

PERCEIVED COMPLEXITY OF GST FILING AND ITS EFFECT ON BUSINESS DECISION-MAKING AMONG SMALL TRADERS: EVIDENCE FROM PUNJAB

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ABSTRACT

The Goods and Services Tax (GST), introduced in India in July 2017, was designed to replace a fragmented indirect tax structure with a unified, technology-driven compliance system. While this reform achieved its stated objective of reducing cascading effects of multiple taxes, it simultaneously imposed a new layer of procedural complexity on small traders who operate without dedicated finance staff or accounting systems. This study investigates how small traders in Punjab perceive the complexity of GST filing, and whether that perception tangibly influences their business decision-making across dimensions of pricing, vendor relationships, inventory management, and business expansion.

Primary data were collected from 150 small traders across three major commercial districts of Punjab — Ludhiana, Amritsar, and Jalandhar — using a structured, pre-tested questionnaire. Respondents were selected using stratified random sampling, with strata defined by business category (retail and services) and annual turnover. The study employs a multi-method analytical framework: descriptive statistics for respondent profiling, Reliability Analysis (Cronbach's Alpha) to validate the measurement instrument, a one-sample z-test to benchmark perceived complexity against a neutral reference point, an independent samples t-test to detect filing-mode differences, a one-way ANOVA to examine variation across trader education levels, and simple linear regression to quantify the predictive relationship between perceived complexity and overall business decision conservatism.

Findings confirm that perceived GST filing complexity in this sample is significantly above neutral levels ($z = 10.24$, $p < 0.001$). Traders filing independently score materially higher on complexity perception than consultant-assisted filers ($t = 8.12$, $p < 0.001$). Education level significantly moderates complexity perception, with traders educated up to secondary school reporting the highest complexity scores ($F = 14.37$, $p < 0.001$). Regression analysis establishes that perceived complexity explains 38.4% of variance in business decision conservatism ($R^2 = 0.384$, $p < 0.001$). The study argues that the compliance burden on small traders is not merely administrative but has real strategic consequences, pushing businesses toward conservative, lower-growth positions.

Keywords: *GST compliance, perceived complexity, small traders, business decision-making, tax burden, Punjab, ANOVA, regression, t-test*

1. INTRODUCTION

India's GST reform, which came into force on 1 July 2017, replaced at least seventeen different central and state levies with a single, destination-based, multi-tier tax structure administered through a unified digital portal. For large businesses with tax departments, chartered accountants, and ERP systems, the transition was substantial but manageable. For the country's vast base of small traders — the textile dealer in Ludhiana's Chaura Bazar, the

hardware shop owner in Amritsar's Lawrence Road market, the modest courier franchisee in Jalandhar — the transition introduced something they had not previously encountered: a monthly obligation to match invoices, file returns, and reconcile input tax credits through a web portal.

The GST Network (GSTN) handles over 130 million returns annually. A large share of these are filed by taxpayers who fall below the Rs. 1.5 crore turnover threshold — precisely the small trader category this study is concerned with. This segment does not fit neatly into the narrative of GST as a successful formalisation tool. For them, formalisation has meant compliance costs they did not incur before, digital literacy demands that many have not met comfortably, and a monthly cadence of documentation that competes with the already stretched bandwidth of running a small business.

This study examines two inter-related questions. First, how do small traders in Punjab actually perceive the complexity of GST filing — and does this vary meaningfully by education level and filing method? Second, and more importantly, does perceived complexity translate into changed business behaviour? If traders who find GST filing complex are also more reluctant to expand their buyer base, take on new vendors, or invest in additional inventory, then the compliance burden is not just an inconvenience — it is a drag on business growth. Punjab provides a useful research context given its large base of small traders in textiles, agri-commodities, and manufacturing ancillaries, many of whom operate multi-generational family businesses with minimal formal accounting infrastructure.

2. REVIEW OF LITERATURE

2.1 Tax Complexity and Compliance Costs

Sandford (1995) provided the foundational framework for understanding tax compliance costs, distinguishing between direct costs (money paid to consultants, software), time costs (hours spent on filing), and psychological costs (stress and cognitive burden). Subsequent empirical work by Evans et al. (2014) established that small businesses bear compliance costs equivalent to 1.9–4.7% of their tax liability, far exceeding the burden faced by larger firms on a proportional basis. Lignier and Evans (2012) further demonstrated that compliance cost burden inversely correlates with firm size, making small traders systematically more burdened per unit of tax paid.

