EXAMINING THE IMPACT OF GOODS AND SERVICE TAX ON BUSINESS PERFORMANCE: EVIDENCE FROM MICRO, SMALL AND MEDIUM ENTERPRISES OF PUNJAB

For the Degree of Doctor of Philosophy (Ph.D.)

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DECLARATION

*I hereby declare that this thesis "*EXAMINING THE IMPACT OF GOODS AND SERVICE TAX ON BUSINESS PERFORMANCE: EVIDENCE FROM MICRO, SMALL AND MEDIUM ENTERPRISES OF PUNJAB*" is an original work done by me for the award of Degree of Philosophy in Finance. I also declare that this thesis or any other part of it has not been submitted by me for the award of any degree, diploma, tittle, or recognition before.*

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CERTIFICATE

Certified that the thesis entitled, "EXAMINING THE IMPACT OF GOODS AND SERVICE TAX ON BUSINESS PERFORMANCE: EVIDENCE FROM MICRO, SMALL AND MEDIUM ENTERPRISES OF PUNJAB" which is being submitted by Ms. Neba Bhalla in fulfillment of the requirements for the award of Degree of Doctor of Philosophy, Thapar Institute of Engineering and Technology (Deemed to be University), Patiala is a record of candidate's work, carried out by her under our supervision and guidance. The matter embodied in this thesis has not been submitted in part or full to any other University or Institute for the award of any degree. We also certify that she complied with the Plagiarism Guidelines of the University.

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"Through hard work, perseverance and faith in God, you can achieve your dreams."

-Ben Carson

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ABSTRACT

Tax reforms are imperative for an economy and its businesses. In India, the major tax overhaul took place on July 1, 2017, with the implementation of Goods and Service Tax (GST). Before GST, multiple indirect tax systems prevailed in India, which harmed businesses. The consolidation of the indirect taxation system into GST provided an opportunity to examine its impact on business performance, particularly Micro, Small and Medium Enterprises (MSMEs).

MSMEs play a crucial role in industrial development and have more growth potential than large units in terms of increased sales, profits and productivity. Moreover, they are the largest generator of employment globally; they create seven out of ten jobs. However, they are sensitive to new reforms due to their limited resources. Therefore, the present study has been undertaken to examine the impact of GST on the business performance of MSMEs.

The primary aim of the study is to examine the impact of GST, for which we have used the key variables, namely tax system changeover, GST compliance system, time spent complying with the system, and technological transition (Goods and Service Tax Network). The present research also examines MSMEs' tax awareness and knowledge of GST and their impact on business performance. MSMEs are slow adapters to reforms and after a major tax overhaul, altering the business processes without proper tax awareness and knowledge is the recipe for failure. Further, the factors of tax system changeover from Value Added Tax to GST are also mapped. For gauging business performance, the parameters used for the study are operational performance, profitability, financial position, and managerial and operational efficiency.

The study has been conducted in one of the emerging states- Punjab. The sample has been collected from 605 registered MSMEs through a structured questionnaire. We applied Exploratory Factor Analysis (EFA), Analysis of Variance (ANOVA), and stepwise regression using IBM-SPSS to achieve the objectives. Furthermore, the two structured equation models (SEM) were developed using IBM-AMOS- I) for operational performance and profitability II) for financial position and managerial and operational efficiency.

The empirical findings highlighted that tax system changeover prevented fraudulent tax practices and improved tax system efficiency. In addition, the results further verified that after the GST, the problem of the input tax credit mechanism would be resolved, and rational tax rates and threshold

limits would prevail. A unified GST tax structure led to smooth tax jurisdiction. Further, the factors of changeover were explored using Analysis of Variance (ANOVA), whether or not any difference in perception exists based on firm's characteristics- type (firm size), the form of enterprises, business turnover and nature of business. The results from ANOVA emphasized that they all agree that GST has brought efficiency to the tax system and rationalized the tax rates and threshold limits throughout the country.

Further, the results emphasized that MSMEs have moderate tax awareness and knowledge of GST. Information sources like tax consultants, television, internet and experts positively influence tax awareness and knowledge levels. A strong association is verified between age, educational level and tax awareness of MSMEs.

Finally, the two SEM models were developed. The models highlighted that tax system changeover and technological advancement positively impacted all four business performance parameters. In addition, the firms' characteristics have also shown a positive influence on all four parameters as well. Moreover, in-depth tax awareness and knowledge augmented the operational performance of MSMEs. However, the compliance system has negatively impacted the firms' profitability. Further, the model stressed that the cumbersome compliance system of GST has enhanced the burden on the firms, whereas the technological advancement in the tax system has reduced the burden on the firms.

The findings may prove beneficial to MSMEs, policymakers and investors. Firstly, the study provides an in-depth view of the tax reform determinants that impact business performance. Through empirical results, MSMEs can become more vigilant about tax system changeover, compliance system and technological transition and can plan their business strategies accordingly to enhance their performance. Secondly, the results may benefit the investors, particularly foreign institutional investors (FII) and credit rating agencies, as they are concerned about firms with high profits and remain interested in investing in the MSME sector. Lastly, the study has practical implications for the government and policymakers. They should focus on formulating simple, straightforward and non-cumbersome compliance processes and procedures to enhance business performance.

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LIST OF ABBREVIATIONS

AMOS	Analysis of Moment Structure
ANOVA	Analysis of Variance
AVE	Average Variance Extracted
CAG	Comptroller and Auditor General of India
CBDT	Central Board of Direct Taxes
CBIC	Central Board of Indirect Taxes and Customs
CENVAT	Central Value Added Tax
CFI	Compared Fit Index
CGST Act	Central Goods and Service Tax Act
CMB	Common Method Bias
CR	Critical Ratio
CST	Central Sales Tax
CV	Convergent Validity
Df	Degree of freedom
DTA	Debt to Total Assets
EFA	Exploratory Factor Analysis
FAQ	Frequently Asked Questions
FII	Foreign Institutional Investors
FP	Financial Position
GDP	Gross Domestic Product
GoI	Government of India
GST	Goods and Service Tax
GSTN	Goods and Service Tax Network
HSD	Honest Significant Difference
IBEF	Indian Brand Equity Foundation
IFI	Incremental Fit Index
IMF	International Monetary Fund
INR	Indian Rupees

IT	Information Technology
KMO	Kaiser-Meyer Olkin
LR	Liquidity Ratio
MD	Mean Difference
MODVAT	Modified Value Added Tax
MOE	Managerial and Operational efficiency
MSMED	Micro, Small and Medium Enterprises Development Act
MSMEs	Micro, Small and Medium Enterprises
NFI	Normed Fit Index
OECD	Organization for Economic Co-operation and Development
OP	Operational Performance
PCA	Principal Component Analysis
PP	Profitability Performance
RMSEA	Root Mean Square Error
ROE	Return on Equity
ROI	Return on Investment
SD	Standard Deviation
SE	Standard Error
SEM	Structured Equation Model
SPSS	Statistical Package for Social Sciences
TAM	Technology Acceptance Model
TPB	Theory of Planned Behavior
TRA	Theory of Reasoned Action
TVE	Total Variance Explained
VAT	Value Added Tax
VIF	Variance Inflation Factor

CHAPTER-1

INTRODUCTION

1.1 Introduction

The word tax is derived from the Latin word "taxare", which means to value or to estimate. According to the definition provided under the Black Law's Dictionary- 'A tax is generally referred to as contribution imposed by the government upon individuals for the use and service of the state, under the name toll, tribute, duty, custom, excise, subsidy, aid, supply or other names' (Black, 1910). It is a legal and compulsory payment levied by the government on the income, profits of the businesses, and sale or purchase of merchandise.

Taxes are the primary source of revenue for all governments as they need resources (revenue) for proper functioning. In fact, taxes are the largest source of income for the government, which are deployed for the economy's growth (Burgees and Stern, 1993). Moreover, without taxes, the government would not be able to meet the demand of their societies, such as health, education, governance, infrastructural development, etc. Therefore, the main objective of taxes is revenue generation, economic growth, prevention of wealth concentration and boosting backward/ rural areas (Hasan, Jiang and Rafols, 2021; Myles, 2009; Sury, 2006).

"*Just as the sun extracts water from the reservoirs and gives it back in the form of showers, so does the ruler extract tax from his subjects and give it back in the form of prosperity*" *– Kalidas*

India is a developing country that heavily relies on its tax system for revenue generation and overall economic development (Rao, 2005; Easterly and Rebelo, 1993). India followed two types of tax systems-

Direct Tax: Generally, the tax levied on the person's income is called **direct tax.** It has to be borne by the same person, that is, the burden of which cannot be transferred to any other person (Corporate Finance Institution, 2022). In India, the direct tax was first introduced by Sir James Willson in 1860 to meet the losses borne by the government on account of the military mutiny of 1857, which was later replaced in 1961 by the Income Tax Act. The Central Board of Direct Taxes (CBDT) controls the matters related to direct tax.

Indirect Tax: The tax levied on goods and services is called an **indirect tax**. These taxes are collected by intermediaries and passed onto the government (Schenk and Oldman, 2007). It was first introduced in 1835 and has passed through various stages, from salt tax to sales tax to excise to value added tax to service tax to goods and services tax. The Central Board of Indirect Taxes and Customs (CBIC) controls the matters related to indirect tax.

In India, the revenue contributed by the indirect tax is 57.6% in comparison to the direct tax revenue generation of 42.4% (CBIC, Government of India (GoI) 2022). As indirect taxes play an important role in increasing the revenue and stabilizing the fiscal deficit (Raut et al., 2016), the government reform the tax structure from time to time. Over the past two decades, India has witnessed substantial reforms in the indirect tax system, starting from the Modified Value Added Tax in 1986 to the Goods and Service Tax in 2017.

1.2 Indirect Tax System and its Evolution:

A. *Modified Value Added Tax (MODVAT)*:

In India, the tax reform wave started in 1986 by introducing the Modified Value Added Tax (MODVAT). The aim of MODVAT was to provide an input tax credit to manufacturers on the taxes paid on raw materials and components. It was done to rationalize the tax structure (Aggarwal, 1996; Shrivastava and Gupta, 2004). However, a major shortcoming existed in the system: no input credit was allowed on the imported goods used in manufacturing. This hampered the country's international business and trade (Virmani, 2002). Further, it required an extensive administrative structure to maintain records and to claim tax credits which increased the overall costs of the manufactured products. Moreover, no cross-checking/ verification of the accounting records or documentation existed, leading to corrupt traders generating false invoices and tax fraud and evasion (Chowdhury,2011).

