

Perception of Transparency in the Goods and Services Tax (GST) System: A Comparative Analysis of Organizational and Operational Determinants among Business Enterprises

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Govt. Vivekanand P.G. College, Maihar
APS University, Rewa (M.P.)**Abstract**

The Goods and Services Tax (GST), implemented in India on 1 July 2017, was designed to unify a fragmented indirect tax structure and to enhance transparency in the pricing and taxation of goods and services. While transparency is frequently cited as a core objective of the reform, the extent to which businesses actually perceive the system as transparent remains an open empirical question, particularly given documented compliance burdens on small and medium enterprises. This study examines the perception of transparency in the GST system among 400 business enterprises operating in and around Satna district, Madhya Pradesh, and investigates whether this perception varies systematically across seven organizational and operational characteristics: type of business, business sector/formalization status, nature of ownership, years of operation, annual turnover, GST registration status, and location of business. Data were analyzed using one-way Analysis of Variance (ANOVA) for the five categorical variables with more than two groups, and independent samples t-tests for the two dichotomous variables (registration status and location). The findings suggest that direct, lived experience of GST compliance is associated with lower perceived transparency than passive or external observation of the system, with implications for tax administration, policy communication, and future simplification efforts.

Keywords: Goods and Services Tax, GST transparency, tax perception, ANOVA, independent samples t-test, business compliance, India.

1. Introduction

The introduction of the Goods and Services Tax in India marked one of the most significant reforms to the country's indirect taxation framework, subsuming a range of central and state-level levies into a single, unified tax structure (Shacheendran, 2024). Among the stated objectives of this reform was the promotion of transparency in the taxation and pricing of goods and services, achieved through mechanisms such as e-invoicing, real-time invoice matching, and the seamless flow of input tax credit across the supply chain (Mishra & Singh, 2019). Digitisation of tax processes has, in several studies, been associated with a reduction in fraudulent transactions and an improvement in perceived transparency (Gupta, 2020).

However, transparency as designed and transparency as experienced are not necessarily equivalent. A growing body of literature suggests that while the GST framework enhanced transparency in principle, its practical implementation has imposed considerable compliance costs, particularly on micro, small, and medium enterprises with limited administrative and digital capacity (Dey et al., 2020). Studies of GST awareness among small retailers have similarly found that improved transparency has been accompanied by uneven and, at times, burdensome compliance experiences (Ramkumar et al., 2023). This tension between the theoretical design of GST and its lived experience by taxpayers forms the central motivation for the present study.

This paper investigates how business enterprises in the Rewa–Satna region of Madhya Pradesh perceive the transparency of the GST system, and whether this perception is shaped by organisational and operational characteristics such as the nature, scale, ownership, age, and registration status of the business. A sample of 400 enterprises was surveyed, and the resulting data were subjected to inferential statistical testing to determine which, if any, of these characteristics are systematically associated with differences in perceived transparency.

2. Review of Literature

Empirical research on GST perception in India has expanded considerably since the tax's introduction in 2017, though relatively few studies have examined transparency perception specifically at the level of the registered business enterprise, as distinct from the end consumer. Consumer-focused research has generally found a positive but qualified outlook: Dey et al. (2020), in a study of consumer perception in Odisha, reported that while respondents associated GST with greater uniformity and transparency, concerns about price increases and a lack of clarity persisted, leading the authors to call for stronger awareness campaigns and government communication.

At the level of the firm, Ramkumar et al. (2023) applied a structural equation modelling approach to taxpayers' perceptions of GST in India, situating transparency alongside compliance burden as a determinant of overall attitude toward the tax regime. Nikam (2022) similarly examined consumer and business perception of GST implementation and its effects, finding that awareness levels rose over time even as perceptions of procedural simplicity remained mixed. Research on small retailers has produced comparable findings: initial low awareness gradually improved, but not all small business owners came

to regard the GST system as straightforward or easy to navigate, and no significant relationship was found between GST awareness and compliance difficulty, in contrast to a stronger association between reliance on external professional support and perceived compliance burden.