In the Indian context, Dani (2016) surveyed small businesses in Gujarat and found that over 55% rated VAT compliance as moderately to severely burdensome. Post-GST, Kumar (2018) found that compliance costs for small enterprises had increased rather than decreased in the first year of implementation, attributed largely to technical errors on the GSTN portal and the requirement for invoice-level reconciliation.

2.2 Digital Complexity and Small Trader Capability

Lourdunathan and Xavier (2017) raised concerns about digital readiness among small traders even before GST's full implementation. Their pre-reform survey found that over 60% of small traders in Tamil Nadu had limited or no prior experience with digital tax filing. Saravanan and Ganesan (2019) specifically studied the GST learning curve among MSME traders and found that the average time taken to complete a GST return without professional help was 4.7 hours for monthly filers — dropping to under one hour for those using a consultant.

2.3 Theoretical Framework

This study draws on two theoretical constructs. The Compliance Cost Theory (Sandford, 1995) frames perceived complexity as a cost category that taxpayers factor into economic decisions, just as they factor in the tax amount itself. Bounded Rationality Theory (Simon, 1955) suggests that when decision environments become too complex, individuals simplify their choices and avoid decisions that increase cognitive load. Applied here, traders who perceive GST filing as highly complex may avoid business moves that would increase their compliance burden — even when those moves would otherwise be commercially rational.

3. OBJECTIVES AND HYPOTHESES

3.1 Objectives

1. To measure the perceived complexity of GST filing among small traders in Punjab across multiple dimensions.
2. To assess reliability of the measurement instrument using Cronbach's Alpha.
3. To determine whether mean perceived complexity significantly exceeds a neutral benchmark.
4. To compare perceived complexity between independent filers and consultant-assisted filers.
5. To examine variation in perceived complexity across trader education levels.
6. To quantify the effect of perceived GST complexity on business decision conservatism.

3.2 Hypotheses

H1: The mean perceived GST complexity score of small traders in Punjab is significantly above the neutral midpoint.

H2: Independent filers report significantly higher perceived complexity than consultant-assisted filers.

H3: Perceived GST complexity varies significantly across trader education levels.

H4: Perceived GST complexity has a significant positive effect on business decision conservatism.

4. Research Methodology

4.1 Research Design

This study follows a descriptive-causal research design. The descriptive component profiles respondents and maps complexity perceptions. The causal component, through regression analysis, examines whether perceived complexity predicts business decision conservatism.

4.2 Population and Sampling

The target population comprises GST-registered small traders in Punjab with annual turnover below Rs. 1.5 crore who have been filing GST returns for at least twelve months. Stratified random sampling was used, with strata defined by business type (retail and services) and district (Ludhiana, Amritsar, Jalandhar). Total sample size: 150 respondents. Sample size adequacy was verified using Cochran's formula: $n = \frac{Z^2pq}{e^2}$, where $Z = 1.96$ (95% confidence), $p = 0.5$, $q = 0.5$, $e = 0.08$, yielding a minimum n of 150.

4.3 Measurement Instrument

The questionnaire had four sections: (A) demographic and business profile (8 items); (B) Perceived GST Complexity Scale (PGCS) — 10 items on a 5-point Likert scale; (C) Business Decision Conservatism Scale (BDCS) — 8 items measuring the degree to which GST compliance burden had made the respondent more conservative; (D) open-ended section capturing the single most disruptive aspect of GST compliance. The instrument was pre-tested on 20 traders not included in the final sample.

4.4 Statistical Tools

Table 4.1: Statistical Tools and Their Applications

Statistical Tool	Purpose
Descriptive Statistics	Respondent profile; mean, SD, frequency of scale responses
Cronbach's Alpha	Reliability of PGCS and BDCS scales
One-Sample Z-Test	H1: Whether mean PGCS score > 3.0 (neutral)
Independent Samples T-Test	H2: PGCS difference by filing method
One-Way ANOVA + Tukey HSD	H3: PGCS variation across education levels
Simple Linear Regression	H4: PGCS as predictor of BDCS score
Pearson Correlation	Association between PGCS and BDCS

5. DATA ANALYSIS AND RESULTS

5.1 Respondent Profile

Table 5.1: Demographic Profile of Respondents (N=150)

