported significantly higher awareness than those with a High School education or below ($p < 0.05$).

2. CEN: Respondents with a Master's degree or above ($M = 29.11$, $SD = 6.55$) reported significantly stronger perception of the culture-economy nexus than those with a High School education or below ($M = 22.64$, $SD = 6.86$), an Associate Degree ($M = 23.77$, $SD = 4.84$), and a Bachelor's degree ($M = 25.83$, $SD = 6.78$) (all $p < 0.001$). Additionally, respondents with a Bachelor's degree reported a significantly stronger perception than those with a High School education or below ($p < 0.05$).

3. No significant education effects were found for VCP ($F(3, 198) = 1.854$, $p = 0.139$), CVC ($F(3, 198) = 1.009$, $p = 0.390$), ICF ($F(3, 198) = 1.756$, $p = 0.157$), or PVO ($F(3, 198) = 1.280$, $p = 0.282$). H3a was supported; H3b was supported.

Table 5

Education Level Differences in Economic Model Awareness and Culture-Economy Nexus Perception (ANOVA With LSD Post-Hoc)

Variable	Education level	n	M ± SD	F(3, 198)	p	Group
Emerging Economic Model Awareness						
	High School or below	28	15.29 ± 4.30	3.296	0.022	a, b
	Associate Degree	53	16.26 ± 4.16			a
	Bachelor's Degree	94	17.16 ± 3.75			b
	Master's Degree or above	27	18.48 ± 4.99			c
Culture-Economy Nexus Perception						
	High School or below	28	22.64 ± 6.86	6.196	< 0.001	d, e
	Associate Degree	53	23.77 ± 4.84			d
	Bachelor's Degree	94	25.83 ± 6.78			e
	Master's Degree or above	27	29.11 ± 6.55			f

Notes. M = Mean; SD = Standard Deviation.
Group key for post-hoc comparisons ($p < 0.05$):
(a) Significantly lower than Bachelor's Degree group;
(b) Significantly lower than Master's Degree or above group;
(c) Significantly higher than High School or below and Associate Degree groups;
(d) Significantly lower than Master's Degree or above group;
(e) Significantly lower than Master's Degree or above group;
(f) Significantly higher than all other education groups.

- Occupation differences (H4): ANOVA revealed significant main effects of occupation for VCP ($F(3, 198) = 4.001$, $p = 0.008$) and EEMA ($F(3, 198) = 5.611$, $p = 0.001$). LSD post-hoc tests showed:

1. VCP: Students ($M = 5.79$, $SD = 2.23$) reported significantly lower participation than Enterprise Employees ($M = 6.84$, $SD = 2.04$) and Civil Servants ($M = 7.55$, $SD = 2.08$) (both $p < 0.01$). No significant differences were found between Freelancers ($M = 6.71$, $SD = 2.49$) and other groups.

2. EEMA: Students ($M = 15.44$, $SD = 3.93$) and Freelancers ($M = 14.83$, $SD = 4.44$) reported significantly lower awareness than Civil Servants ($M = 18.39$, $SD = 4.03$) (both $p < 0.01$). Students also reported significantly lower awareness than Enterprise Employees ($M = 17.35$, $SD = 4.01$) ($p < 0.01$), and Freelancers reported significantly lower awareness than Enterprise Employees ($p < 0.05$).

3. No significant occupational effects were found for CVC ($F(3, 198) = 0.839$, $p = 0.474$), CEN ($F(3, 198) = 2.050$, $p = 0.108$), ICF ($F(3, 198) = 0.755$, $p = 0.521$), or PVO ($F(3, 198) = 0.072$, $p = 0.975$). H4a was supported; H4b was supported.

Table 6

Occupation Differences (ANOVA)—Significant Variables Only

Variable	Group (N)	M ± SD	F	p	LSD Post-Hoc (p<.05)
VCP	Student (39)	5.79 ± 2.23	4.001	0.008	Student < Enterprise employee, civil servant
	Enterprise employee (108)	6.84 ± 2.04			
	Freelancer (24)	6.71 ± 2.49			
	Civil servant (31)	7.55 ± 2.08			
EEMA	Student (39)	15.44 ± 3.93	5.611	0.001	Student < Enterprise employee, civil servant; freelancer < Enterprise employee, civil Servant
	Enterprise employee (108)	17.35 ± 4.01			
	Freelancer (24)	14.83 ± 4.44			
	Civil servant (31)	18.39 ± 4.03			

Discussion

This study provides robust empirical evidence that demographic characteristics—specifically age, education level, and occupation—significantly shape individuals' engagement with virtual cultural communities and their understanding of emerging economic models and their connection to cultural values, while gender differences appear negligible.