B. *Central Value Added Tax (CENVAT)*:

Central Value Added Tax (CENVAT) was an input duty relief scheme applicable to all goods produced and sold, including capital goods. The government introduced the CENVAT in 2002-03 to wipe out the limitations of the MODVAT (Shome, Mukhopadhayay and Saleem, 1996 and Sinha, 1987). However, under CENVAT, the input tax credit could be availed in the time period

of six months to one year, which increased the production costs. Further, the CENVAT credit was available to manufacturers with an annual turnover above Indian Rupees (INR) 1.5 crores (large enterprises), which gave Indian micro, small and medium enterprises a competitive disadvantage (Govind, 2011 and Vasanthgopal, 2011).

C. *Value Added Tax (VAT)*

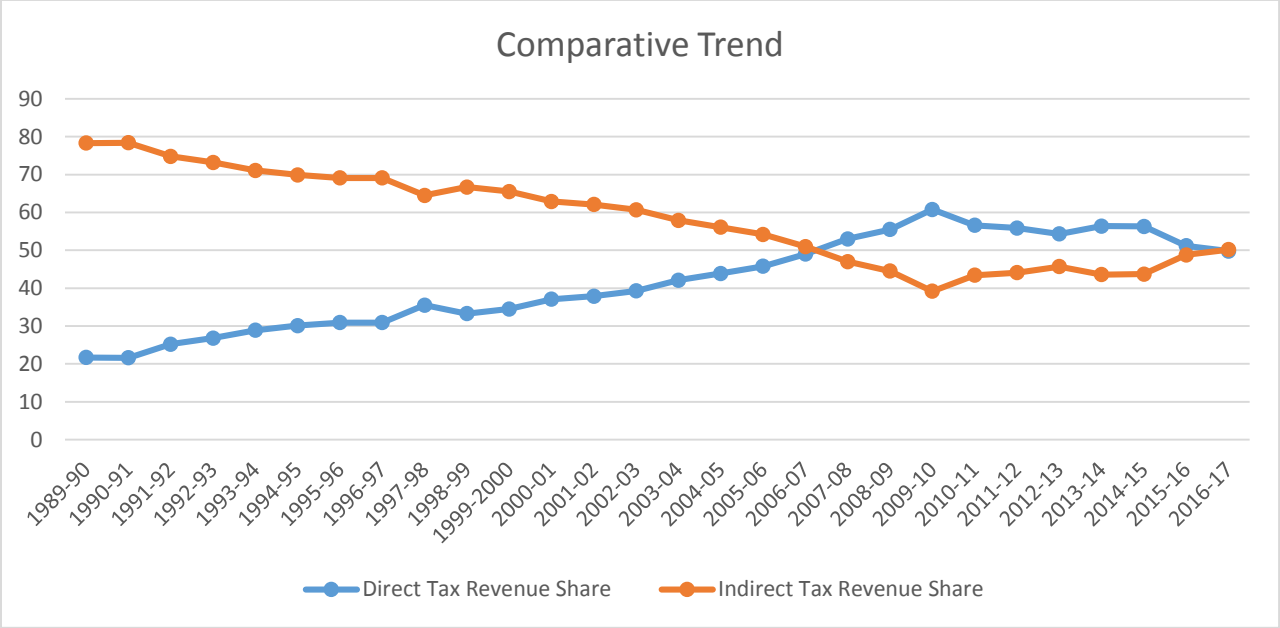
Value Added Tax (VAT) was the tax levied on the sale of goods. It was a consumption tax levied at each stage of the supply chain. The state-level VAT implemented after CENVAT in 2005 was incomplete as double taxation on products prevailed. Different tax rates existed in different states, with separate VAT registrations for each state. In addition, central sales tax (CST) was levied on inter-sale products, which increased the cost and led to double taxation (VAT + CST). This led to the restrictive movement of interstate goods (Kantaradhya, 2000).

D. *Service Tax:*

Service tax was the tax levied on the services. It started with taxing three services- telephone, non-life insurance and stock brokers' services, which gradually increased to 119 services. Later almost all services got into the ambit of service tax, and that is when the government introduced the negative list concept. The negative list defines those services which were out of the taxation ambit, that is, non-taxable services. The negative list was introduced in July 2012 and changed the service taxation system. It came with too complex rules and procedures, which made the indirect tax system cumbersome and harmed the businesses (Sinha and Srivastava, 2020).

Due to the shortcomings and limitations that existed in the indirect tax system till 2017, a downward trend was observed in indirect tax revenue share in comparison with direct tax, as shown in Figure 1.1

Figure 1.1: Comparative trends of Direct and Indirect Tax Revenue

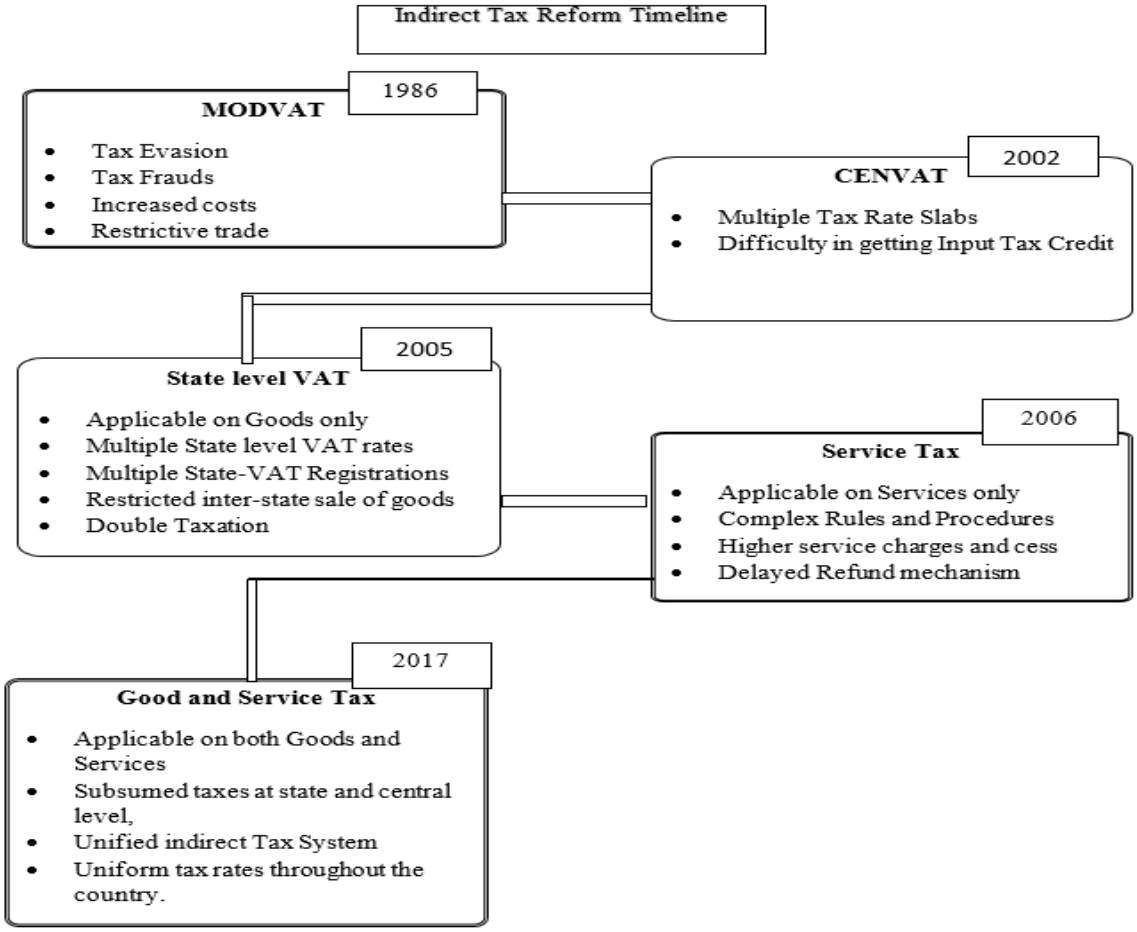


Source: Self-Compilation (data retrieved from Annual Revenue Reports from 1989-2017, New Delhi: Government of India)

Therefore, under the Kelkar Committee (13th Finance Commission), the central government came up with a unified tax system: **Goods and Service Tax (GST)**. The concept of GST has been applied at all manufacturing or value-addition stages until the final consumption stage. No differentiation is done between goods and services as GST is levied at each stage in the supply chain (Yadav and Shankar, 2018). GST is a blanket of Indirect Tax that has subsumed multiple state and central taxes, viz. under *State taxes*- Value Added Tax (VAT); Entertainment Tax; Luxury Tax; Tax on lottery, Betting and Gambling; Surcharges and CENVAT and at *Central level* - Excise Duty; Additional Excise Duty; Service Tax; Customs Duty (Empowered Committee of State Finance Ministers Govt. of India, 2017).

The comprehensive view of the indirect tax reform timeline and its limitations are represented in Figure 1.2 below:

Figure 1.2: Indirect Tax Reform Timeline and its limitations



Source: Self Compilation

1.3 Goods and Service Tax

The concept of GST (Goods and Service Tax) was invented by a French Tax Official in 1950, which is followed by more than 160 nations, including the European Union and Asian countries such as Sri Lanka, Singapore, and China. India introduced GST on 1st July 2017 and is considered the biggest tax reform since independence. Like Canada and Brazil, India introduced the dual concept of GST, which implies that the power to levy and collect taxes resides with both state and central government. The reason behind adopting the dual concept of GST is the variation in the economic background in India (Sharma, 2021).

A comprehensive Goods and Service Tax system was implemented with the motive to simplify the tax regime by subsuming multiple indirect taxes (Comptroller and Auditor General of India

Report (CAG), 2019; Harris, 2022). The implementation of GST brought numerous changes; not only did it unite the entire tax system, but it refurbished the operating tax mechanism and paved the way for technological advancement. Some of the notable elements of GST implementation have been discussed below-

i. Tax system changeover:

The implementation of GST has overhauled the entire indirect tax system. The changeover by unifying multiple tax systems under one tax system- 'GST', is one of the biggest reforms of all time. GST is a consolidated indirect tax reform implemented on both goods and services. The change in tax regime was done to eradicate the shortcomings that prevailed in the previous tax systems. For example, the existence of cascading effect (tax on tax) and the non-availability of the input tax credit as the taxes levied at the central level was not available for set off against the taxes levied at the state level. Further, the prevalence of dissimilar tax practices under the VAT system due to multiple state-level tax rates complicated the entire system and its jurisdiction. In addition, the tariff and non-tariff barriers (octroi, check posts, entry tax) hindered the free trade flow throughout the country (CAG Report, 2021). GST brought the concept of e-way billing to overcome the trade challenges faced under the VAT regime (GST Council Report, 2019).

