

From Broadcast to Platform: Digital Business Intensity and Firm Performance

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Research aims: This study examines whether digital business intensity affects accounting-based and market-based performance among media and digital platform firms.

Design/Methodology/Approach: A disclosure-based Digital Business Intensity Index (DBII) is constructed for 10 global firms observed during 2020-2024 (50 firm-year observations). Multiple linear regression tests its association with return on assets (ROA) and Tobin's Q while controlling for leverage and firm size.

Research findings: DBII is positively associated with ROA at the 10% significance level, but negatively associated with Tobin's Q at the same marginal level. Firm size and revenue scale display severe multicollinearity, supporting a parsimonious specification that retains only one scale control.

Theoretical contribution/Originality: The study introduces a replicable disclosure-based measure of digital business intensity and shows that operational performance and market valuation may diverge during a platform transition.

Practitioner/Policy implication: Managers and investors should assess digital transformation with both accounting and market measures and distinguish long-run capability building from short-run valuation corrections.

Research limitation/Implication: The small purposive sample, disclosure-based proxy, and disruption-heavy observation period limit causal and cross-sector generalization.

Keywords: Digital business intensity; Digital transformation; Firm performance; Media industry; Platform firms; Streaming

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Introduction

Media and entertainment firms have shifted from scheduled broadcasting and intermediary distribution toward streaming, subscription, advertising-supported video on demand, and direct-to-consumer platforms. The transition changes how content is produced, delivered, monetized, and measured. Platforms combine content libraries with network effects, behavioral data, algorithmic curation, and global licensing, while legacy groups must finance new digital channels without immediately abandoning established operations (Cunningham & Craig, 2019; Evens & Donders, 2018; Jenner, 2018; Johnson, 2019; Lobato, 2019; Lotz, 2014; Wayne, 2018).

Economically, the transition replaces a reach-and-frequency logic with continuous engagement and direct monetization. Legacy broadcasters must simultaneously fund content

production, technology infrastructure, customer acquisition, and global distribution while protecting cash flows from mature businesses. Pure-play platforms face a different constraint: their asset-light appearance can obscure substantial commitments to content rights, data infrastructure, and subscriber retention. These differences make media an analytically useful setting for studying whether digital intensity translates into realized profitability or merely into expectations about future growth (Doyle, 2013; Jenner, 2018; Johnson, 2019; Küng, 2017; Lobato, 2019).

Digital transformation is therefore a strategic reconfiguration rather than a discrete technology purchase. It links digital resources to value propositions, organizational capabilities, customer interfaces, and revenue models. Prior research emphasizes the need for integrated digital strategy, dynamic renewal, and organizational alignment, but also shows that transformation outcomes vary with business model, capability maturity, and implementation context (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013; Bonnet, Kruschwitz, Fitzgerald, & Welch, 2013; Cusumano, Gawer, & Yoffie, 2019; Hanelt, Bohnsack, Marz, & Antunes Marante, 2021; Lansiti & Lakhani, 2020; Kraus et al., 2021; Li, 2020; Matt, Hess, & Benlian, 2015; Matt, Hess, Benlian, & Wiesböck, 2016; Nadkarni & Prügl, 2021; Nambisan, Lyytinen, Majchrzak, & Song, 2017; Verhoef et al., 2021; Vial, 2019; Westerman, Bonnet, & McAfee, 2014).

Measurement remains a central challenge. Technology expenditure may capture inputs without showing whether digital activities have become economically central; patent counts favor technology producers; and survey measures may be difficult to compare across countries and years. Reviews of the field consequently call for measures that connect strategy, organizational change, and business-model outcomes while remaining reproducible from observable evidence (Hanelt et al., 2021; Kraus et al., 2021; Matt et al., 2015; Nadkarni & Prügl, 2021; Verhoef et al., 2021).

Empirical accounting evidence remains comparatively limited. Many studies proxy transformation with technology expenditure, patents, or surveys; these measures may not capture how deeply digital activities shape revenue, distribution, and customer relationships. Annual reports provide standardized, publicly observable disclosures from which a continuous measure can be constructed. This approach is especially relevant in media, where intangible content, subscriber relationships, and platform infrastructure complicate conventional performance measurement (Beyer, Cohen, Lys, & Walther, 2010; Buhalis & Law, 2008; Dechow, Ge, & Schrand, 2010; Delen, Kuzey, & Uyar, 2013; Doyle, 2013; Havens, Lotz, & Tinic, 2009; Küng, 2017; Moll & Yigitbasioglu, 2019).