On the technological dimension, Mishra and Singh (2019) found that the introduction of e-invoicing and the e-way bill system substantially reduced tax evasion and enhanced transparency through digitisation of tax processes. Gupta (2020) extended this line of enquiry, reporting that businesses became more likely to report transactions accurately once real-time invoice matching and input tax credit mechanisms were in place. Shacheendran (2024), using an Interpretive Structural Modelling approach, catalogued the range of barriers reported by Indian business owners under GST and reaffirmed that improved transparency and ease of doing business remain central aims of the reform, even where specific implementation barriers persist.

Taken together, this literature suggests two competing dynamics that motivate the present study. On one hand, digitisation and procedural reform are widely credited with improving the objective transparency of the tax system. On the other hand, firms that interact directly and repeatedly with GST compliance requirements report persistent difficulties that may erode subjective, experienced transparency. The present study contributes to this literature by testing, across seven organisational and operational dimensions, precisely where and for whom this gap between designed and experienced transparency is most pronounced.

3. Research Methodology

The study adopted a descriptive, cross-sectional survey design. Primary data were collected from 400 business enterprises through a structured questionnaire capturing respondents' perception of price changes and price transparency following the implementation of GST, measured on a continuous perception scale ranging from 1.50 to 3.50. In addition to the transparency perception score, the questionnaire recorded seven classificatory variables for each enterprise: type of business (manufacturing, trading, services, retail, others), business sector or formalisation status (registered under MSME, unregistered, informal sector), nature of ownership (proprietorship, partnership, private limited company, others), years of operation (less than 1 year, 1–5 years, 6–10 years, more than 10 years), annual turnover (less than ₹10 lakhs, ₹10–50 lakhs, ₹50 lakhs–₹1 crore, above ₹1 crore), GST registration status (registered, unregistered), and location of business (urban Satna, semi-urban/rural area).

For each of the five categorical variables comprising more than two groups (type of business, business sector, nature of ownership, years of operation, and annual turnover), a one-way Analysis of Variance (ANOVA) was conducted to test for differences in mean perception scores across groups. For the two dichotomous variables (GST registration status and location of business), independent samples t-tests were employed, supplemented by Levene's test for equality of variances. All hypotheses were tested at the conventional 5% level of significance ($\alpha = 0.05$), with p-values between 0.05 and 0.10 interpreted as indicating a marginal or borderline trend rather than statistical significance in the strict sense.

4. Results and Discussion

This section presents the results of the analysis, organised by the seven organisational and operational characteristics under investigation. Across the full sample of 400 enterprises, the overall mean perception score was 2.77 (SD = 0.59), indicating a moderate and relatively consistent level of perceived transparency in the GST system before disaggregation by business characteristics.

4.1 Perception of Transparency by Type of Business

H₀₃₁: There is no significant difference in the perception of businessmen regarding price changes and price transparency after GST with respect to the type of business.

H₁₃₁: There is a significant difference in the perception of businessmen regarding price changes and price transparency after GST with respect to the type of business.

Table 1: Descriptive Statistics — Perception towards Transparency in GST by Type of Business

Type of Business	N	Mean	SD	SE	95% CI Lower	95% CI Upper	Min	Max
Manufacturing	86	2.8110	0.56221	0.06062	2.6905	2.9316	1.50	3.50
Trading	56	2.8348	0.56262	0.07518	2.6842	2.9855	1.50	3.50
Services	89	2.7107	0.62032	0.06575	2.5800	2.8413	1.50	3.50
Retail	85	2.7618	0.59750	0.06481	2.6329	2.8906	1.50	3.50
Others	84	2.7649	0.57868	0.06314	2.6393	2.8905	1.50	3.50
Total	400	2.7719	0.58516	0.02926	2.7144	2.8294	1.50	3.50

The mean perception score across all 400 enterprises was 2.77 (SD = 0.59), reflecting moderate perceived transparency with relatively limited dispersion across the sample. Trading enterprises reported the highest perception of transparency (M = 2.83, N = 56, SD = 0.56), followed closely by manufacturing enterprises (M = 2.81, N = 86, SD = 0.56). Retail and other business types both recorded a mean of 2.76, while the services sector reported the lowest perceived transparency (M = 2.71, N = 89, SD = 0.62), which may reflect the sector's earlier difficulties with service tax classification during the transition to GST. The spread of means across categories was narrow, at only 0.12 points, and standard deviations were similarly consistent (0.56–0.62), indicating broadly homogeneous perceptions within each business type.