GST is implemented to fetch transparency in the tax system and meet business growth prospects (Khoja and Khan, 2020; Sury, 2019; Govind, 2011 and Vasanthgopal, 2011) by reducing the cascading effect and bringing out a non-intrusive self-regulating e-tax system. In addition, the empirical findings highlighted that the reform in the tax system is done to remove imperfections of the earlier system, ease the working processes and increase the tax system's efficiency (Chandren et al., 2018; Hoseini and Briand, 2020; Samantara, 2018).

ii. Goods and Service Tax Network:

GST is a technology-led tax reform that launched an information technology (IT) infrastructure called the Goods and Service Tax Network (GSTN). A uniform interface through GSTN has been developed for the taxpayers and the governments (central and state). The complete GST processes- starting from registration, creation of challans for tax payments, payment of taxes, and settlement of input tax credits to the filing of the returns, are made online. GSTN provides a strong IT infrastructure base to ease the tax administration between central and state governments. IT

provided a rapid settlement and adjustment mechanism of taxes for inter- and intra-state trade (Sury, 2019; Sinha and Srivastava, 2020; CAG Report, 2021). In addition, the empirical findings emphasized that the technological advancement in the fiscal system influence the tax design system and its administration (Onkan and Arikan, 2022; Bird and Zolt, 2008). Digital technologies have always been considered an important tool to revolutionize the taxation system of a country (Pande and Patni, 2019).

iii. GST Compliance System:

The implementation of GST and IT-enabled tax platform (GSTN) overhauled the entire operational process, that is, the compliance system. To cope with IT-enabled services (GSTN), the entire infrastructure, that is, the maintenance of accounts, documents, records and invoices, has been altered (Sury, 2019). The introduction of an e-way billing system under GST demands proper maintenance of records and details before dispatching the goods. In addition, the invoice matching concept under GST to prevent fraud demands proper documentation of each invoice (purchase and sales) according to the harmonized system of nomenclature (HSN) codes. The term HSN is coined by World Customs Organization to classify and identify goods. Countries like Brazil and Canada follow a similar HSN code system under GST. Thus, the adoption of HSN code classification has led to India's indirect tax system being recognized globally (Guna and Anuradha, 2021; Kar and Sahore, 2018). The HSN matching concept and electronic filing of returns demand proper training of staff to handle the technological system with care (Bhattacharjee and Bhattacharya, 2018). Businesses must upgrade their infrastructure and require proper knowledge of the compliance processes to survive in a new tax environment (Mulligan and Oats, 2016; Rijt, Hasseldine and Holland, 2019).

Based on the above review, the following are the key variables of GST implementation used in the present study as described in Table 1.1:

Table 1.1: GST variables

Variables	Definition	References
Tax system changeover (VAT to GST)	It maps the factors of switchover in the tax system from Value Added Tax to Goods and Service Tax	Hoseini and Briand, 2020; Sury, 2017
GST Compliance System	It refers to the compliance system's assessment procedure, record-keeping, documentation process, the number of tax returns involved, and the time spent adhering to the compliance system after the GST.	Grant Thorton, 2020; Srivastava and Joshi, 2022
Technology tax transition: Goods and Service Tax Network	It defines the technological advancement done in the GST through launching a particular Goods and Service Tax Network portal. The GSTN deal with all the matters related to GST, from registration to filing tax returns.	Onkan and Arikan, 2022; Sinha and Srivastava, 2020; Bird and Zolt, 2008

Source: Self Compilation

1.4 Tax awareness and knowledge

Goods and Service Tax implementation took the Indian market in a single stroke. Its sudden implementation overhauled the working of the entire economy. Public awareness about the new reform helps its easy adaption and enhances trust in the government and authorities (Mahangila, 2017; Behnud and Fahr, 2013). With the introduction of the Goods and Service Tax Network, its strong fundamental understanding, education and essential skills regarding Information Communication Technology are required. The refresher training programs, webinars, and seminars help disseminate information on the functionality of GSTN (GST Council Report, 2019). Further, it has been empirically verified that tax awareness and knowledge helps taxpayers (individual, companies, firms, association etc.) to sustain in a reformed tax environment and enables them to adapt to the changes (Empson, 2001; Cooper and Robson, 2006).

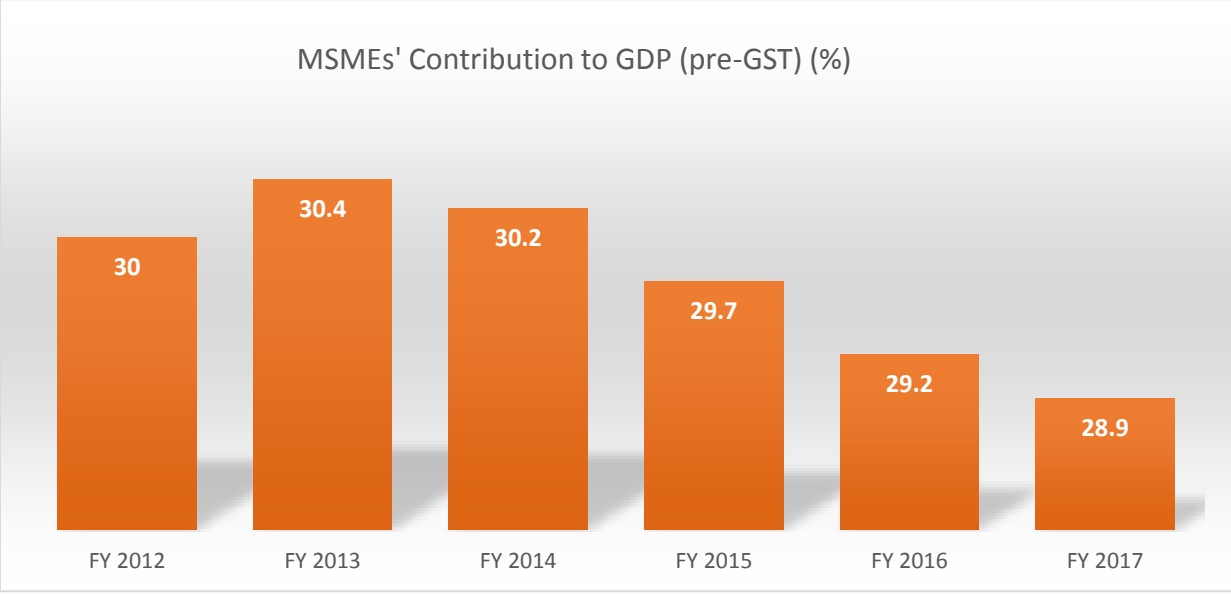
1.5 Micro, Small and Medium Enterprises (MSMEs)

The key objectives of implementing any tax reform in the country are to remove imperfections of the earlier system, increase its efficiency (Chandren et al, 2018; Hoseini and Briand, 2020; Sury, 2017), gain high revenues, promote entrepreneurship, innovation, align business models and rationalize the trade mechanisms (Ahmad and Stern, 1991; Gale and Samwick, 2014; Ngwaba and Azizi, 2019; Dyreng et al., 2020). The objectives of tax reform could be achieved with the support

of public or private sector enterprises (Paepe and Dickinson, 2014; Long and Miller, 2017). Among these enterprises, micro, small and medium enterprises (MSMEs) hold a key position as they constitute 90% of world businesses (Asian Development Bank Report 2020; World Bank Report 2021). They are the largest generator of employment globally; seven out of ten jobs are created by them (UN Report, 2021; Harvie, 2015). They are the roots of the growth of industrialization in a country. MSMEs play a significant role as they have more growth potential than large units in terms of increased sales, profits, and productivity (Singh et al., 2018; McKenzie and Woodruff, 2017). They are the levers for socioeconomic development (OECD, 2009). Therefore it is essential to study the impact of tax reform (GST) on MSMEs' businesses.

Indian MSMEs contribute around 95% of the industrial output, 29% to GDP and 48.10% in exports and help in employment generation (MSME, Annual Report, 2020-21). According to the Indian Brand Equity Foundation (IBEF), India is a global production plant where MSMEs play a vital role, accounting for about 90% of the industrial facilities. However, apart from the MSMEs key contribution to the Indian economy, its share in GDP in the past few years declined as it was the lowest in 2017, that is, 28.9% (Figure 1.3). This provided the motivation to conduct the present research to examine the impact of GST on the business performance of MSMEs.

Figure 1.3: MSMEs' contribution to GDP

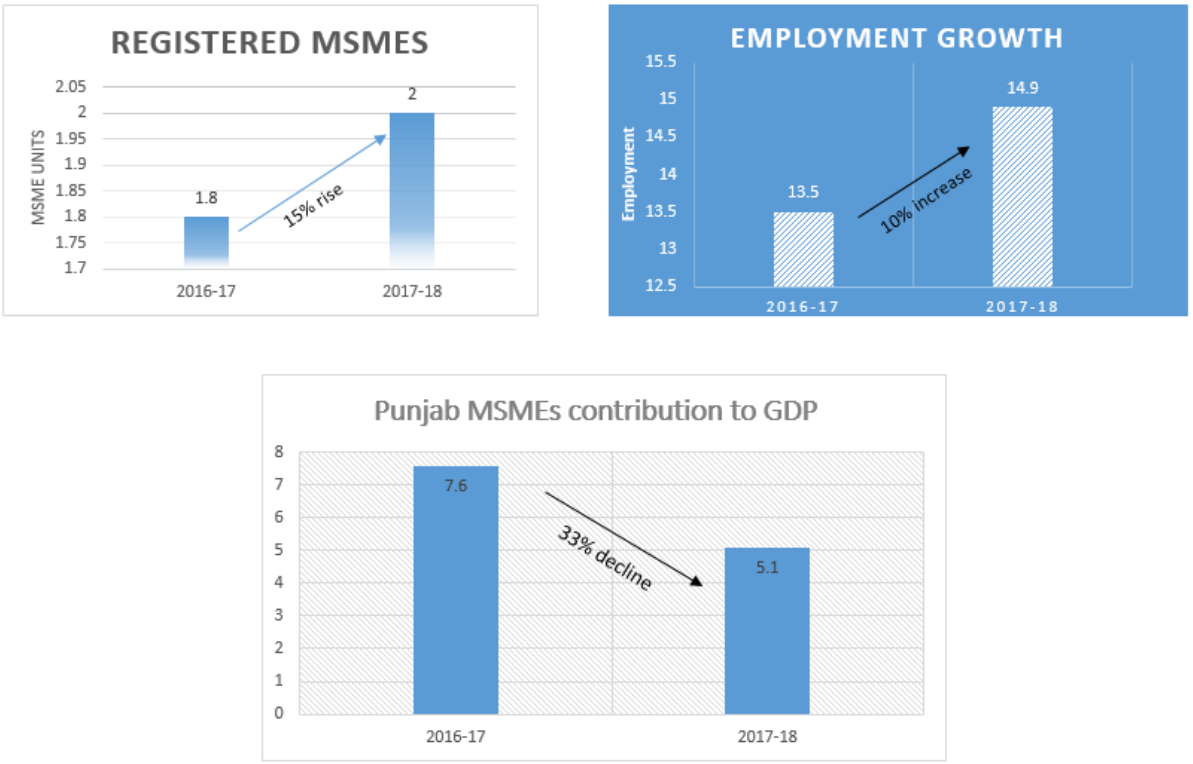


Source: Self-compilation via data retrieved from the Government of India, MSME, Annual Report 2017-18