This study asks whether digital business intensity, operationalized through a composite Digital Business Intensity Index (DBII), is associated with firm performance measured by ROA and Tobin's Q. It examines 10 leading media and platform firms during 2020-2024, a period spanning pandemic-driven digital acceleration and the subsequent normalization of subscriber growth and investment expectations. The study contributes a disclosure-based

DBII, compares accounting and market outcomes within one design, and provides sector-specific evidence on the broadcast-to-platform transition.

Literature Review and Hypotheses Development

Digital Transformation and the Broadcast-to-Platform Transition

Platform-based media reorganize the traditional value chain. Instead of distributing content mainly through licensed intermediaries, firms establish direct relationships with viewers, collect usage data, personalize recommendations, and coordinate interactions among subscribers, advertisers, and content producers. Two-sided and multi-sided market theory explains why platform value increases with participation across user groups, while ecosystem research shows that advantage depends on orchestration as much as on product differentiation (Eisenmann, Parker, & Van Alstyne, 2006; Eisenmann, 2008; Gawer & Cusumano, 2014; Hagiu & Wright, 2015; Parker & Van Alstyne, 2005; Parker, Van Alstyne, & Choudary, 2016; Rochet & Tirole, 2003; Rochet & Tirole, 2006).

The resulting platform is not simply an online channel for an unchanged product. It alters the firm's boundary, bargaining position, and information base. Direct distribution allows continuous observation of viewing behavior and faster experimentation with pricing, advertising, and content. At the same time, platform competition increases the importance of scale, exclusive intellectual property, interface control, and complementor relationships. Incumbents must therefore coordinate legacy broadcasting assets with new digital ecosystems, whereas pure-play firms can optimize around platform economics from inception (Cusumano et al., 2019; Evens & Donders, 2018; Havens et al., 2009; Iansiti & Lakhani, 2020; Li, 2020).

Digital business intensity describes the strategic depth and operational breadth of this shift. Unlike a binary adoption indicator, DBII captures how extensively digital activities are embedded in revenue generation, direct-to-consumer channels, distribution infrastructure, data-driven processes, and monetization. This multidimensional framing complements evidence that digital capability, digital culture, and information quality shape transformation outcomes (Ardito, Raby, Albino, & Bertoldi, 2021; Proksch, Rosin, Stubner, & Pinkwart, 2024; Setia, Venkatesh, & Joglekar, 2013). In the present sample, DBII ranges from 0.75 to 1.00, so it distinguishes degrees of maturity among firms that are already substantially digital rather than separating adopters from non-adopters.

A disclosure-based measure also has an accounting rationale. Annual reports are recurring, governed communications in which management explains segment performance, strategic priorities, risks, and resource commitments. They enable cross-year coding without relying on respondent recall. The measure nevertheless captures disclosed intensity rather than an unobservable 'true' digital state; firms may differ in disclosure incentives, specificity, and terminology. DBII should thus be interpreted as a composite indicator of observable operational commitment and reporting emphasis, not as a direct measure of technology quality (Beyer et al., 2010; Buhalis & Law, 2008; Moll & Yigitbasioglu, 2019; Setia et al., 2013).

Resource-Based View and Digital Capabilities

The resource-based view (RBV) holds that persistent performance differences arise from valuable, rare, difficult-to-imitate, and non-substitutable resources. Dynamic-capability theory extends this logic to the sensing, seizing, and reconfiguration needed in volatile environments. For media firms, streaming infrastructure, proprietary data, content rights,

analytics, direct customer relationships, and recommendation capabilities constitute interdependent resources whose value depends on coordinated deployment (Barney, 1991; Grant, 1991; Khin & Ho, 2019; Li, Su, Zhang, & Mao, 2018; Penrose, 1959; Teece, Pisano, & Shuen, 1997; Teece, 2018; Warner & Wäger, 2019; Wernerfelt, 1984). Higher DBII should therefore reflect stronger capacity to reduce distribution frictions, improve subscriber management, diversify digital revenue, and deploy assets more efficiently. Although the 2020-2024 investment cycle may delay profitability, the directional expectation remains positive.