Table 2: ANOVA Results — Perception towards Transparency in GST by Type of Business

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.700	4	0.175	0.509	0.729
Within Groups	135.921	395	0.344		
Total	136.621	399			

The ANOVA results indicate no statistically significant variation in perceived transparency across business types, $F(4, 395) = 0.509$, $p = 0.729$. Between-group variation ($SS = 0.700$) accounted for a negligible share of total variation relative to within-group variation ($SS = 135.921$), and the resulting F-ratio fell well below 1.0. The null hypothesis H_{031} is therefore accepted: the type of business does not significantly influence perception of transparency in GST. This finding indicates that concerns about, or confidence in, GST transparency are broadly shared across manufacturing, trading, services, retail, and other business categories, irrespective of their supply-chain position or industry-specific compliance challenges.

4.2 Perception of Transparency by Business Sector

H₀₃₂: There is no significant difference in the perception of businessmen regarding price changes and price transparency after GST with respect to the business sector.

H₁₃₂: There is a significant difference in the perception of businessmen regarding price changes and price transparency after GST with respect to the business sector.

Table 3: Descriptive Statistics — Perception towards Transparency in GST by Business Sector

Business Sector	N	Mean	SD	SE	95% CI Lower	95% CI Upper	Min	Max
Registered under MSME	108	2.7431	0.59344	0.05710	2.6299	2.8563	1.50	3.50
Unregistered	150	2.7750	0.57181	0.04669	2.6827	2.8673	1.50	3.50
Informal sector	142	2.7905	0.59597	0.05001	2.6916	2.8894	1.50	3.50
Total	400	2.7719	0.58516	0.02926	2.7144	2.8294	1.50	3.50

Enterprises operating within the informal sector reported the highest perceived transparency ($M = 2.79$, $N = 142$, $SD = 0.60$), followed closely by unregistered enterprises with some business identity but no formal MSME classification ($M = 2.78$, $N = 150$, $SD = 0.57$). Enterprises formally registered under the MSME framework reported the lowest perceived transparency ($M = 2.74$, $N = 108$, $SD = 0.59$). All three groups clustered tightly around the overall mean, with comparable standard deviations (0.57–0.60), suggesting that the perceived transparency of informal-sector enterprises is virtually indistinguishable from that of fully registered MSME entities — a pattern that calls into question assumptions about the informational benefits typically associated with formalisation.

Table 4: ANOVA Results — Perception towards Transparency in GST by Business Sector

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.140	2	0.070	0.204	0.815
Within Groups	136.481	397	0.344		
Total	136.621	399			

No significant differences in perceived transparency were found across business sectors, $F(2, 397) = 0.204$, $p = 0.815$. Between-group variation accounted for less than 0.1% of total variation. This result suggests that formal MSME registration status does not meaningfully shape perceived transparency; whether an enterprise operates as a fully registered MSME, an unregistered entity, or a purely informal operation, its assessment of GST transparency remains statistically indistinguishable. The null hypothesis H_{032} is accordingly retained.

4.3 Perception of Transparency by Nature of Ownership

H₀₃₃: There is no significant difference in the perception of businessmen regarding price changes and price transparency after GST with respect to the nature of ownership.

H₁₃₃: There is a significant difference in the perception of businessmen regarding price changes and price transparency after GST with respect to the nature of ownership.

Table 5: Descriptive Statistics — Perception towards Transparency in GST by Nature of Ownership

Nature of Ownership	N	Mean	SD	SE	95% CI Lower	95% CI Upper	Min	Max
Proprietorship	124	2.8044	0.58222	0.05229	2.7009	2.9079	1.50	3.50

Nature of Ownership	N	Mean	SD	SE	95% CI Lower	95% CI Upper	Min	Max
Partnership	125	2.7500	0.60409	0.05403	2.6431	2.8569	1.50	3.50
Private Limited Company	100	2.7525	0.58224	0.05822	2.6370	2.8680	1.50	3.50
Others	51	2.7843	0.56351	0.07891	2.6258	2.9428	1.50	3.50
Total	400	2.7719	0.58516	0.02926	2.7144	2.8294	1.50	3.50

Proprietorship firms reported the highest perceived transparency ($M = 2.80$, $N = 124$, $SD = 0.58$), followed by other ownership structures such as cooperatives, trusts, or hybrid entities ($M = 2.78$, $N = 51$, $SD = 0.56$). Private limited companies and partnership firms both reported a mean of 2.75. The differences across ownership types were minimal, spanning a range of only 0.05 points, with standard deviations remaining consistent (0.56–0.60) across categories.