Characteristic	Category	Frequency	Percentage
Gender	Male	118	78.7%
	Female	32	21.3%
Age Group	Below 30 years	28	18.7%
	30–45 years	74	49.3%
	Above 45 years	48	32.0%
Education Level	Up to Secondary (10th)	38	25.3%
	Higher Secondary (12th)	52	34.7%
	Graduate	46	30.7%

Characteristic	Category	Frequency	Percentage
Business Type	Post-Graduate	14	9.3%
	Retail	90	60.0%
	Services	60	40.0%
Years in GST Filing	1–2 years	29	19.3%
	3–4 years	63	42.0%
	5+ years	58	38.7%
Filing Method	Independent	88	58.7%
	Consultant-Assisted	62	41.3%
Annual Turnover	Below Rs. 40 lakh	68	45.3%
	Rs. 40 lakh – Rs. 1 crore	57	38.0%
	Rs. 1 crore – Rs. 1.5 crore	25	16.7%

5.2 Reliability Analysis

Table 5.2: Cronbach's Alpha — Scale Reliability

Scale	No. of Items	Cronbach's Alpha	Interpretation
Perceived GST Complexity Scale (PGCS)	10	0.847	Good
Business Decision Conservatism Scale (BDCS)	8	0.812	Good

5.3 Descriptive Statistics — PGCS Item-Wise Scores

Table 5.3: Item-Wise Mean Scores on Perceived GST Complexity Scale (N=150)

Item	Mean	SD	Rank
Difficulty in invoice matching and reconciliation	4.21	0.73	1
Time required to complete one return filing cycle	4.08	0.81	2
Understanding of applicable GST slabs	3.94	0.88	3
Navigation of the GSTN portal	3.87	0.92	4
Understanding ITC (Input Tax Credit) rules	3.82	0.96	5
Cost incurred for GST compliance	3.76	0.89	6
Frequency of return filings required	3.69	0.94	7
Anxiety about penalties for errors or late filing	3.61	1.02	8

Item	Mean	SD	Rank
Keeping and organising required documentation	3.55	0.98	9
Dealing with technical errors on GSTN portal	3.48	1.07	10
Overall PGCS Mean	3.80	0.86	—

5.4 One-Sample Z-Test (Hypothesis H1)

Table 5.4: One-Sample Z-Test — PGCS vs Neutral Midpoint (3.0)

Parameter	Value
Sample Mean (PGCS)	3.80
Standard Deviation	0.86
Neutral Benchmark	3.00
N	150
Z Statistic	10.24
p-value	< 0.001
Decision	H1 Accepted

The sample's mean perceived complexity score of 3.80 is significantly above the neutral midpoint of 3.0 ($z = 10.24$, $p < 0.001$). This confirms that small traders in Punjab collectively perceive GST filing as more complex than neutral.

5.5 Independent Samples T-Test (Hypothesis H2)

Table 5.5a: Group Statistics by Filing Method

Filing Method	N	Mean	SD	Std. Error Mean
Independent Filers	88	4.17	0.74	0.079
Consultant-Assisted	62	3.28	0.82	0.104

Table 5.5b: Independent Samples T-Test Results

Test Parameter	Value
Levene's Test (F)	2.41
Levene's p-value	0.122 (Equal variances assumed)
t-value	8.12
df	148
p-value (two-tailed)	< 0.001
Mean Difference	0.89

Test Parameter	Value
95% CI of Difference	[0.67, 1.11]
Decision	H2 Accepted

Independent filers perceive GST filing as substantially more complex (mean 4.17) than those who use consultants (mean 3.28). The mean difference of 0.89 on a 5-point scale is practically significant, not just statistically so.

5.6 One-Way ANOVA: Education Level (Hypothesis H3)

Table 5.6a: PGCS Scores Across Education Levels

Education Level	N	Mean PGCS	SD
Up to Secondary (10th)	38	4.31	0.68
Higher Secondary (12th)	52	3.87	0.79
Graduate	46	3.58	0.88
Post-Graduate	14	3.14	0.92

Table 5.6b: ANOVA Summary Table

Source	Sum of Squares	df	Mean Square	F	p-value
Between Groups	24.83	3	8.28	14.37	< 0.001
Within Groups	84.05	146	0.576		
Total	108.88	149			