The RBV prediction is not that every digital expenditure immediately raises earnings. Capability building can depress near-term returns through technology migration, content acquisition, marketing, and organizational duplication. Performance improves only when resources are integrated into routines that increase conversion, retention, advertising yield, or cost efficiency. This distinction is important for the study period: companies were not merely adopting tools but reconfiguring operating models under intense competitive pressure. DBII is expected to capture the maturity of that reconfiguration, while the estimated coefficient reflects the net effect after both benefits and transition costs (Khin & Ho, 2019; Li et al., 2018; Teece, 2018; Warner & Wäger, 2019).

H1: Digital Business Intensity (DBII) is positively and significantly associated with Return on Assets (ROA).

Signaling Theory and Market Valuation

Signaling theory proposes that better-informed parties communicate quality through observable signals. Corporate disclosures can reduce information asymmetry and communicate strategic positioning, provided that the claims are credible and costly to imitate. A disclosure-based DBII can therefore signal both operational digital commitment and management's willingness to communicate that commitment to investors (Beyer et al., 2010; Diantimala, Syahnur, & Islahuddin, 2022; Ross, 1977; Spence, 1973). Digitally intensive firms may receive valuation premiums because important assets - content libraries, data, brands, algorithms, and subscriber relationships - are incompletely represented in book values. However, investors may discount the signal when disclosed expansion is associated with high content costs, uncertain margins, or aspirational rather than realized capabilities.

Signal credibility depends on observable follow-through. Subscriber growth without improving unit economics, digital revenue without segment profitability, or strategic language without commensurate investment may be interpreted as weak evidence. Conversely, consistent disclosure of digital revenue, subscriber economics, platform capabilities, and monetization progress can help investors evaluate whether transformation is producing economic rents. The market response can therefore change over time as beliefs about growth, competition, and the path to profitability are revised (Beyer et al., 2010; Diantimala et al., 2022; Ross, 1977; Spence, 1973).

ROA captures realized accounting efficiency, whereas Tobin's Q reflects market expectations and intangible growth opportunities. The measures are complementary and can move in different directions during structural change (Chung & Pruitt, 1994; Dechow et al., 2010; Delen et al., 2013; Lindenberg & Ross, 1981; Perfect & Wiles, 1994). On an a priori basis, stronger digital positioning should still support higher market valuation.

Each measure also has limitations in this setting. ROA can be affected by acquisition accounting, content capitalization, and heterogeneous asset bases. Tobin's Q is sensitive to

market sentiment and to the imperfect recognition of internally generated intangible resources. Joint estimation reduces the risk of equating one accounting ratio with the entire performance construct and allows the analysis to distinguish operational realization from capital-market expectations (Chung & Pruitt, 1994; Dechow et al., 2010; Lindenberg & Ross, 1981; Perfect & Wiles, 1994).

H2: Digital Business Intensity (DBII) is positively associated with Tobin's Q.

Leverage and firm size are included because capital structure and scale can independently influence profitability and valuation. Debt may support investment but also increase fixed obligations and constrain earnings, while firm size captures resource availability and operating complexity (Harris & Raviv, 1991; Modigliani & Miller, 1963; Rajan & Zingales, 1995). Revenue scale is retained only for diagnostic comparison because it closely overlaps with total assets in this sample.

Methodology

The study uses purposive sampling to select 10 strategically significant media and digital platform companies observed from 2020 through 2024, producing a balanced dataset of 50 firm-year observations. Selection prioritized segment prominence, geographic and business-model diversity, complete annual-report disclosure, and uninterrupted listed-equity data. The sample covers the United States, United Kingdom, Japan, China, and Hong Kong and includes legacy broadcasters, diversified media groups, a pure-play streamer, a connected-TV platform, and Asia-Pacific OTT services. No asset, revenue, or profitability screen was

