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Digital Media Use, Financial Literacy and Analytical Skills among Generation Z Students: An Empirical Study

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Abstract

Purpose: This study examines the relationship between digital media use, financial literacy and the analytical skills of Generation Z (born1997-2012)under graduate students, and tests whether academic self-efficacymediatesthisrelationship.**Design/methodology/approach:**Across-sectionalsurveywill be administered to [N] undergraduate students aged 18-24 in [region] selected through [sampling method]. Analytical skills are measured with a multi-item Likert scale covering interpretation, evaluation, inference and numerical reasoning. Data will be analysed using descriptive statistics, reliability and validity tests, group comparisons, multiple regression and mediation analysis. Findings**:** [To be completed after data analysis.] **Originality/value:** The study adds evidence from an Indian higher-education setting on how everyday digital habits and money-management knowledge relate to the analytical capability expected by employers. **Implications:** [To be completed.]

Keywords: Generation Z; analytical skills; critical thinking; financial literacy; digital media use; self-efficacy; higher education

Paper type: Research paper

1. Introduction

Generation Z is the first cohort to grow up with smartphones, social media and instant search as ordinary parts of daily life (Prensky, 2001; Seemiller and Grace, 2016). This exposure gives them speed and comfort with information, yet educators and employers repeatedly question whether it translates into the deeper analytical skills needed to interpret data, weigh evidence and make sound decisions. Analytical skill is also central in commerce and management education, where students must read financial statements, compare alternatives and justify choices.

Two competing views exist. One holds that constant access to information weakens sustained reasoning and memory (Sparrow, Liu and Wegner, 2011; Twenge, 2017). The other holds that purposeful digital use, such as researching, comparing prices and using financial apps, can strengthen analytical habits. Evidence from emerging economies, and especially from Indian undergraduate students, remains limited. This study addresses that gap.

Research questions. (RQ1) What is the level of analytical skills among Gen Z undergraduate students?(RQ2)Dotheseskillsdifferbygender,discipline,localityandyearofstudy?(RQ3)Howdo digital media use and financial literacy relate to analytical skills? (RQ4) Does academic self-efficacy mediate these relationships?

Objectives. (1) To measure the analytical skills of Gen Z students. (2) To compare skill levels across demographic groups. (3) To test the effect of digital media use and financial literacy on analytical skills. (4) To test the mediating role of academic self-efficacy.

2. Review of Literature and Theoretical Background

Analytical skills and critical thinking

Analytical skills are treated here as the ability to interpret information, evaluate arguments and evidence,drawinferencesandreasonwithnumbers.Thisfollowsthecorecognitiveskillsidentifiedin the Delphi consensus on critical thinking (Facione, 1990) and the higher-order levels of Bloom's taxonomy (Bloom, 1956).

Digital media use

Heavy and unfocused media use may increase cognitive load and reduce depth of processing (Sweller, 1988). Information that is always retrievable may also change how people store and verify knowledge (Sparrow, Liu and Wegner, 2011). Conversely, goal-directed use for learning and decision-making may build analytical practice. The study therefore separates *passive/social use* from *purposeful/academic use*.

Financial literacy

Financial literacy involves numeracy, understanding of interest, risk and digital payments, and the abilitytocompareoptions.Becausethesetasksrequireinterpretationandcalculation,financialliteracy is expected to support analytical skills and to be a relevant context for commerce students.

Academic self-efficacy

Self-efficacy, the belief in one's capability to succeed at tasks, shapes effort, persistence and strategy use(Bandura,1997).Itisproposedasamediatorthroughwhichlearningexperiences,includingmedia habits and financial knowledge, influence analytical performance.

Research gap and conceptual model

Prior work usually studies screen time and academic outcomes in general. Few studies link *type* of digital use and financial literacy to a direct measure of analytical skills in Indian undergraduates, or test self-efficacy as the mechanism. The proposed model has two independent variables (Purposeful Digital Use, Passive Digital Use), one further predictor (Financial Literacy), one mediator (Academic Self-Efficacy) and one outcome (Analytical Skills), with demographics as controls.

Hypotheses

Code	Hypothesis
H1	Purposeful digital use has a positive effect on analytical skills.
H2	Passive/social digital use has a negative effect on analytical skills.
H3	Financial literacy has a positive effect on analytical skills.
H4	Academic self-efficacy has a positive effect on analytical skills.
H5	Academicself-efficacymediatestheeffectofpurposefuldigitaluse,passivedigitaluseandfinancial literacy on analytical skills.
H6	Analytical skills differ significantly by gender, discipline, locality and year of study.

3 . Research Methodology

Research design

A quantitative, descriptive and explanatory cross-sectional survey design is used.

Population, sample and sampling

The population is undergraduate students aged 18-24 studying in [colleges/universities] in [region]. Therequiredsampleisdeterminedwitharecognisedtable(KrejcieandMorgan,1970)orwiththerule of at least ten respondents per questionnaire item for multivariate analysis (Hair et al., 2019). A minimum of [300] valid responses is suggested. Stratified random sampling by discipline and year of study is preferred; if not feasible, state clearly that convenience sampling was used and discuss the limitation.