Punjab's MSMEs and their status

For the present study, we opted for Punjab's MSMEs. Punjab is one of India's influential states, which emerged as a textile industry hub. They are the primary source of India's woolen production (95%), sewing machine production (85%), and India's sports goods production (75%). Punjab's MSMEs contribute around 14.1% to Gross Domestic Product and 26.6% to Gross State Value Added. They have generated around 1.5 million employment opportunities (Department of Industries and Commerce, Government of India, February 2022). Furthermore, Punjab has shown an increase of 15% in registered MSMEs, from 1.8 lakh in 2016-17 to 2 lakh in 2017-18. In addition, a rise of 10% in employment opportunities, from 13.5 lakh (2016-17) to 14.9 lakh (2017-18). Apart from the rise in registered MSMEs and growth in employment opportunities, a decline in their contribution to GDP declined from 7.6% in 2015-16 to 5.1% in 2016-2017 was observed (Department of Finance, GoI, 2018) (Figure 1.4). Therefore, it becomes essential to examine the impact of GST on Punajb's MSMEs.

Figure 1.4: Punjab MSMEs Status



Source: Self-compilation via data retrieved from the Government of India, Invest Punjab Annual Report 2017-18

The Government of India has enacted the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, in terms of which the definition of micro, small and medium enterprises is as stated below in the Table 1.2:

TABLE 1.2: Definition of Micro, Small and Medium Enterprises

TYPE	MANUFACTURING INDUSTRY	SERVICE INDUSTRY
Micro	Investment* in plant and machinery does not exceed INR 2.5 million	Investment** in equipment does not exceed INR 1 million
Small	Investment in plants and machinery is more than INR 2.5 million but does not exceed INR 50 million	Investment in equipment is more than INR 1 million but does not exceed INR 20 million
Medium	Investment in plant and machinery is more than INR 50 million but does not exceed INR 100 million	Investment in equipment is more than INR 20 million but does not exceed INR 50 million
* Original cost excluding land and building and the items specified by the Ministry of Small Scale Industries **Investment in equipment (original cost excluding land and building and furniture, fittings and other items) not directly related to the service rendered or as may be notified under the MSMED Act, 2006 (msme.gov.in) Note: 1 million = 10 lakhs INR (Indian Rupees)		

Source: Micro Small and Medium Enterprises Development Act, 2006

1.6 Problem Statements:

- In India, under the indirect tax regime, multiple tax systems prevailed, which led to major shortcomings and limitations in the system (Tait, 1988; Barman and Bisonoi, 1983; Tiwari and Singh, 2018). Therefore it becomes essential to map the factors of tax system changeover from Value Added Tax to a unified Goods and Service Tax system.

- Indian MSMEs contribute to economic and social development by fostering entrepreneurship and generating employment at comparatively lower capital costs than large industries (Chitsimran et al.,2022; Gautam and Sondhi, 2020). They also help in reducing regional imbalances by enhancing the industrialization of rural and backward areas and assuring more equitable wealth and income distribution (MSME Report, 2020). However, in the past few years, MSMEs' share in GDP has declined, as it was the lowest in 2017, 28.9% (Figure 1.3), after which the tax reform (GST) was incorporated. Specifically, in the state of Punjab, a severe decline in GDP contribution from 7.6% in 2015-16 to 5.1% in 2016-2017 was observed; apart from the contributions, Punjab MSMEs have in the form of the increased number of registered

MSMEs, employment opportunities and industrial production. Therefore, it becomes important to examine the impact of GST on the business performance of Punjab's MSMEs.

- MSMEs are the most responsive to tax reforms due to limited economies of scale (Ocheni, 2015). They are very sensitive to innovations as they are not the early adopters of new tax reforms compared to large firms (Wang and Kesan, 2020; Lymer, Hansford and Pilkington, 2012). Due to a lack of administrative and capital resources, they find it hard to keep pace with changing tax laws and skills (Rahayu and Day, 2015; Nguyen, 2009; Sugiharto et al., 2010). The adaption constraint can be narrowed down with proper awareness and knowledge, as knowledge can help businesses sustain their growth in a competitive world (Suri, 2005). After a major tax overhaul, altering the business processes without proper tax awareness and knowledge is the recipe for failure. So, it will be crucial to examine MSMEs' tax awareness and knowledge level regarding GST.

1.7 Objectives of the study

Three major objectives are formulated based on the problems identified above to conduct the present study. Following are the objectives of the study:

O1: To analyze the factors to map the changeover from Value Added Tax (VAT) to Goods and Service Tax (GST) on MSMEs

O2: To examine the awareness and knowledge level of MSMEs towards Goods and Service Tax (GST).

O3: To develop a model to examine the impact of Goods and Service Tax (GST) on business performance of MSMEs.

1.8 Significance of the Study

The study might benefit policymakers, developing countries, MSMEs, investors and researchers.

A. *To policymakers and other developing nations:*

Developing countries often face challenges after tax reform to bring out efficiency in their businesses. The present study's results may prove beneficial in highlighting the aspects of tax reform (GST), which can influence macro and micro-economic growth via better business performance and ultimately contribute to revenue generation. Further, the detailed analysis of tax awareness and knowledge levels amongst MSMEs can help governments and policymakers in spreading more awareness through workshops, conferences, webinars, and seminars to narrow down the ambiguity regarding changing tax laws and regulations. As a result, this would lead to timely tax compliance, enhanced business efficiency, better revenue generation and reduced tax fraud.

B. To Micro, Small and Medium Enterprises:

The present study provides an in-depth view of the tax reform determinants that impact business performance, which may benefit micro, small and medium enterprises. Through empirical results, they can become more vigilant about the variables of tax system change, compliance system and technological transition and can plan their business strategies accordingly to enhance their performance.

C. To researchers:

The present research might prove beneficial from an academic perspective as it significantly contributes to the literature. Furthermore, the present results might provide a new aspect related to tax reform and its determinants like the tax system changeover, compliance system, and technological transition on the businesses, which were not emphasized in the theories like the Theory of Optimal Taxation and Economic Theory. Further, it provides a direction for future research as well.

D. To investors:

The results will benefit the investors, particularly foreign institutional investors (FII), and credit rating agencies, as they are concerned about firms with high profits and returns and remain interested in investing in the MSME sector.

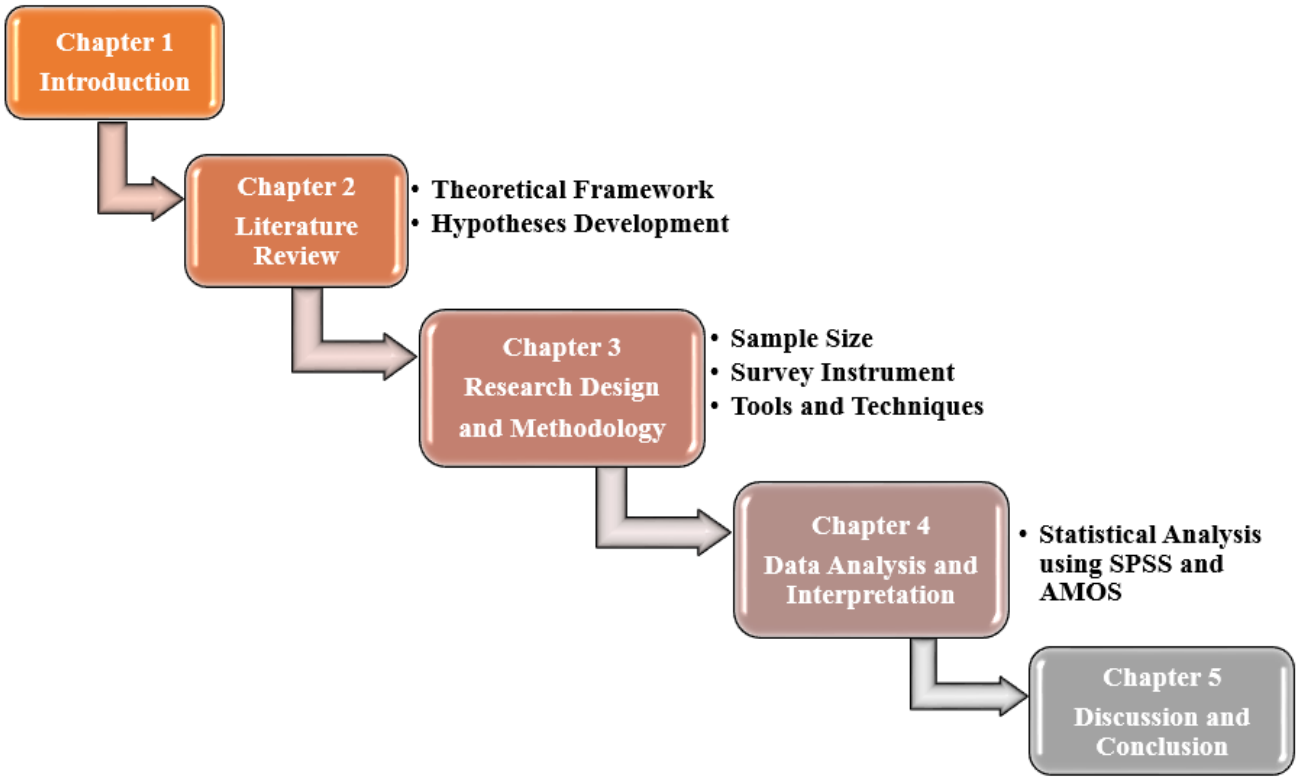
1.9 Concluding Remarks:

Tax reforms are imperative for every economy as they enhance economic growth and businesses. The consolidation of the indirect taxation system in India was the Goods and Service Tax system, which provided an opportunity to examine the relationship between the taxation system and business performance. Therefore, the study examined the impact of GST on business performance, particularly for Micro, Small and Medium Enterprises (MSMEs). In context to MSMEs, they constitute around 90% of the world's businesses, and their better business performance can contribute significantly to revenue generation, employment opportunities and economic growth. The study provides an empirically tested model for policymakers and MSMEs to enable them to formulate their business strategies and plans to enhance business performance after the reform in the tax system. For investors, the results may prove beneficial in acknowledging the key business performance factors to fetch higher returns.