Table 1 Sample of Media and Digital Platform Firms

No.	Company	Country	Primary Business Model	Exchange
1	Disney	USA	Diversified media/DTC streaming	NYSE
2	Netflix	USA	Pure-play streaming	NASDAQ
3	Nippon TV	Japan	Broadcasting/digital; majority owner of Studio Ghibli (acq. 2023)	TSE
4	Warner Bros. Discovery	USA	Media conglomerate / streaming	NASDAQ
5	Paramount	USA	Media / streaming (Paramount+)	NASDAQ
6	Roku	USA	Connected TV platform / adtech	NASDAQ
7	Comcast	USA	Telecom / NBC / Peacock streaming	NASDAQ
8	ITV	UK	Broadcasting / ITVM digital	LSE
9	iQIYI	China	Streaming / digital entertainment	NASDAQ
10	PCCW / Viu	Hong Kong	Telecom / OTT streaming	HKEX

Source: Data Processed by Authors, 2025

imposed, reducing survivorship bias and preserving performance heterogeneity. This design favors theoretical coverage over statistical representativeness, consistent with small-sample quantitative research in accounting and business contexts (Gujarati & Porter, 2009; Hair,

Black, Babin, & Anderson, 2010; Prasetyo & Aryani, 2025). Financial statement data were obtained from annual reports and public filings; non-USD values were translated using average annual exchange rates. The composition is deliberate. Disney, Comcast, Warner Bros. Discovery, Paramount, Nippon TV, and ITV represent incumbents that combine legacy distribution with direct-to-consumer expansion; Netflix represents a global pure-play streaming model; Roku represents a connected-TV and advertising-technology platform; and iQIYI and PCCW/Viu extend the sample to Asian OTT markets. Nippon TV also illustrates a content-anchored strategy through its majority acquisition of Studio Ghibli in 2023. Requiring a complete five-year reporting window supports balanced comparison but means the sample should be understood as a strategically representative analytical set rather than a probability sample of the global industry.

Variable Measurement

DBII is constructed through systematic annual-report content analysis using five dimensions: digital revenue and segment disclosure; direct-to-consumer channels and subscriber metrics; digital distribution infrastructure; data-driven operations; and diversified digital monetization. Each dimension is scored on a binary or graduated basis and aggregated to a 0-1 index. ROA equals net income divided by average total assets. Tobin's Q follows the simplified market-capitalization-to-book-assets approach. Leverage is total liabilities divided by total assets; Size is the natural logarithm of average total assets in USD; and LnSales_USD is the natural logarithm of annual revenue in USD.

Table 2 Variable Measurement

Variable	Role	Measurement	Source
DBII	Independent	Composite index (0–1) from annual report content analysis; dimensions: digital revenue, DTC channels, distribution infrastructure, data-driven operations, digital monetization	Annual reports (author-constructed)
ROA	Dependent (accounting)	Net Income/Average Total Assets	Annual reports
Tobin's Q	Dependent (market)	Market Capitalization/Total Book Assets	Annual reports; stock data
Leverage	Control	Total Liabilities/Total Assets	Annual reports
Size	Control	ln(Average Total Assets in USD)	Annual reports
LnSales_USD	Supplementary control (excluded in final model)	ln(Annual Revenue in USD)	Annual reports

The coding protocol is applied consistently to annual reports for every firm-year so that a higher score represents broader and deeper disclosed engagement across the five

dimensions, rather than the presence of a single digital initiative. Average assets are used in ROA and Size to reduce distortion from year-end balance fluctuations. Market capitalization and book assets are aligned to each fiscal year, and currency translation is performed before logarithmic transformation. LnSales_USD is initially included to test whether revenue scale adds information beyond assets; it is later excluded from the preferred specification when diagnostics show near-linear dependence.

Analytical Strategy

Pooled ordinary least squares regression is used because the dataset contains only 10 cross-sectional units and 50 observations; a firm fixed-effects model would consume substantial degrees of freedom and provide unstable within-firm estimates. The sequence comprises descriptive statistics, Pearson correlations, multiple regression, VIF assessment, and condition-index diagnostics (Belsley, Kuh, & Welsch, 1980). JASP version 0.19 was used. The parsimonious specifications are:

The design estimates conditional associations and does not establish causality. Unobserved firm characteristics, reverse influence from performance to digital investment, and common shocks may remain in the error term. The small sample also limits power and the feasibility of more demanding panel estimators. Accordingly, coefficient direction, diagnostic stability, effect magnitude, and consistency across ROA and Tobin's Q are considered alongside conventional significance thresholds.