Table 6: ANOVA Results — Perception towards Transparency in GST by Nature of Ownership

Source	Sum Squares	df	Mean Square	F	Sig.
Between Groups	0.237	3	0.079	0.229	0.876
Within Groups	136.384	396	0.344		
Total	136.621	399			

No significant difference in perceived transparency was found across ownership structures, $F(3, 396) = 0.229$, $p = 0.876$, with between-group variation accounting for less than 0.2% of total variation. This finding is notable when set against prior evidence that ownership structure shapes GST awareness and compliance comprehension; while organisational structure may affect a firm's capacity to navigate GST requirements, it does not appear to shape core perceptions of the transparency of the system's design and operation. The null hypothesis H_{033} is retained.

4.4 Perception of Transparency by Years of Operation

H₀₃₄: There is no significant difference in the perception of businessmen regarding price changes and price transparency after GST with respect to the years of operation.

H₁₃₄: There is a significant difference in the perception of businessmen regarding price changes and price transparency after GST with respect to the years of operation.

Table 7: Descriptive Statistics — Perception towards Transparency in GST by Years of Operation

Years of Operation	N	Mean	SD	SE	95% CI Lower	95% CI Upper	Min	Max
Less than 1 year	89	2.6433	0.61340	0.06502	2.5140	2.7725	1.50	3.50
1–5 years	90	2.9722	0.46574	0.04909	2.8747	3.0698	1.50	3.50
6–10 years	66	2.7045	0.47008	0.05786	2.5890	2.8201	1.50	3.50
More than 10 years	155	2.7581	0.64681	0.05195	2.6554	2.8607	1.50	3.50
Total	400	2.7719	0.58516	0.02926	2.7144	2.8294	1.50	3.50

A distinct, non-linear pattern emerged for years of operation. Enterprises operating for one to five years reported the highest perceived transparency ($M = 2.97$, $N = 90$, $SD = 0.47$), a group that was distinctly different from the others, combining a higher mean with a markedly lower standard deviation, indicating both a more favourable and a more unanimous perception within this cohort. Enterprises with more than ten years of operation — the largest single group, comprising approximately 40% of the sample — reported a lower mean of 2.76 ($N = 155$, $SD = 0.65$). Enterprises with six to ten years of operation scored 2.70 ($N = 66$, $SD = 0.47$), while the newest firms, in operation for less than one year, reported the lowest perceived transparency ($M = 2.64$, $N = 89$, $SD = 0.61$). This curvilinear trend suggests that newly established enterprises perceive the least transparency, perception improves markedly for enterprises with one to five years of experience, and then declines again among more established firms.

Table 8: ANOVA Results — Perception towards Transparency in GST by Years of Operation

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.414	3	1.805	5.446	0.001
Within Groups	131.208	396	0.331		
Total	136.621	399			

The ANOVA results reveal a statistically significant difference in perceived transparency across years of operation, $F(3, 396) = 5.446$, $p = 0.001$. Between-group variation ($SS = 5.414$) accounted for approximately 4% of total variation, and the p-value of 0.001 offers strong evidence in favour of rejecting the null hypothesis. This finding suggests that perceived transparency evolves with business experience in a non-linear fashion, with a 'sweet spot' at one to five years of operation, where firms possess sufficient familiarity with the system to navigate it effectively but have not yet accumulated the extended historical experience that appears to be associated with greater scepticism. The null hypothesis H_{034} is rejected, and years of operation is confirmed as a significant determinant of perceived GST transparency.

4.5 Perception of Transparency by Annual Turnover

H₀₃₅: There is no significant difference in the perception of businessmen regarding price changes and price transparency after GST with respect to the annual turnover.

H₁₃₅: There is a significant difference in the perception of businessmen regarding price changes and price transparency after GST with respect to the annual turnover.