1.10 Structure of the Thesis:

The thesis comprises five chapters. The flow is depicted in Figure 1.5 below:

Figure 1.5 Thesis Flow



Source: Self Compilation

CHAPTER 2

REVIEW OF LITERATURE AND HYPOTHESIS DEVELOPMENT

A strong literature review forms a solid base for the new study as it helps to identify the research gaps, questions, problems and feasible objectives and brings out the novelty in the research work (Swann, 2003; Bartole, 2012). Furthermore, it enables the researcher to examine the previous contributions in the related field of study, avoids replication of research, and provides detailed facts about the research tools, methods, and techniques that can be applied to achieve the objectives. Therefore, the development and execution of any research work must be backed by an extensive literature review.

A detailed literature was conducted to solve the problem statements framed in chapter 1, firstly on the key variables of GST implementation, namely, tax system changeover, GST compliance system and technological transition in the system- Goods and Service Tax Network. Next, the research on tax awareness and knowledge was studied in depth, followed by demographic studies to determine whether any relationship exists between them. Later, the studies on firms' characteristics were explored to infer their relationship with business performance and tax system. Finally, the review was done on business performance to gauge its parameters for the current study. Therefore the literature review is organized into four parts- GST variables, tax awareness, knowledge and demographic variables, firms' characteristics and business performance, followed by research gaps and hypotheses development.

The chapter is organized as follows-

2.1 GST variables

This section covers a detailed literature review on- 2.1.1) Tax system changeover provides insight into the reasons for reforms incorporated in the tax system and further explores the relationship of tax system change with business performance 2.2.2) GST compliance system and the time spent in adhering to it and their influence on business performance 2.2.3) technological advancement in the tax system and its relation with business performance and a brief on the unique tax network portal of GST- Goods and Service Tax Network (GSTN).

2.1.1. Tax System Changeover

Tax reform in developing countries is incorporated to enhance revenue and lower financial crises (Ahmad and Stern,1991; Martorano, 2018). Progressive economic growth depends on the reforms done in tax structure (Rao, 2000; Rao and Rao, 2005), as taxation and economy go hand in hand (Ireland, 1994; Xing and Whalley, 2014). The agenda of emerging economies is long-term financial growth through systematic improvement via tax system (Tanzi and Zee, 2001; Karagianni *et al*., 2012). India followed a similar approach by implementing tax reforms starting from MODVAT in 1986 to Goods and Service Tax in 2017. Nevertheless, there exist many limitations in each system.

In India, a complicated taxation system existed, which had multiple layers of taxes at the central and state levels. At the Central level, there was- Excise Duty; Additional Excise Duty; Service Tax; Customs Duty, and at the state level- Value Added Tax (VAT); Entertainment Tax; Luxury Tax; Tax on lottery, Betting, and Gambling; Surcharges and CENVAT (Acharya, 2005; Sinha and Srivastava, 2020). Due to the existence of 11 taxes under the indirect tax system at both central and state levels, the businesses have to register themselves under different tax systems of different states to do trade. This created a hurdle for them, especially small and micro enterprises, as the hidden cost for businesses rose (Sury, 2016). Moreover, no uniform tax jurisdiction system exists as every state had different laws and VAT rates, which require specific documentation to resolve the issues (Balamurugan, 2010; Rao and Vaillancourt, 1994). This gave rise to complexities and unorganized administrative costs and the emergence of fraud on account of institutional factors, including registration and filing tax returns (Burgees and Stern, 1992).

Further, due to the division of taxes at central and state levels, the tax structure and rates vary from state to state throughout India. This led to a cascading effect, that is, tax on tax, because of which businesses suffered (Bandyopadhyay, 2017). The primary factor contributing to the cascading effect was the central sales tax or service tax levied on the inter-state sale/purchase of goods/services on which VAT was already levied. Moreover, different tax systems at the state and central levels made the availment of input tax credits impossible. The input tax credit of state-level taxes was not eligible for central taxes and vice-versa, although the businesses had to pay both taxes (VAT and CST) (Bandyopadhyay, 2017; Sinha and Srivastava, 2020). Hence, it proved a barrier to the movement of goods in the national market.

Furthermore, the presence of multiple taxes led to non-uniformity in the tax structure, which made the tax system regressive in nature (Caspersen and Metcalf, 1994). The systems were prone to illegal refunds through missing/insolvent trader frauds. In addition, the Portuguese study by (Wilks, Cruz and Souse, 2019) indicated that sales invoices do not require the consumer's tax number under the VAT system, leading to VAT evasion. In the same way, in India, retailers retained a sum of the benefit of Indian Rupees (INR) 400 million instead of passing it to consumers, thereby leading to a rise in retail prices (CAG Report 2009). The Comptroller and Auditor General of India (CAG) report of 2009¸ performance audit done in 23 states between 2005 and 2009 examined that under the VAT system, 201 cases were recorded of false submission of tax exemptions summing up to the false claim of INR (Indian Rupees) 1 crore; and INR 1026 crores of claims without any documentation.

Sinha and Srivastava (2020) and Sury (2019) opined that VAT was a forerunner of Goods and Service Tax. VAT was a consumption tax levied at each value addition of the production, whereas the GST is levied on the supply of goods and services. The system's multiple tax-on-tax effects flowed throughout the entire production-distribution chain. To overcome the system's shortcomings, the empowered committee of State Finance Ministers (2005, 2009) came up with a new reform process i.e. Goods and Service Tax (GST). The tax overhaul provides freedom of trade and commerce throughout the territory of India. The earlier indirect taxation systems posed an obstacle to forming a single common market.

The Thirteenth Finance Commission 2009 and various scholars built up the modern design of taxation (Cnossen, 2013). The pooling of central and state indirect taxes into Goods and Service

Tax in India has strengthened the financial system and allowed businesses to expand without inter- or intra-state (Sharma, 2022). As a result, the overall tax burden on goods has dropped by 25-30%, as empirically verified by Dey and Jena (2018) in their study, which gives Indian products a competitive edge in domestic and international markets.

Relationship between tax system change and business performance:

The tax system and its reform are high on the agenda of developing countries' governments (World Bank Report 2011). This is because they require revenues, and the tax system in developing countries is severe and distorted (Somaya, 2012). The maximum burden of which is born by businesses in developing or low-income economies as the tax cost and administrative load are high due to their limited sources (World Bank Report 2006). Therefore, to lower the burden and improve revenue generation, government reforms its tax system.

Tax reform is a policy implementation by which alterations and amendments are made in the tax system to reduce inefficiencies, overcome the prevailing tax regime's loopholes, and boost the country's economic growth by generating higher revenues (Aleksic, 2019). However, a complex and challenging tax system often hinders the growth of a business, especially for MSMEs, because of the presence of economies of scale (Mwanza and Katoma, 2019; Fischer et al., 1992). A complex tax system tends to augment the administrative burden on the firms. Tax administrative burden is the by-product of a complex tax system (Alexander, Bell and Knowles, 2005; Pope, 1995). The government tries to formulate new tax laws and systems to reduce the burden. For instance, when the tax system is not so complex, it creates a positive attitude in taxpayers and the system emerges to be more compliant (Naeem and Gulzar, 2021).

Multiple implications were observed in the past on the performance of businesses, especially micro, small, and medium enterprises, as they are the most responsive to reforms, particularly to national tax reforms, due to limited economies of scale (Ocheni, 2015). Crivelli (2016) empirically stated that the economies of Eastern Europe, the Soviet Union, and North America had seen an increase in revenue after the change in tax system via Value Added Tax (VAT, commonly known as GST in other countries). Australian micro firms have experienced increased trade and cash flow benefits after GST (Isle, Freudenberg and Copp, 2014).

2.1.2. GST Compliance System

When a change in the tax system occurs, the operating framework for its compliance also changes (Digal, 2020). A tax compliance system is defined as "reporting all income and paying all taxes with applicable laws, regulations, and procedures" (Alm, 1991; Alm and McClellan,2012). To comply with all the set taxation rules and regulations, taxpayers must adopt the tax compliance system, that is, keeping records, and documentation, filing tax returns, and adhering to the necessary technical tax framework (Sury, 2019; Sinha and Srivastava, 2020).

Governments initiate multiple efforts by offering workshops for small and rural firms. Further, they impose fines, penalties, and mandatory audits to increase the system's adherence (Allingham and Sandmo, 1972). With awareness regarding the working of the compliance system, the taxpayers' attitude changes. The intention of the individuals/firms to take specific actions to comply with new tax laws and the willingness to adhere to the new tax system is influenced by their positive perception of the system (Theory of Planned Behavior). As empirically verified by (Ramayah et al., 2009), attitude and perceived behavior norms positively influence the taxpayers' behavioral intention even when choosing the e-filing option for tax return. Apart from it, not complying may attract various repercussions to business in terms of high legal charges (Ajzen, 1991). The studies by (Al-Karablieh, Koumanakos and Stantcheva 2021, and Mwanza and Katoma, 2019) empirically verified that in SMEs, non-compliance harmed their profitability

In order to follow the tax laws, business firms incur a cost called tax compliance cost (Sandford, Godwin and Hardwick, 1989). It compromises many kinds of cost: i) labor cost, i.e., owners, managers, internal bookkeeper or accountant; ii) external cost- tax advice from auditing firms; iii) non-labor cost- software, telephone, stationery, travel cost, seminars (Klun and Blazic, 2005). Sandford et al., (1989) in their study emphasized that cost forms a crucial part of any compliance as it directly influences the firms' resources and affects their performance and work. Therefore, this determinant of compliance directly influences the business competitiveness efficiency.

Apart from incurring compliance costs, small firms incur the time cost. Time costs involve time spent in getting information about new rules and regulations (Pope and Rametse, 2001; Gelardi, 2013). The MSMEs are at a time cost disadvantage with implementing new rules and regulations as it obstructs business growth (Schmidt and Bennison, 2007). To comply with tax rules,

regulations and laws, SMEs have to rely on external sources such as auditors, tax consultants and lawyers (Hanefah, Ariff and Ksipillai, 2002; Eichfelder and Vaillancourt, 2014). In addition, due to tax reform, MSMEs are forced to change and install new systems and strategies (Digal, 2020).