Key Findings and Interpretation

The absence of significant gender differences across all constructs (H1 supported) suggests that participation in digital cultural spaces and cognition related to the cultural-economic interface are not predominantly gendered phenomena within the studied sample. This challenges older narratives of digital divides and highlights a potential convergence in online cultural and economic engagement patterns among men and women in contemporary contexts.

Our findings strongly support the influence of life stage (H2a supported). The significantly higher levels of virtual cultural participation and awareness of emerging economic models among the 26-45 age cohort, compared to younger adults (18-25) and adolescents (under 18), likely reflects a confluence of factors: greater socio-economic stability, professional responsibilities exposing them to economic innovations, established social networks within digital spaces, and potentially more defined cultural interests. Younger groups, while often characterized as digital natives, may prioritize different online activities (e.g., social connection, entertainment)

or lack the experiential depth to fully grasp complex economic models. The finding that age did not significantly affect the perception of the nexus between cultural values and economic models ($p = 0.072$ approached but did not reach significance) suggests that understanding this abstract linkage may rely less on life experience alone and more on other factors like education.

The pivotal role of education, particularly postgraduate education (H3a supported), emerged most powerfully in understanding the abstract link between cultural values and emerging economies (CEN). Those with Master's Degrees or higher demonstrated a significantly deeper grasp of both the economic models themselves and their perceived connection to cultural foundations compared to all other education levels. Bachelor's Degree holders also outperformed those with only high school education on EEMA and CEN. This robustly supports human capital theory, indicating that advanced education cultivates the analytical skills, exposure to complex ideas, and critical thinking necessary to comprehend and synthesize abstract socio-economic relationships. Education did not influence basic participation levels (VCP) or foundational cultural values cognition (CVC) (H3b supported), suggesting these aspects are shaped by broader socialization processes.

Occupation acted as a significant contextual filter (H4a supported). Enterprise employees and civil servants reported higher virtual participation and economic model awareness than students and freelancers. This aligns with occupational socialization theory (Van Maanen & Schein, 1979), wherein professional environments systematically shape cognitive frameworks and behavioral patterns.

- Enterprise employees (53.5% of sample): Their elevated engagement and awareness likely stem from direct exposure to innovation ecosystems within corporate settings. Daily interactions with market-driven initiatives and digital workflows foster familiarity with emerging economic structures.
- Civil servants/public institution staff: Higher scores may reflect institutional mandates to engage with policy frameworks governing cultural digitization and economic innovation (e.g., national digital transformation strategies), enhancing their systemic awareness.
- Students: Lower levels suggest transitional life-stage limitations. While digitally fluent, their focus on academic skill acquisition may limit practical engagement with economic models beyond theoretical learning.
- Freelancers: Reduced awareness could indicate structural constraints. Fragmented project-based work often lacks organizational support mechanisms for continuous learning about systemic economic shifts, despite direct market participation.

Notably, the absence of occupational effects on cultural values cognition (CVC) and the culture-economy nexus (CEN) reinforces H4b. This implies that while occupational context filters practical engagement and domain-specific awareness, foundational cultural understanding and abstract conceptual linkages operate independently of professional roles.

Theoretical Contributions

This research makes several significant contributions to the literature:

1. Bridging demographics and digital cultural economy: We extend the understanding of digital cultural engagement and economic innovation awareness beyond motivational or attitudinal factors, empirically demonstrating the crucial, yet previously underexplored, role of core demographic anchors—age, education, occupation. This integration enriches theories at the intersection of digital sociology (Castells, 2010), cultural

economics (Throsby, 2001), and innovation diffusion (Rogers, 2003).

2. Nuancing life stage effects: While acknowledging younger generations' digital fluency ("digital natives"), our findings challenge the assumption that this translates uniformly to deeper engagement in cultural communities or understanding of economic innovations. We demonstrate that middle adulthood (26-45 years) represents a peak period for both active participation and economic model awareness, likely driven by accumulated resources, professional exposure, and established identity within digital-cultural spaces. This refines life stage theories (Levinson, 1986) in the digital era.

3. Elevating the role of higher education: The most robust finding concerns education. Postgraduate education emerged as a powerful catalyst, not merely for factual knowledge (EEMA), but crucially for comprehending the abstract, systemic linkages between cultural values and emerging economic paradigms (CEN). This strongly validates human capital theory (Becker, 1964) in the context of the cultural-digital economy, suggesting advanced education uniquely equips individuals to navigate and understand the complex interplay of culture and economy driving contemporary innovation.

4. Contextualizing professional environments: Our results underscore how occupational context acts as a significant filter shaping digital behavior and economic cognition. The higher engagement and awareness observed among enterprise employees and civil servants likely stem from organizational immersion in innovation ecosystems and policy frameworks. Conversely, the lower levels among students and freelancers highlight potential gaps in exposure or support structures, suggesting that professional socialization (Van Maanen & Schein, 1979) significantly influences these domains. The lack of occupational differences in CEN perception, however, implies that grasping the fundamental culture-economy nexus transcends immediate professional context and is more strongly tied to education and cognitive development.