Model 1 (ROA): $ROA_{it} = \alpha + \beta_1 DBI_{it} + \beta_2 Leverage_{it} + \beta_3 Size_{it} + \epsilon_{it}$

Model 2 (Tobin's Q): $TobinQ_{it} = \alpha + \beta_1 DBI_{it} + \beta_2 Leverage_{it} + \beta_3 Size_{it} + \epsilon_{it}$

Here, i denotes firms and t denotes years. Full four-predictor models including LnSales_USD are reported for diagnostic transparency; the preferred specification retains Size and excludes LnSales_USD after the multicollinearity assessment.

Results and Discussions

Descriptive Statistics

Table 3 shows a high but compressed DBI distribution (mean = 0.900, SD = 0.076, range = 0.750-1.000), reflecting a sample of already-digital firms and limiting variation available for regression. ROA averages 0.016 (SD = 0.071) and ranges from -0.164 to 0.170. Tobin's Q averages 2.166 but is strongly right-skewed (skewness = 4.462; kurtosis = 23.780), largely because of exceptional Netflix observations. Leverage averages 0.597, while Size and LnSales_USD display similar distributions, anticipating their later collinearity.

The descriptive profile reveals meaningful heterogeneity beneath the high average DBI. Netflix combines a consistently maximal index with positive and improving ROA, while firms such as iQIYI and Warner Bros. Discovery report negative returns in some years despite substantial digital engagement. This pattern is consistent with different positions in the investment-to-monetization cycle. The extreme Tobin's Q distribution also indicates that market-based results may be sensitive to influential observations, so the regression coefficient should be interpreted with the distributional evidence rather than in isolation.

Table 3 Descriptive Statistics (N = 50)

Variable	Mean	SD	Min	Max	Skewness	Kurtosis
DBII	0.900	0.076	0.750	1.000	-0.115	-0.362
ROA	0.016	0.071	-0.164	0.170	-0.747	0.672
Tobin's Q	2.166	2.819	0.684	18.560	4.462	23.780
Leverage	0.597	0.196	0.156	0.897	-0.749	0.267
Size	23.920	1.547	21.540	26.340	0.247	-1.429
LnSales_USD	23.330	1.343	21.300	25.540	0.314	-1.474

Note: SD = standard deviation.

Pearson Correlation Analysis

DBII is negatively correlated with Size ($r = -0.370$, $p = .008$) and positively correlated with Leverage ($r = 0.350$, $p = .013$). The most important diagnostic result is the near-unit correlation between Size and LnSales_USD ($r = 0.984$, $p < .001$), showing that the two variables capture nearly the same scale construct. The bivariate relationships between DBII and both outcomes are weak and nonsignificant (ROA: $r = 0.036$, $p = .803$; Tobin's Q: $r = -0.145$, $p = .316$), indicating that any detectable DBII effect is conditional on the controls.

The negative DBII-Size correlation is consistent with the stronger digital orientation of relatively asset-light firms, whereas the positive DBII-Leverage correlation may reflect the financing burden of content and platform investment. These correlations are descriptive and cannot identify direction of influence. More importantly, the difference between the weak bivariate coefficients and the conditional regression estimates shows that sample composition and scale controls materially affect the estimated relationship.

Table 4 Pearson Correlation Matrix

Variable	1	2	3	4	5	6
1. DBII	1					
2. ROA	0.036	1				
3. Tobin's Q	-0.145	0.105	1			
4. Leverage	0.350*	-0.237†	-0.157	1		
5. Size	-0.370**	0.109	-0.234	0.261†	1	
6. LnSales_USD	-0.387**	0.168	-0.190	0.189	0.984***	1

Note: † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

Multiple Regression Results: ROA

The full ROA model is significant, $F(4,45) = 2.914$, $p = .032$, with $R^2 = 0.206$ and adjusted $R^2 = 0.135$. DBII has a positive coefficient ($B = 0.274$, $SE = 0.155$, $\beta = 0.293$, $t = 1.770$, $p = .084$), consistent with H1 but significant only at the 10% level. Leverage is negative and marginal ($B = -0.117$, $p = .066$). Size is negative and nonsignificant, whereas LnSales_USD is positive and marginal; their extreme VIFs make the individual scale coefficients unreliable. H1 is therefore tentatively supported, not confirmed at the conventional 5% level.