The comparative studies done in Australia (Pope, 2010; Tran-Nam, 2001) and Canadian businesses by (Cleroux, 2013) state that the compliance process has taken the firms away from their actual need for businesses of all sizes business to bear higher compliance costs. The inherent compliance and administrative cost have hindered the firms' full revenue potential (Gendron, 2012). There is a substantial increase in the audit fees of smaller firms to conform to the compliance procedure (Foster, Ornstein and Shastri, 2007). The time spent and expenditure directly incurred on compliance cost influence the businesses and prevent firms from expanding (Alexander, Bell and Knowles, 2005).

In India, after GST, the introduction of e-way billing and the matching concept via HSN codes demands proper maintenance of records and documentation processes by businesses (Sury, 2019; Guna and Anuradha, 2021). Furthermore, the entire infrastructure, that is, the maintenance of accounts, documents, records and invoices, has been altered after the GST (Sury, 2019) as the HSN matching concept and electronic filing of returns demand proper training of staff to handle the technological system with care (Bhattacharjee and Bhattacharya, 2018). Therefore, businesses must upgrade their infrastructure and require proper knowledge of the compliance processes to survive in a new tax environment (Mulligan and Oats, 2016; Rijt, Hasseldine and Holland, 2019).

Tax Administrative Burden (Compliance Burden):

The valuation of time and effort to comply with new rules, regulations and compliance procedures is considered one of the most crucial components of any tax compliance (Slemrod and Venkatesh, 2002). Implementing a new tax system demands advancement in personnel training, record keeping, and accounting systems. MSMEs face problems in keeping business records, storing documents, and hiring and training new and existing staff due to low administrative staff (Gautami, 2018). Furthermore, taxpayers must learn the new system and process to understand the benefits. To learn the new concepts, taxpayers have to participate in tax workshops and programs, which increases the stress arising from those program processes and consumes their time (Vishnuhadevi, 2021; Carrillo et al., 2021). It has been empirically analyzed by Duenas Salman, Garcia and

Hernandez, (2019) that technological stress directly affects performance. It added to their woes as the timely and strict documentation, application and filing system is required to avoid negative consequences of the tax reform (Currie, 2006; Moynihan et al., 2014; Bozeman et al., 2011). Currently, the GST compliance system includes extensive record keeping and filing of tax returns (Mohan and Ali, 2018). Under the GST system, businessmen are juggling with filing tax returns as they have to file 37 returns in a single financial year (Aruna, 2019).

Price Water Cooper Report (2011) opined that the compliance burden in terms of time spent by the firm needs to be analyzed as this directly impacts any business's expansion and growth ability. In the study of Symons et al. (2011), it was observed that in the UK, when complicated and ambiguous tax rules existed, the compliance burden of small firms accelerated as it increased their total time spending by 39%. Moreover, it was observed that due to different forms of the tax system (VAT, Sales Tax), the average time spent by the firms in adhering to the rules of all the systems rises by 31% over the usual time spent as compared under a single tax system regime.

Malaysian SMEs face major complexities in complying with tax procedures, due to which their business has suffered (Lai and Arifin, 2011). A recent study done in Cambodia by (Taing and Chang, (2021) emphasized that tax complexity is a serious issue that has implications for firms. Moreover, the Doing Business Report by World Bank (2010a) reported that complex tax administration and tax legislation are considered the top constraints for firms. The study by Breen et al., (2002) on Australian SMEs identified that ongoing record-keeping to meet GST obligations accelerated their accounting costs and impacted their business unfavorably.

2.1.3. Technological Advancement

GST implementation's main focus was the simplicity of tax design and transparency in tax administration. A good tax administration can be carried out with good technology (Bird and Zolt, 2008). In order to do so, a strong information technology structure was introduced through the Goods and Service Tax Network (GSTN) (Sury, 2019). Technology is essential in setting up any new tax reform and helps to ease its working (Suparadianto, Ferdiana and Sulistyo, 2019). Information technology (IT) has opened the door for MSMEs to expand globally in terms of customers (Neirotti et al., 2018). Kaushik and Singh, (2022) observed that technology and computer-aided systems had enhanced the performance of the MSMEs by augmenting their

quality, production, and flexibility. Further, it leads the way to innovation (Cortes and Mendez, 2013). The technological function helps to reduce the manual compliance burden, increase employee performance (Isaac, Ramayah and Mutahar, 2017) and aid the business to survive in the competitive and tech era (Eichfelder and Schorn, 2012).

Likewise, technological advancement in the tax system has proved a boon to businesses as it resolved numerous issues like corruption and fraud and reduced transactional costs (Bird and Zolt, 2008). Institutional factors such as filing tax returns, payments, and registrations have been replaced by electronic filing to lessen their burden (Barbone, Bird, and Vazquez-Caro, 2012). In the study by Masung et al., (2020), they observed that the e-tax system positively enhances revenue generation. IT system has smoothened and eased operations and helped businesses flourish (Digal, 2020, Tsindeliani et al., 2019).

At the same time, mere technological advancement cannot help a tax system. The success of technological tax transition in an economy depends on businesses' quick adaption. Perceived usefulness and perceived ease of use are the major factors that motivate users to adapt to the new business working styles after the transition in tax-related affairs (Technology Acceptance Model) (Venkatesh and Bala, 2008; Davis, 1989). In the past, SMEs have shown a slow adoption rate which led to unsuccessful IT implementation due to limited IT skills, strategy and lack of access to capital resources, and high installation cost of the new system (Rahayu and Day, 2015; Nguyen, 2019 and Sugiharto, 2010). The study by Dadhich, Pahwa and Rao (2018) also stressed that by that low technical know-how hampers the consumers' intention to opt for digital payments, whereas convenience and flexibility motivate them. The GSTN model has resolved the three major concerns of MSMEs, simpler tax design (ease of use); a common platform for all tax-related matters (ease of usefulness), and harmonization of taxes for different goods and services at the central and state level (Sury, 2019).

Technological change with the introduction of the Goods and Service Tax Network for GST payers has helped businesses manage critical tax-related documents across the different geographical regions of the country with ease. The reduction in manual tracking for business taxation-related issues has been reduced, which has proved beneficial for them (OECD, 2019). It has ensured all the departmental compliances of registration, payment of tax fines, penalties, or tax proceedings

on a single online platform (Ohja, Sahu and Gupta, 2009). Upgrading the accounting, documentation and IT system under the new tax regime by MSMEs has improved business' competency (Mary, Rishab and Pavithira, 2020). Further, Jain (2021) stated that the government had eased the new tax reform by giving it an online platform. It has improved performance, which is concluded from the factors of transparency, simplicity, convenience in payment, and certainty (Nellen, 2012). Paperless compliances have continuously increased business operational efficiencies (Ohja, Sahu and Gupta, 2009) as the workload of revenue administration and businesses has decreased drastically (Gerger, 2019).

But on the contrary, the unorganized MSMEs located in rural areas faced the problem due to a lack of good IT infrastructure (Verma, Khandelwal and Raj, 2018; Naskar, 2019). It has increased the cost of business such as software, implementation, training of the staff, hiring experts etc. (Mansor and Ilias, 2013; Tran Nam, 2000, Bilgin, Marco and Demir, 2012).

2.2 Tax awareness, knowledge and demographic variables

This section firstly provides insight into information sources related to tax system/reform. Then, the studies on tax awareness and tax knowledge level are explored, followed by demographic variables.

2.2.1 Information Sources

Taxpayers' awareness of the tax system and its functioning is required to improve tax compliance. Policymakers promote the exchange of information about tax laws, rules and regulations through mass media at the national level and via data analysts at the global level. They believe that it is the fundamental right of taxpayer-'right to know about the tax laws' and it increases the country's tax compliance as well (Bangia, 2022).

The awareness of the tax system and its laws influences the taxpayer's behavior in fulfilling his tax obligations. The awareness can be through direct observation or through learned experience via counseling, seminars (direct method), or advertisement (indirect method) (Social Learning Theory) (Bandura, 1977; Ishti, 2013). Many countries like Nigeria, India and South Africa follow this approach of tax information dissemination through televisions at the time of tax filing of returns (Alakam, 2013; Sharp, 2019; and income_tax department, 2019). Rijt et al., (2019)

highlighted that information on the tax system could be disseminated on a one-to-one basis, that is, via specialist/expert personnel, which may help businesses survive in the complex tax environment. Widodo et al., (2010) stressed that mass media also plays a crucial role in tax socialism through print and electronic media. Tax socialization is an attempt to raise awareness among taxpayers by providing them with information on taxation (Lestari and Daito, 2020).

2.2.2 Tax Awareness

GST is implemented to pacify the Indirect Tax System (Mohan and Ali, 2018; Mittal and Raman,2021; Kour et al., 2016) and if MSMEs are not fully aware of the working procedure and its advantage, its mechanism, then it may prove as a hurdle to both their business as well as for the economy as a whole. For example, it proved fatal for the Malaysian economy (Tan and chin-Fat, 200). Earlier the same scenario was observed under VAT in India- the state's overall growth and development were harmed as consumers were not aware and confident about the system (Kumar, 2016). Likewise, the Malaysian study conducted by (Ahmad et al., 2016) stated that at the initial stage, the government got a negative opinion about GST as there was a sudden implementation of the new tax system, and the general public, consumers, businessmen, consultants were not ready to adopt the change without any guidance, knowledge, and training.

Tax awareness helps lower the negative perception and further leads to lawful compliance (Saad, 2014). Moreover, it helps taxpayers to accept and enables them to comply with tax regulations to meet their tax obligation (Mohammad, Zin and Sulaiman, 2022). Further, awareness of tax system change not only enhances the trust in the authorities but also helps people from different fields of profession, businesses, etc. to understand the mechanism and avail benefits of it (Mahangila, 2017; Behnud and Fahr, 2013).

Tax awareness suggests spreading consciousness among taxpayers of the tax events, changes, amendments, or circulars. At the same time, tax knowledge implies having in-depth information and understanding of the facts (practically or theoretically) (Tan and Veal, 2005; Brackin, 2014). The varied means for tax awareness are conferences, software workshop skills, training sessions and seminars (Sansui,Omar and Sansui 2015; Shaari and Ismail, 2015). The government spent its resources on spreading awareness (Aruna, 2019). Moreover, it was observed that business owners are much more interested in gaining a knowledgeable insight into the workings of the tax systems

by attending conferences, seminars and training sessions rather than redressing the grievances by using Consumer Protection Law (Chouhan, 2017; Mohan and Ali, 2018). It was observed in the study conducted on consumer redressal agencies by Sharma and Sharma (2021) that cases remain pending at the redressal commission for a long time. Further, it was perceived that tax awareness directly influences the level of tax compliance (Zanaria and Lestarim 2020; Oktaviani et al., 2020).