Table 9: Descriptive Statistics — Perception towards Transparency in GST by Annual Turnover

Annual Turnover	N	Mean	SD	SE	95% CI Lower	95% CI Upper	Min	Max
Less than ₹10 lakhs	157	2.8376	0.56249	0.04489	2.7489	2.9263	1.50	3.50
₹10–50 lakhs	89	2.6517	0.64691	0.06857	2.5154	2.7880	1.50	3.50
₹50 lakhs–₹1 crore	44	2.6875	0.56323	0.08491	2.5163	2.8587	1.50	3.50
Above ₹1 crore	110	2.8091	0.56150	0.05354	2.7030	2.9152	1.50	3.50
Total	400	2.7719	0.58516	0.02926	2.7144	2.8294	1.50	3.50

A U-shaped relationship emerged between annual turnover and perceived transparency. The smallest enterprises, with turnover below ₹10 lakhs and constituting the largest segment of the sample ($N = 157$, 39%), reported the highest perceived transparency ($M = 2.84$, $SD = 0.56$), closely matched by the largest enterprises, with turnover above ₹1 crore ($M = 2.81$, $N = 110$, $SD = 0.56$). Mid-sized enterprises reported markedly lower perceptions: those with turnover between ₹50 lakhs and ₹1 crore recorded a mean of 2.69 ($N = 44$, $SD = 0.56$), while those with turnover between ₹10 and 50 lakhs recorded the lowest mean

of 2.65 ($N = 89$, $SD = 0.65$). This pattern suggests that mid-sized enterprises, transitioning from micro-scale simplicity to larger-scale operational complexity, may encounter distinctive difficulties in perceiving GST transparency.

Table 10: ANOVA Results — Perception towards Transparency in GST by Annual Turnover

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.429	3	0.810	2.389	0.068
Within Groups	134.192	396	0.339		
Total	136.621	399			

The ANOVA results indicate a marginally non-significant difference across turnover categories, $F(3, 396) = 2.389$, $p = 0.068$. Although this falls short of the conventional $\alpha = 0.05$ threshold, the result lies close enough to significance, and the between-group variation (accounting for approximately 1.8% of total variation) is substantial enough, to merit careful interpretation as a trend toward significance. The observed U-shaped pattern in the means, combined with its theoretical plausibility, suggests that mid-sized enterprises may face distinctive obstacles or hold different expectations regarding GST transparency relative to very small or very large enterprises, even though the statistical evidence is not conclusive at the 5% level. The null hypothesis $H_{0.35}$ is accepted according to standard significance criteria, though the marginal trend warrants further investigation in future research.

4.6 Perception of Transparency by GST Registration Status

Table 11: Descriptive Statistics — Perception towards Transparency in GST by GST Registration Status

GST Registration Status	N	Mean	SD	SE	95% CI Lower	95% CI Upper	Min	Max
Registered	177	2.6073	0.61450	0.04619	2.5162	2.6985	1.50	3.50
Unregistered	223	2.9025	0.52662	0.03526	2.8330	2.9720	1.50	3.50
Total	400	2.7719	0.58516	0.02926	2.7144	2.8294	1.50	3.50

GST registration status produced the most striking contrast in the study, distinguishing enterprises with direct, operational experience of GST compliance from those observing the system from outside its formal requirements. Unregistered enterprises, comprising 56% of the sample, reported a substantially higher mean perception of transparency ($M = 2.90$, $N = 223$, $SD = 0.53$) than registered enterprises ($M =$

2.61, $N = 177$, $SD = 0.61$) — a difference of 0.29 points, or roughly half a standard deviation. Unregistered enterprises also exhibited less variability in their responses ($SD = 0.53$) than registered enterprises ($SD = 0.61$), suggesting greater consensus within the unregistered group.

Table 12: ANOVA Results — Perception towards Transparency in GST by GST Registration Status

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.594	1	8.594	26.718	0.000
Within Groups	128.027	398	0.322		
Total	136.621	399			

The ANOVA confirms a highly significant difference between registered and unregistered enterprises, $F(1, 398) = 26.718$, $p < 0.001$ — the strongest statistical result obtained anywhere in the analysis. Between-group variation ($SS = 8.594$) accounted for approximately 6.3% of total variation, a substantial share for a single binary predictor. This paradoxical finding — that enterprises actively compliant with GST perceive markedly less transparency than those that are not — represents one of the most consequential results of the study, indicating a meaningful disparity between the theoretical transparency of the system's design and the transparency actually experienced through compliance.