Substantively, the positive DBII coefficient indicates that firms with stronger disclosed digital engagement tend to generate higher asset returns after accounting for leverage and scale. The negative leverage estimate is consistent with interest and fixed-obligation pressure on profitability. Nevertheless, the modest adjusted R^2 confirms that content cycles, competitive intensity, macroeconomic conditions, restructuring charges, and firm-specific portfolio decisions account for substantial unexplained variation. The evidence supports a cautious directional interpretation rather than a strong predictive claim.

Table 5 Multiple Linear Regression Results: Return on Assets (ROA)

	B	SE	β (Std.)	t	p	VIF
(Intercept)	-0.710	0.278		-2.557	.014	
DBII	0.274	0.155	0.293	1.770	.084†	1.550
Leverage	-0.117	0.062	-0.323	-1.884	.066†	1.661
Size	-0.050	0.038	-1.090	-1.312	.196	39.121
LnSales_USD	0.075	0.043	1.415	1.753	.086†	36.915

Model fit: $R^2 = 0.206$; adjusted $R^2 = 0.135$; $F(4,45) = 2.914$; $p = .032^*$. Dependent variable: ROA. † $p < .10$; * $p < .05$. B = unstandardized coefficient; SE = standard error; β = standardized coefficient.

Multiple Regression Results: Tobin's Q

The full Tobin's Q model does not reach 5% joint significance, $F(4,45) = 2.221$, $p = .082$, with $R^2 = 0.165$ and adjusted $R^2 = 0.091$. DBII is negative and marginal ($B = -11.378$, $SE = 6.310$, $\beta = -0.306$, $t = -1.803$, $p = .078$), opposite to H2. Leverage is nonsignificant, and Size approaches marginal significance in the negative direction. H2 is not supported; the coefficient indicates a period-specific negative association rather than evidence of a positive valuation premium.

Three features qualify the result. First, the sample period combines pandemic-era growth expectations with subsequent reassessment of streaming profitability. Second, market capitalization can react rapidly to subscriber guidance and content-cost expectations, while book assets adjust more slowly. Third, the distribution contains extreme Q observations. These features can amplify cross-sectional differences and make a small-sample OLS estimate sensitive to the timing and valuation of individual firms.

Table 6 Multiple Linear Regression Results: Tobin's Q

	B	SE	β (Std.)	t	p	VIF
(Intercept)	19.821	11.309		1.753	.086	
DBII	-11.378	6.310	-0.306	-1.803	.078†	1.550
Leverage	2.015	2.531	0.140	0.796	.430	1.661
Size	-3.072	1.552	-1.686	-1.979	.054†	39.121
LnSales_USD	2.781	1.738	1.324	1.600	.117	36.915

Model fit: $R^2 = 0.165$; adjusted $R^2 = 0.091$; $F(4,45) = 2.221$; $p = .082$. Dependent variable: Tobin's Q. † $p < .10$. B = unstandardized coefficient; SE = standard error; β = standardized coefficient.

Multicollinearity Diagnostics

Size and LnSales_USD have VIF values of 39.121 and 36.915, respectively, while the fifth-dimension condition index reaches 320.438. Their variance proportions load on the same near-zero eigenvalue, confirming damaging multicollinearity. The preferred model therefore excludes LnSales_USD and retains Size as the sole scale control. The directional DBII findings remain unchanged in the parsimonious specification, but the full-model scale coefficients should not be interpreted independently.

This correction is substantive rather than cosmetic. When two scale proxies move almost proportionally, their partial coefficients can acquire opposing signs and inflated standardized magnitudes even though the combined model remains estimable. Retaining only total-asset size reduces redundancy, preserves degrees of freedom, and yields a specification more appropriate for inference about DBII and leverage.