2.2.3 Tax knowledge

Tax knowledge can be defined as a thorough and in-depth understanding of the tax system, its rules and regulations. Primarily, tax knowledge can be categorized into three essential elements - General, Procedural and Legal tax knowledge (Bornman and Ramutumbu, 2019; Wassermann and Bornman, 2020). *General tax knowledge* implies fiscal cognizance, that is, the willingness to adhere and abide by tax laws. It is the basic reason that businesses comply with taxation rules on time (Eriksen and Fallan, 1996; Groenland and Veldhoven, 1983 and Kasipillai, 1997; Bornman and Ramutumbu, 2019) as failure to do so, that is, non-compliance might fetch high fines and penalties (Mohdali, Isa and Yusoff, 2014; Radu, 2014; Wadesango et al., 2018). *Procedural tax knowledge* is defined as the skills and resources required to maintain timely tax records (Wong and Lo, 2015; Bornman and Ramutumbu, 2019). It helps small and micro firms sustain a complex corporate tax environment and adapt to subsequent changes (Empson, 2001; Morris and Empson, 1998; Cooper and Robson, 2006; Gibbin and Jamal, 1993). *Legal tax knowledge* can be defined as the understanding to how one is taxed. It has two dimensions: (1) understanding legal terms and legislation (knowing that something is taxable) and (2) the ability to apply legal knowledge to specific situations to be able to calculate the tax effect (knowing how) (Lai et al., 2013).

Tax knowledge is the fundamental reason why all taxpayers (individuals, companies, associations etc.) comply with taxation rules. It leads to lawful compliance and implementation of taxation policies in their business as they know the consequence of their action (Theory of Reasoned Action), that is, after-effects in the form of penalties and fines that hamper the firm's reputation (Rahmayanti and Prihatiningtias, 2020). It is considered one of the influential drivers determining the firms' performance (Einhorn and Hogarth, 1981; Libby and Luft, 1993).

Imperative studies have shown a strong positive impact of tax knowledge on business. It help SMEs to determine accurate tax liability and lead to timely tax compliance (Fauziati et al., 2016).

As lawful abiding of tax laws after proper understanding leads to lower legal costs due to cut off in fines and penalties (Saeed, 2020; Faizal et al., 2019; Adam and Webly, 2012; Berhane, 2011 and Sakarnor et al., 2010). Moreover, it prevents the afraid reaction of new reform amongst small firms and enables them to follow GST rules to their advantage (Kanda et al., 2018; Mohan and Ali, 2018). Proper understanding of the changed accounting system, taxation and documentation saves time and leads to smooth business operations management (Empson, 2001; Morris and Empson, 1998; Cooper and Robson, 2006; Gibbins and Jamal, 1993). Australian firms suffered a business loss due to insufficient knowledge about the changed taxation policies (Mckerchar and Hansford, 2015). Likewise, a strong negative impact has been observed by Loo (2016) and Loo et al., (2014) on the compliance behavior of Malaysian firms.

When firms are not fully aware of their tax exemptions, tax subsidies, and tax holidays, they directly hamper their businesses' growth and profit margins. (Freudenberg et al., 2017). While at the same time, tax knowledge boosts profits by minimizing risks, it also adds up to extra compliance and consultancy costs for the firms. In order to combat changes in the tax system and to survive in the new technological tax environment, firms hire external experts (Mulligan and Oats, 2016; Gracia and Oats, 2012; Empson, 2004). They outsource the tax-related matters to Big 4 accounting firms with specialized tax knowledge for tax planning to minimize the risk of investments and tax penalties (OECD 2008; Frecknall and Kirchler, 2015). Outsourcing of firms' tax affairs and experts' consultancy adds extra cost.

Prior studies (Choong and Lai, 2006; Saira, Zariyawati and May, 2010; Shamsuddin, et al., 2014; Ahmad, 2015) examined that a relationship exists between the level of awareness, education background, communication tools, demographic variance, levels of education, income and employment. The tax awareness and knowledge directly influence the acceptance level and impact the businesses of micro, small and medium-sized enterprises.

2.2.4 Demographic Variables

India is in a privileged position to have diverse demographic variables that directly correlate with the country's potential macroeconomics. Demographic variables can be described as race, gender, age, family background, educational level and income of a person (Parvin et al., 2012; Bernad and Victor, 2013; Evans et al., 2018). These variables are directly associated with tax revenue

generation and fiscal policy implications (Korwatanasakul et al., 2021); it will be crucial study their relation with tax awareness and knowledge as well after the major tax reform (GST). The present study discusses age, income, gender and educational level.

Age:

Age is considered as one of the dynamic demographic factors. Prior studies emphasized that with the passage of age, business owners gain more experience, which proves beneficial for performance. It was emphasized that entrepreneurs/ managers/ executives with more experience have a strong competitive advantage over younger ones (Virtanem, 2010; Kim et al., 2009). Similar implications were verified by Peni (2014), which highlights a direct and positive association of the Chief Executive Officer's age with the firms' return on assets. The studies highlighted the direct impact of working age on the per capita GDP growth (Mukherjee et al., 2019; Zee 2005; Kim, 2006) and the generation of tax revenues (Tine et al., 2020; Calahorrano, et al., 2019).

But in contrast, the study by Child (1972) highlighted that as age expended, the mental and physical effort to perform the job and to adapt to the changes degrade as compared to the younger ones who contribute to the firms' growth exponentially. Likewise, Tarus and Aime (2014) empirically stated that with the passage of age, the resistance to adapt to new environments and reforms rises which harms the firms' performance. Similar implications were observed in Danish firms by Ross (2005).

Income:

The income of a taxpayer is one of the influential variables, especially after the tax reform. One of the motives to implement a tax reform is to generate revenue, which is directly associated with income of taxpayers. It was empirically verified by Mertens and Olea (2018) that after tax reform, marginal tax rates cuts lead to rise in individual income of taxpayers by 0.78 percent. Further, the study conducted on corporate taxes by Ljungvist and Smolyansky (2014), opined that a one-percentage-point cut in statutory corporate tax rates leads to a 0.2 percent increase in employment and a 0.3 percent increase in income. Therefore, after tax reform, personal income level gets impacted strongly.

In India, GST broadened the economy's tax base by lowering the threshold limit and enabling the micro and small firms to enter the tax net (Buddhavarapu, 2022; The Hindu, 2021). As the tax base

broadens, the tax expenditure narrows down, promoting the investments and savings in a country which implies a rise in income (Osoro, 1993; Gale and Samwick, 2014). Earning income promotes three things: paying taxes, buying goods and services, and saving (Matsen et al., 2007; Desai and Hines, 2003). Loo, Mckerchar and Hansford, 2009 opined that a taxpayer could file for a tax return if he has sufficient tax knowledge and awareness. Similar implications were observed by Eriksen and Fallan, (1996) that knowledge creates a positive attitude to comply with the taxes after earning the income and avoiding tax evasion behavior.

Gender:

Gender is the most interesting factor that is positively associated with tax compliance. The studies empirically verified that women are considered to be more compliant than men (Marino & Zizza, 2012; D'Attoma, Volintiru, & Steinmo, 2017). Further, a difference in attitude exists between males and females based on tax awareness and knowledge (D'Attoma, Volintiru, & Steinmo, 2017). The study by Nurkhin et al., (2018) emphasized that based on gender, female respondents were more rational and complied with taxes compared to male respondents. The reason was the afraid reaction to heavy fines and penalties, but no significant effects were observed with tax understanding, knowledge or awareness. Similar implications were observed by Taing and Chang (2021) that there exists no significant effect with tax information, tax awareness, trust in authorities and power. But in contrast, Gerxhani (2007); Kasipillai and Jabbar, (2003) observed a positive association between gender and attitude toward tax awareness and tax planning.

Educational Level:

The adaption of any tax reform relies on its awareness and knowledge among the taxpayers as it influences people's readiness and attitude toward the reform (Kurniawana, 2020; Indah and Setiawan, 2020). The OECD Report 2021a stressed that tax literacy and awareness are the main contributing factors in shaping tax culture of the economy. They enable the taxpayer to be more compliant and avoid tax evasion. The vast empirical findings suggest that tax awareness has a direct association with the education level of the taxpayer (Baykan & Cek, 2019; Tjen & Wicaksono, 2022); attitude (Sanusi et al., 2021; Panjaitan et al., 2018; Hamid et al., 2019) and tax knowledge (Hardiningsih et al., 2020; Muawanah & Gajayana, 2021; Oktaviani et al.) and tax morale (Tambun, 2022).

The study conducted on South African MSMEs inferred that small business owners have high tax morale but due to limited tax awareness and knowledge, they face challenges in complying with the tax affairs (Ramutumbu, 2016). Further, Wong and Lo (2015) suggested that education level could be a strong indicator of tax compliance which is directly associated with the taxpayers' awareness and knowledge.

2.3 Firms' characteristics

This section provides insight into the literature review conducted on firms' characteristics, namely, types (firm size), forms, business turnover and nature of business. The presence of economies of scale in the area of small and micro businesses strongly implies that firms' characteristics play a major role in business performance (Amentie, Negash and Kumera, 2016). The present study explored literature on the types, forms of enterprises, turnover, and nature of business.

2.3.1 Types (Firm Size)

The firm's size is one of the fundamental factors in determining financial performance due to the basic concept of economies of scale. Firm size is directly associated with the firm's cost efficiency and profitability (Niresh and Thirunavukkarasu, 2014; Blazkova and Dvoulety, 2018). Moreover, Lee (2009) empirically analyzed in his research on 700 public firms in the United States that firm size dominantly influences the firm’s profitability.

Chen and Hambrick (2003) opined that large firms have enormous capital benefits over smaller ones, which enables them to manufacture more goods. Furthermore, large-scale companies have higher competitiveness than small companies because they have a direct approach to large markets (Darmawan and Toro, 2012). A comparative study by Ozgulbas et al., (2006), verified that larger firms have higher operational performance than small firms. Similar implications were observed by Jonsson (2007) on Iceland's firms. The study on Czech SMEs by Dvoulety and Blazkova (2020) empirically verified that a significant relationship exists between firm size and the competitiveness of the country's SMEs.

In contrast to the stated studies, Becker et al. (2010) suggested a negative association exists in profitability and firm size. From a strategy perspective, firm size may be an indicator of

diversification, affecting performance negatively (Tanui and Serebemuom, 2021). The past literature stated that studies had shown a mixed firm size and profitability relationship.