Table 13: Group Statistics — Perception towards Transparency in GST by GST Registration Status

GST Registration Status	N	Mean	SD	SE Mean
Registered	177	2.6073	0.61450	0.04619
Unregistered	223	2.9025	0.52662	0.03526

Registered enterprises ($N = 177$) reported a mean perception score of 2.61 ($SD = 0.61$, $SE = 0.046$), compared with 2.90 ($SD = 0.53$, $SE = 0.035$) for unregistered enterprises ($N = 223$). The larger standard deviation among registered enterprises indicates greater variability in attitudes among firms actively engaged in GST compliance, while the smaller standard error for unregistered enterprises reflects both a larger sample size and lower variability, yielding a more precise estimate of that group's mean.

Table 14: Independent Samples Test — Perception towards Transparency in GST by GST Registration Status

Assumption	Levene's F	Levene's Sig.	t	df	Sig. (2-tailed)	Mean Diff.	SE Diff.
Equal variances assumed	9.780	.002	-5.169	398	.000	-.29512	.05710
Equal variances not assumed			-5.078	347.405	.000	-.29512	.05811

The independent samples t-test confirms that the observed mean difference reflects a genuine population disparity. Assuming equal variances, $t(398) = -5.169$, $p < 0.001$, mean difference = -0.295 ($SE = 0.057$), 95% CI $[-0.407, -0.183]$. The alternative Welch's t-test, which does not assume equal variances, yields a near-identical result, $t(347.405) = -5.078$, $p < 0.001$, 95% CI $[-0.409, -0.181]$. The effect size (Cohen's $d = 0.52$) indicates a medium-to-large effect, denoting both statistical and practical significance. This finding indicates that direct interaction with GST compliance mechanisms is associated with significantly lower perceived transparency, suggesting that transparency-oriented reforms should focus on the practical experience of compliance rather than solely on the theoretical design of the system.

4.7 Perception of Transparency by Location of Business

Table 15: Group Statistics — Perception towards Transparency in GST by Location of Business

Location of Business	N	Mean	SD	SE Mean
Urban Satna	179	2.8240	.57429	.04292
Semi-Urban/Rural Area	221	2.7296	.59174	.03980

Urban Satna enterprises, comprising 45% of the sample ($N = 179$), reported a mean perception score of 2.82 ($SD = 0.57$, $SE = 0.043$), compared with 2.73 ($SD = 0.59$, $SE = 0.040$) among the 221 semi-urban and rural enterprises comprising the remainder of the sample. The 0.09-point mean difference is considerably smaller than that observed for registration status (0.29 points), and standard deviations were nearly identical across locations (0.57 versus 0.59), indicating comparable variability in perceptions regardless of geographic context.

Table 16: Independent Samples Test — Perception towards Transparency in GST by Location of Business

Assumption	Levene's F	Levene's Sig.	t	df	Sig. (2-tailed)	Mean Diff.	SE Diff.
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Assumption	Levene's F	Levene's Sig.	t	df	Sig. (2-tailed)	Mean Diff.	SE Diff.
Equal variances assumed	.244	.622	1.607	398	.109	.09438	.05872
Equal variances not assumed			1.612	385.257	.108	.09438	.05854

The independent samples t-test indicates no statistically significant difference between urban and semi-urban/rural enterprises. Assuming equal variances, $t(398) = 1.607$, $p = 0.109$, mean difference = 0.094 (SE = 0.059), 95% CI [-0.021, 0.210]; the confidence interval intersects zero, indicating that the true population difference could favour either group. The alternative Welch's test produces nearly identical results, $t(385.257) = 1.612$, $p = 0.108$. Both p-values exceed the 0.05 threshold, indicating that geographic location and proximity to urban infrastructure do not significantly shape enterprises' perceptions of GST transparency. This is a broadly encouraging result, suggesting that improvements in digital infrastructure may have helped to equalise access to GST information across the urban-rural divide.

4.8 Summary of Findings

Across the seven organisational and operational characteristics examined, three produced statistically significant or marginally significant associations with perceived GST transparency, while four produced none.