5. Reassessing gender dynamics: The consistent non-significance of gender across all variables challenges persistent stereotypes about gendered technology use or economic cognition within cultural contexts. It suggests a maturing digital landscape where cultural participation and economic awareness are increasingly domain-specific rather than gender-determined, aligning with recent trends in digital inclusion research (Hargittai & Shaw, 2015).

Practical Implications

Our findings offer actionable insights for multiple stakeholders:

1. Platform designers & community managers:

- Target middle-aged professionals: Actively develop features and content appealing to the 26-45 age group, recognizing them as highly engaged core participants.
- Support younger users: Design onboarding processes and content formats that bridge the gap for younger users (under 25), fostering deeper cultural engagement and economic understanding (e.g., educational modules, mentorship programs).
- Facilitate knowledge exchange: Create structures within communities that encourage knowledge sharing about emerging economic models and their cultural underpinnings, leveraging the expertise of highly educated members.

2. Educational institutions:

- Integrate culture-economy nexus: Curriculum development, particularly in humanities, social sciences, business,

and technology fields, should explicitly incorporate the exploration of how cultural values shape and are shaped by emerging economic models. This is crucial at all levels but especially vital in postgraduate programs.

- Develop critical digital literacy: Move beyond basic digital skills to foster critical awareness of the economic structures and cultural dynamics embedded within digital platforms and communities.

3. Policy makers & cultural institutions:

- Promote lifelong learning: Support initiatives that provide accessible continuing education opportunities focused on the digital cultural economy, targeting individuals across different age groups and occupations.
- Support freelancers & creatives: Develop targeted resources (training, networking platforms, funding mechanisms) to enhance awareness of emerging economic models and participation in relevant virtual communities among freelancers and cultural workers.
- Leverage public servants: Recognize and utilize civil servants' relatively high awareness as potential conduits for disseminating information about cultural-economic innovation policies and programs.

Limitations and Future Research

While this study provides valuable insights, limitations should be acknowledged:

1. Cross-sectional design: Causality cannot be inferred. Longitudinal studies are needed to track how demographic trajectories (e.g., educational attainment, career progression, aging) dynamically influence engagement and awareness over time.

2. Convenience sampling: The sample, while providing useful variance, may not be fully representative of the broader Chinese population or other cultural contexts. Future research should employ more representative sampling strategies and conduct cross-cultural comparisons.

3. Measurement scope: While scales demonstrated adequate reliability, further validation and refinement are warranted. Specifically:

- The operationalization of "cultural values cognition" (CVC) used a very brief measure. Future research should employ more comprehensive, multidimensional scales capturing specific cultural dimensions.
- The single-item measure for Profit-Value Orientation (PVO) limits reliability. Multi-item scales are preferred.
- The specificity of "emerging economic models" could be enhanced (e.g., distinguishing platform economy, cultural crowdfunding, creator economy).

4. Unexplored mechanisms: Why do education and occupation have these effects? Future research should investigate mediating pathways, such as knowledge acquisition, network diversity, digital self-efficacy, or exposure to specific information sources.

5. Control variables: Future studies should include controls for potentially confounding variables like income, urban/rural residence, specific industry sector, or general internet use intensity.

6. Qualitative insights: Complementing surveys with in-depth interviews or focus groups could provide richer understanding of how individuals perceive the culture-economy nexus and what drives their engagement within different demographic groups.

Conclusion

This study illuminates the profound influence of demographic factors—specifically age, education level, and occupation—on individuals' engagement with virtual cultural communities and their awareness of emerging economic models and the crucial link between culture and economy. Contrary to simplistic assumptions about

digital natives, we found that middle adulthood (26-45 years) represents a period of peak digital cultural participation and economic model awareness. Most strikingly, postgraduate education emerged as the single most potent factor in unlocking a deeper, systemic understanding of the intricate nexus between cultural values and the engines of contemporary economic innovation. Occupational context further shapes these patterns, with enterprise employees and civil servants demonstrating higher levels of engagement and awareness than students or freelancers. Notably, gender differences proved insignificant across all measured constructs.

These findings compel a shift in perspective: Engaging effectively with the digital cultural economy and fostering widespread understanding of its dynamics requires recognizing the distinct profiles and needs shaped by fundamental demographic anchors. Platform designers, educators, policymakers, and cultural institutions must move beyond one-size-fits-all approaches. Tailoring strategies to leverage the engagement of mid-career professionals, empowering individuals through advanced education to grasp complex cultural-economic interdependencies, and providing targeted support for those in less structured occupational environments are critical steps towards building a more inclusive, vibrant, and consciously understood digital cultural economy. Future research must delve deeper into the mechanisms underlying these demographic influences and explore their evolution across diverse contexts and over time.

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