Table 7 Collinearity Diagnostics (ROA Model)

Dimension	Eigenvalue	Condition Index	Variance Proportions: DBII	Variance Proportions: Leverage	Variance Proportions: Size	Variance Proportions: LnSales_USD
1	4.918	1.000	0.00	0.002	0.00	0.00
2	0.071	8.298	0.001	0.643	0.00	0.00
3	0.009	22.899	0.302	0.016	0.002	0.001
4	8.99×10^{-4}	73.955	0.684	0.174	0.011	0.005
5	4.79×10^{-5}	320.438	0.012	0.165	0.987	0.994

Note: Condition index values > 30 indicate potentially damaging multicollinearity; values > 10 indicate moderate multicollinearity.

Table 8 Summary of Hypothesis Testing

Hypothesis	Prediction	Result	Outcome
H1: DBII → ROA (positive)	Positive relationship	B = 0.274, p = .084 [†]	Tentatively supported (10% level)
H2: DBII → Tobin's Q (positive)	Positive relationship	B = -11.378, p = .078 [†]	Not supported (opposite sign, 10% level)

Note: [†] Marginally significant at the 10% level.

Discussion

The positive DBII-ROA association is consistent with the RBV argument that coordinated digital resources can improve operational efficiency. Digital distribution, subscriber analytics, direct customer management, and diversified monetization can lower distribution frictions and increase revenue productivity. Netflix illustrates the pattern with consistently high DBII and improving ROA, whereas iQIYI illustrates the time lag that can arise when content investment and competitive pressure precede profitability. Because the coefficient is only marginally significant and DBII has a restricted range, the result should be interpreted as tentative sector evidence rather than a general causal estimate.

The negative DBII-Tobin's Q coefficient reflects a different dimension of performance. During the observation window, several firms with intensive digital commitments also faced high content costs, subscriber-growth normalization, and valuation corrections. Tobin's Q additionally uses book assets that do not fully capture internally developed content, data, brands, and algorithms. Consequently, the result does not establish that digitalization destroys long-run market value; it shows that investor expectations and realized operating efficiency may diverge during a costly platform transition.

Together, the results extend digital-transformation research in three ways. First, they demonstrate the value of a continuous, disclosure-based index within a strategically homogeneous sector. Second, they show why accounting and market measures should be analyzed jointly rather than treated as interchangeable. Third, the multicollinearity diagnosis cautions researchers against including assets and revenue simultaneously as scale controls when the measures are nearly proportional. For managers, the findings favor staged investment, transparent disclosure of monetization progress, and performance dashboards that distinguish capability-building indicators from short-run market sentiment.

Theoretical interpretation should therefore remain asymmetric. The ROA result offers tentative support for the RBV mechanism because it concerns realized use of assets and operating capability. The Tobin's Q result does not simply reject signaling theory; it indicates that the market may have interpreted intensive digital commitment as costly or uncertain during this particular period. Signals are evaluated in context, and the same disclosure that implied growth during early streaming expansion could later highlight exposure to content inflation, saturation, and execution risk.

Conclusions

This study evaluates the relationship between digital business intensity and performance for 10 media and platform firms across 50 firm-year observations. DBII is positively associated with ROA at the 10% level, providing tentative support for H1, while its association with Tobin's Q is negative and marginal, so H2 is not supported. The contrast suggests that digital capabilities may improve realized efficiency even when capital markets discount transformation costs or reassess growth expectations.

The study contributes a disclosure-based DBII and demonstrates the analytical value of combining accounting and market outcomes. Practically, firms should link digital narratives to measurable revenue, margin, and subscriber economics; investors should avoid treating digital intensity as a sufficient valuation signal; and researchers should use only one highly correlated scale control.

Several limitations constrain interpretation. The purposive sample is small, DBII measures disclosed rather than directly observed activity, and 2020-2024 includes unusual pandemic and post-pandemic conditions. Future research should expand geographic coverage, extend the time series, validate DBII against technology investment and workforce data, test fixed-effects or robust estimators in larger panels, and compare pure-play platforms with legacy broadcasters. These extensions could clarify whether the observed valuation pattern is temporary or persists across market cycles.

Additional work should also evaluate coding reliability, alternative weighting of DBII dimensions, nonlinear effects, and lagged relationships between investment and performance. A larger sample could test whether business-model type moderates the DBII effect and whether results differ across mature and emerging streaming markets. Robustness

checks using winsorized Tobin's Q, alternative market-value constructions, and time fixed effects would be especially valuable given the observed skewness and the period-specific nature of investor expectations.

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