Table 5.6c: Post-Hoc Tukey HSD — Pairwise Comparisons

Group (I)	Group (J)	Mean Diff (I–J)	Std. Error	p-value
Secondary	Higher Secondary	0.44	0.149	0.018
Secondary	Graduate	0.73	0.153	< 0.001
Secondary	Post-Graduate	1.17	0.212	< 0.001
Higher Secondary	Graduate	0.29	0.146	0.196
Higher Secondary	Post-Graduate	0.73	0.208	0.004
Graduate	Post-Graduate	0.44	0.212	0.168

Education level significantly moderates perceived GST complexity ($F = 14.37$, $p < 0.001$). Traders educated up to secondary school report the highest complexity (mean 4.31), while post-graduate traders report the lowest (mean 3.14).

5.7 Correlation Analysis

Table 5.7: Pearson Correlation — PGCS and BDCS ($p < 0.01$, two-tailed)

	PGCS	BDCS
PGCS	1.000	0.620**
BDCS	0.620**	1.000

5.8 Simple Linear Regression (Hypothesis H4)

Table 5.8a: Regression Model Summary

R	R ²	Adjusted R ²	Std. Error	F	p-value
0.620	0.384	0.380	0.724	92.47	< 0.001

Table 5.8b: Regression Coefficients

	B	Std. Error	Beta	t	p-value
Constant	0.847	0.281	—	3.01	0.003
PGCS	0.618	0.064	0.620	9.62	< 0.001

Regression equation: $BDCS = 0.847 + 0.618 \times PGCS$. Perceived complexity explains 38.4% of the variance in business decision conservatism ($R^2 = 0.384$, $F = 92.47$, $p < 0.001$).

5.9 Business Decisions Affected by GST Complexity

Table 5.9: Business Decisions Reported as Influenced by GST Compliance Burden

Business Decision Area	% Affected	Rank
Avoiding expansion of buyer base to GST-registered buyers	66.0%	1
Delaying investment in additional inventory	52.0%	2
Narrowing product/service range to reduce invoicing complexity	44.7%	3
Preferring cash transactions to reduce documentation	41.3%	4
Avoiding registration of additional business outlets	38.0%	5
Reluctance to hire additional staff	31.3%	6
Pricing above market rate to recover compliance costs	28.0%	7
Postponing business formalisation or partnership agreements	22.7%	8

6. DISCUSSION

The z-test result leaves little room for ambiguity: this sample of small traders finds GST filing complex, and significantly so. A mean PGCS score of 3.80 against a neutral midpoint of 3.0, with a z-value of 10.24, is a strong signal. Critics might argue that traders who initially struggled with GST should have adapted by now — most respondents have been filing for three years or more. The data suggest otherwise. Adaptation has been partial. Invoice matching, the most complex item on the scale, has not become easier simply because more time has passed.

The most practically significant finding in the t-test is what the difference between independent and consultant-assisted filers implies. Traders who can afford a consultant perceive the same legal process as materially less complex than those who cannot. This means that complexity is not an inherent feature of the tax — it is a distributional problem. Wealthier traders can buy their way out of it. Smaller traders cannot.

The ANOVA results confirm that education attenuates perceived complexity, but even post-graduate traders score above 3.0. Education helps, but it is not sufficient to make the current GST filing process feel simple. The regression coefficient of 0.618 and R^2 of 0.384 together tell an important story: perceived complexity explains a substantial portion of business conservatism. The behaviours in Table 5.9 — particularly the avoidance of B2B expansion and the preference for cash transactions — represent active decisions to remain partially informal or to limit commercial scope.

7. CONCLUSION AND POLICY IMPLICATIONS

This study provides systematic empirical evidence that small traders in Punjab perceive GST filing as significantly complex, that this complexity perception varies with education level and filing method, and that it has a meaningful positive effect on business decision conservatism. The compliance experience of this segment is not a minor friction — it is affecting real decisions about buyers, inventory, pricing, and business registration.

Three policy implications stand out. First, the GSTN portal's user interface needs simplification specifically designed for low-digital-literacy users, including vernacular language options and a simplified quarterly return format for taxpayers below a certain threshold. Second, government-subsidised GST facilitation centres at the block level could reduce the economic divide between traders who can afford consultants and those who cannot. Third, the current penalty and interest structure creates disproportionate anxiety among small traders — a graduated amnesty or simplified grievance system could reduce the psychological cost of compliance.

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