GST registration status emerged as the strongest predictor of perceived transparency ($F = 26.718$, $p < 0.001$; $t = -5.169$, $p < 0.001$, Cohen's $d = 0.52$), with registered enterprises reporting markedly lower transparency ($M = 2.61$) than unregistered enterprises ($M = 2.90$). This is the single most consequential finding of the study: genuine engagement with the GST compliance process appears to diminish, rather than reinforce, perceived transparency, pointing to a substantial gap between the system's theoretical design and its operational execution.

Years of operation was also significantly associated with perceived transparency ($F = 5.446$, $p = 0.001$), following a curvilinear pattern in which enterprises with one to five years of experience reported the highest transparency ($M = 2.97$), while both newer ($M = 2.64$) and considerably older enterprises ($M = 2.76$) reported lower perceptions — consistent with an interpretation in which moderate experience represents an optimal balance between familiarity and accumulated scepticism.

Annual turnover exhibited a marginally non-significant U-shaped trend ($F = 2.389$, $p = 0.068$), in which both the smallest ($M = 2.84$) and largest enterprises ($M = 2.81$) reported higher perceived transparency than mid-sized enterprises ($M = 2.65$ – 2.69), suggesting that mid-sized firms may face distinctive compliance challenges even though this pattern did not reach conventional statistical significance.

Type of business ($F = 0.509$, $p = 0.729$), business sector or formalisation status ($F = 0.204$, $p = 0.815$), nature of ownership ($F = 0.229$, $p = 0.876$), and location of business ($t = 1.607$, $p = 0.109$) showed no significant association with perceived transparency. This pattern of homogeneity indicates that concerns

about GST transparency are broadly and evenly distributed across different business types, ownership structures, levels of formality, and geographic locations.

5. Discussion

The central finding of this study — that formally registered, GST-compliant enterprises perceive significantly less transparency than unregistered enterprises — resonates with, and extends, prior research on the gap between the design and lived experience of GST compliance. Where earlier studies found that digitisation of tax processes such as e-invoicing and real-time invoice matching reduced fraud and, in principle, improved transparency (Mishra & Singh, 2019; Gupta, 2020), the present findings suggest that these same mechanisms may be experienced by compliant firms as sources of procedural complexity rather than clarity. This is consistent with evidence that small business owners, despite improved awareness over time, do not uniformly regard the GST system as simple or transparent (Ramkumar et al., 2023), and with findings that compliance burden, more than awareness itself, drives negative perceptions of the system (Dey et al., 2020).

The curvilinear relationship observed for years of operation adds nuance to this picture. Firms in their first year of operation may lack the institutional knowledge to navigate GST procedures with confidence, while very long-established firms may carry forward accumulated frustration from earlier, more turbulent phases of GST implementation. Firms in the one-to-five-year range appear to occupy a favourable middle position, having acquired sufficient operational familiarity without extended historical grievance. The marginal U-shaped pattern by turnover similarly points to mid-sized enterprises as a group meriting particular policy attention, as they may be large enough to face complex, multi-slab compliance obligations but not yet large enough to have dedicated compliance infrastructure.

The absence of significant differences by business type, sector, ownership structure, and location is, in several respects, a reassuring finding. It suggests that perceived transparency is not concentrated in, or systematically withheld from, any particular segment of the business population defined by industry, formalisation status, ownership form, or geography. Instead, the primary fault line in perceived transparency runs along the axis of direct regulatory engagement — registration status — and, to a lesser extent, the temporal experience of operating under the regime.

6. Conclusion

This study examined perceived transparency in the GST system among 400 business enterprises across seven organisational and operational dimensions. The findings indicate that perceived transparency is largely uniform across type of business, business sector, ownership structure, and geographic location, but varies significantly by GST registration status and years of operation, with a marginal trend evident for annual turnover. The most striking result — that GST-registered enterprises perceive markedly less transparency than their unregistered counterparts — suggests that policy efforts aimed at improving perceived transparency should prioritise the lived experience of compliance itself, rather than focusing solely on the communicative or procedural design of the tax system. Simplifying compliance procedures for newly registered and mid-sized enterprises, and addressing the sources of accumulated frustration

among long-established, registered firms, may be particularly productive avenues for future reform. Future research could usefully extend this analysis through qualitative interviews with registered enterprises to identify the specific compliance touchpoints most responsible for diminished perceptions of transparency, and through longitudinal designs capable of tracking how perception evolves as individual firms accumulate experience under the regime.

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