Data collection

Primary data will be collected through a structured, self-administered questionnaire (printed or online) during [month-

year]. Respondents give informed consent, participation is voluntary and responses are anonymous. Institutional ethical clearance should be obtained where required. Secondary data come from journals, reports and databases.

Instrument and measurement

The questionnaire (Appendix A) has six sections. All construct items use a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree), except the knowledge items of financial literacy, which are scored 1 for a correct and 0 for an incorrect answer. Items should be adapted from validated scales where available and cited; the draft items provided are a starting point.

Construct	Role	Items	Dimensions
Analytical Skills (AS)	Dependent	12	Interpretation,evaluation,inference,numerical reasoning
Purpose ful DigitalUse (PDU)	Independent	6	Searching, verifying, comparing, learning
Passive Digital Use (SDU)	Independent	6	Scrolling, social media, entertainment, multitasking
Financial Literacy (FL)	Independent	8	Numeracy, interest/inflation, risk, digital payments
Academic Self-Efficacy (ASE)	Mediator	6	Confidence in learning and problem solving
Demographics	Control	6	Age,gender,discipline,year,locality,familyincome band

Pilot test, reliability and validity

A pilot with 30-40 students checks clarity and timing. Reliability is assessed using Cronbach's alpha, with 0.70 or higher considered acceptable (Nunnally and Bernstein, 1994). Content validity is established through review by 3-5 subject experts. Construct validity is tested through exploratory/confirmatory factor analysis; convergent and discriminant validity use factor loadings, composite reliability and average variance extracted (Fornell and Larcker, 1981). Common method bias is checked with Harman's single-factor test (Podsakoff et al., 2003).

Statistical tools

Software: SPSS and AMOS, or R/Smart PLS. Tools are listed in Section 4.

4. Data Analysis Plan

Objective / hypothesis	Technique	Decision rule
Data screening	Missing values outliers, normality (skewness and kurtosis)	|skew| below 2, |kurtosis| below 7 (Kline, 2016)
Objective / hypothesis	**Technique**	**Decision rule**
Profile and level of skills (RQ1)	Frequencies ,mean, SD; level bands (low/moderate/high)	Mean +/- 1 SD for bands
Group differences (H6)	Independent -test,one-way ANOVA with post hoc test	p below 0.05; report effect size
Relationships	Pearson correlation matrix	Check multi collinearity(VIF below 5)
Effects (H1-H4)	Multiple regression or SEM (CB-SEM/PLS-SEM)	Standardisedbeta,p-value, R-squared
Mediation (H5)	Boots trapped indirect effects(5,000 resample's)	95% CI excludes zero
Model fit (if SEM)	CFI, TLI, RMSEA, SRMR	CFI/TLIatleast0.90;RMSEAat most 0.08

1. Results (to be completed with your own data)

Respondent profile

Variable	Category	Frequency	%
Gender	Male / Female / Other		
Discipline	Commerce / Arts / Science / Other		
Year of study	I / II / III		
Locality	Urban / Semi-urban / Rural		
Family income band	[bands]		

Table 2. Demographic profile of respondents (N = _____).

Descriptive statistics and reliability

Construct	Mean	SD	Cronbach's alpha	CR	AVE
Analytical Skills					
Purposeful Digital Use					
Passive Digital Use					
Financial Literacy					
Academic Self-Efficacy					

Table 3. Descriptive statistics, reliability and validity.

Hypothesis testing

Hypothesis	Path	Std. beta	t / z	p	Result
H1	PDU to AS				
H2	SDU to AS				
H3	FL to AS				
H4	ASE to AS				
H5	Indirect effects via ASE				
Hypothesis	**Path**	**Std. beta**	**t / z**	**p**	**Result**
H6	Group differences				

Table 4. Regression/SEM results and mediation.

2. Discussion

[Interpret each finding against the hypotheses and earlier studies. Suggested structure: (a) overall level of analytical skills; (b) which digital-use pattern matters; (c) role of financial literacy; (d) mediating role of self-efficacy; (e) differences across groups. Explain agreement and disagreement with the literature cited in Section 2, and avoid claiming causation from cross-sectional data.]

Theoretical contribution

[State how the results extend the understanding of media use, financial literacy and analytical skills in an emerging-economy higher-education context.]

Practical implications

[Examples to support or revise according to results: case-based and data-interpretation tasks in commercecourses;guided,purposefuluseofdigitaltools;financialliteracymodules;self-efficacy-building activities; employer-aligned assessment of analytical skills.]

3. Limitations and Future Research

[Discuss self-reported measures, cross-sectional design, sampling and regional scope. Suggest longitudinal studies, performance-based tests of analytical skills, multi-region samples and qualitative follow-up interviews.]

4. Conclusion

[Summarise the main findings in 4-6 sentences, answering each research question directly.]

Declarations

Ethics: [approval/consent statement]. **Funding:** [none/details]. **Conflict of interest:** [none declared]. **Data availability:** [statement]. **Use of AI tools:** [disclose any AI assistance in drafting as required by the journal].

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