2.3.2 Form of Enterprises:

Running a successful business and choosing a suitable legal form really matter. The success and failure of a sole proprietorship, partnership, cooperation, or limited company varies with changing the tax structure, availability of finance, and operating environment (Mitchell and Fontana, 2010). As the tax slabs, rates, rules and compliance procedures vary with the form of business (CGST Act 2017). Furthermore, a strong association of ease of doing was found in sole proprietorship and partnership firms compared to companies (Rothenberg and Melnikova, 2002). Likewise, when a reform occurs in a country, the approach of every legal form of organisation differs. Therefore it is imperative to evaluate how the legal form influences the performance after reform in the country.

2.3.3 Business Turnover

Business turnover can be defined as a firm's sales and income growth. It directly influences the rate of return and has always got the attention of government and policymakers after fiscal reform. The relationship between profitability and business turnover got empirical recognition through Mueller's study in 1977, as the turnover level defines the firm's ability and the potential to explore market opportunities to augment its financial performance (Porter, 1995). The increase in turnover level gives the firms the competitive advantage to capture the market (Parida et al., 2016). Therefore, the level of business turnover has a dominant role in influencing the firms' performance (Gaur, Kesavan, 2015; Kim et al., 2016). It was empirically proven by the study of Keen and Lockwood (2006), conducted after the tax reform of 1983 and 1987 in Indonesia; the revenue collection rose by 4% (Keen and Lockwood, 2006). Similar implications were observed after the tax reform implemented in Ontario in 2010. The policy implications led to a rise in income and turnover of the taxpayers and businesses, respectively (Smart, 2011). That is the fundamental reason developing countries prefer a consolidated tax system over multiple tax systems, as a single consolidated tax system encourages savings and promotes investments and economic growth (Miki, 2011).

2.3.4 Nature of business

Manufacturing and Service enterprises have captured the global market and a strong impact of fiscal and monetary policy change has been observed on their growth (Eze and Ogiji, 2014). Manufacturing enterprises are considered as an opportunity to augment exports by increasing productivity, raising employment and creating foreign exchange investments (Loto, 2012). As it was empirically analyzed by Jayaraja and Gupta (2011) that, foreign investors get attracted to the increased domestic activities of the country. Further, with technological advancement, the service sector gets boosted. As a result, the service sector has added value to the net earnings of developing economies and proved an engine of growth, especially in Asia (Kim and Wood, 2020). Thus, it becomes vital to assess the relationship between the nature of business and its performance after tax reform.

2.4 Business Performance

Concerning the definition of business performance, researchers have different conceptualizations of business performance in general and particular. It is one of the most researched topics regarding MSMEs as more than 3600 research has been conducted so far (Neeley, 1999; Neeley et al., 1995; Neeley et al.,2002). Many past kinds of research suggest that it is difficult to conceptualize, define and measure the business performance concept (Taghaian et al., 2015). Richard et al., (2009) highlighted three broad areas of business performance- financial performance, market performance and shareholder return. Performance is also defined as the ability to sustain growth in the long run, operational efficiency, profitability and reaction toward fiscal and environmental opportunities and threats (Grunberg, 2004; Tangen, 2005).

Performance parameters vary after the fiscal policy implications in an economy, such as after tax reforms, as businesses aim to lower the incidence of tax on business and enable its growth (Weingberger, 2018). Alteration in tax structure is done to remove imperfections of the earlier system, to mitigate the cascading effects, and extra costs associated with it and to increase the tax revenues, which is directly related to the firm's profitability (OECD, 2020, Jacobson, 1987, Klemm, 2010). The DuPont analysis emphasized that the barometers for financial performance should be- return on equity and return on investment (Donaldson Brown, 1914). These parameters provide a better image of the financial performance of the firms (Ram and Chouhan,2020).

Almaqtari et al., (2020) emphasized the impact on financial performance by opting for net profits and return on assets. The qualitative study by Hosseini et al. (2018) suggested that net profits and return on investments depict the enterprises' actual image of financial performance.

Implementation of a new tax system should assist in the technology transition and foster the expansion of MSMEs at the international platform (Economic Survey, 2018; Roy, 2017). Moreover, e-marketplace, e-tax return platform, and e-tax registration enable the smooth flow of operations, save time, and help gather a large customer base (IBEF, 2021). So operational performance emerged out to be the other important parameter for measuring business performance (Chandren et al, 2018; Hoseini and Briand, 2020; Sury, 2017). Furthermore, the impact of information technology on performance level was measured by adopting profits after tax by Ahmad and Muray (2019) in their study.

In India, for MSMEs, a special credit rating scheme was launched under the guidance of the Industry Association, Indian Banks' Association and Rating agencies to measure the performance of these firms. The methodology under the scheme defined the performance parameters as operational, profitability, financial position and managerial and operational efficiency. These parameters were opted to provide an opportunity to the MSMEs so that they may know their strengths and weaknesses and can work on them to enhance their performance in the long run (Performance and Credit Rating Scheme for Micro & Small Enterprises, GoI, 2008).

For gauging business performance, the parameters used for the study are reflected:

- Operational Performance
- Profitability
- Financial Position
- Managerial and operational efficiency

2.5 Research Gaps

After the detailed literature review following research gaps were found-

- Firstly, in India, under the indirect tax regime, multiple tax systems prevailed, which led to major shortcomings and limitations in the system (Tait, 1988; Barman and Bisonoi, 1983; Tiwari and Singh, 2018). Therefore it becomes essential to map the factors of tax system changeover from Value Added Tax to a unified Goods and Service Tax system. The change in the tax system occurs to eradicate the shortcoming of the previous tax system. So after the major tax reform of 2017, Goods and Service Tax, it becomes vital to evaluate the impact of change in the tax system on MSMEs.

- Secondly, MSMEs are the most responsive to tax reforms due to limited economies of scale (Ocheni, 2015). They are very sensitive to innovations as they are not the early adopters of new tax reforms compared to large firms (Wang and Kesan, 2020; Lymer, Hansford and Pilkington, 2012). Due to a lack of administrative and capital resources, they find it hard to keep pace with changing tax laws and skills (Rahayu and Day, 2015; Nguyen, 2009; Sugiharto et al., 2010). The adaption constraint can be narrowed down with proper awareness and knowledge, as knowledge can help businesses sustain its growth in a competitive world (Suri, 2005). After a major tax overhaul, altering the business processes without proper tax awareness and knowledge is the recipe for failure. So, it will be crucial to examine MSMEs' tax awareness and knowledge level regarding GST. Further, most studies focused on the impact of tax awareness and knowledge on tax evasion, tax compliance, tax morality and behavior. But so far, how the tax awareness and knowledge level impact the business performance is limitedly research. Moreover, MSMEs did not have sufficient resources and knowledge, which harmed their businesses. Furthermore, they are slow adaptors to reforms. So it will be crucial to examine this association of information sources with firms' awareness and knowledge which may provide a broader perspective on how the availability of tax information sources might influence them.

- Thirdly, the previous studies stressed on the MSMEs' level of tax compliance or tax compliance behavior. But how the compliance system impacts small businesses and its performance need

to be researched in detail. As Indian MSMEs contribute to economic and social development by fostering entrepreneurship and generating employment at comparatively lower capital costs than large industries (Chitsimran et al.,2022; Gautam and Sondhi, 2020). They also helps in reducing regional imbalances by enhancing the industrialization of rural and backward areas and assuring more equitable wealth and income distribution (MSME Report, 2020). The proper tax compliance can make a huge difference and the compliance system plays a major role in adhering to the rules and laws by MSMEs

- Fourthly, the technological transformation in every business is well researched but at the same time how the technological advancement in tax function might impact its performance level need to be examined in detail. The new tax reform (GST) has launched a particular Goods and Service Tax Network portal to deal with all the matters related to GST, from registration to filing tax returns. Whether or not the GSTN system has aided the MSMEs needs to be researched in detail**.**

2.6 Hypothesis Development

As per the detailed literature review discussed above, the following hypotheses are formulated for the objectives of the study-

Objective 1 (O1): To analyze the factors to map the changeover from Value Added Tax (VAT) to Goods and Service Tax (GST) on MSMEs.

Problem Statement- Do significant difference exists in the factors of tax system changeover (VAT to GST) based on the firms' characteristics?

Hypothesis 1a: There exists a significant difference in factors of tax system changeover based on types of MSMEs (Micro, Small and Medium)

Hypothesis 1b: There exists a significant difference in factors of tax system changeover based on form of enterprises (Proprietorship, Partnership, Companies)

Hypothesis 1c: There exists a significant difference in factors of tax system changeover based on business turnover

Hypothesis 1d: There exists a significant difference in factors of tax system changeover based on nature of businesses (Manufacturing and Servicing)

Objective 2 (O2): To examine the awareness and knowledge level of MSMEs towards Goods and Service Tax (GST).

Problem Statement- Do information sources and demographic variables influence the tax awareness and knowledge level?

Hypothesis 2a: *Information sources has a positive association with tax awareness level of MSMEs.*

Hypothesis 2b: *Information sources has a positive association with tax knowledge level of MSMEs*

Hypothesis2 c: *Demographic variables (Age, Gender, Income, Educational level) positively influence the tax awareness level of MSMEs.*

Hypothesis 2d: *Demographic variables (Age, Gender, Income, Educational level) positively influence the tax knowledge level of MSMEs*

Objective 3 (O3): To develop a model to examine the impact of Goods and Service Tax (GST) on business performance of MSMEs.

Problem Statement 1: Do GST impacts the business performance of MSMEs?

Hypothesis 3a: *Change in tax system positively impacts the MSMEs' business performance.*

Hypothesis 3b: *Tax awareness and knowledge positively impacts MSMEs'* business *performance.*

Hypothesis 3c: *GST compliance system negatively impacts the MSMEs' business performance.*

Hypothesis 3d: *GST compliance system enhances the tax administrative burden of MSMEs.*

Hypothesis 3e: *Technological advancement (GSTN) positively impacts the MSMEs' business performance*

Hypothesis 3f: *Firm's Characteristics (type, form, business turnover and nature) are positively associated with the business performance of MSMEs*

2.7 Concluding Remarks

The current chapter focused on the detailed literature on the GST implementation factors- tax system changeover, GST compliance system and time spent adhering to the system and technological advancement. Next, the research on tax awareness and knowledge was studied in depth. Demographic studies were also reviewed to determine whether any relationship exists between them and tax awareness and knowledge levels. Later, the studies on firms' characteristics were explored to infer their relationship with business performance. In the next chapter, the empirical analysis will be conducted on the relationships explored in the current chapter as it lays a solid foundation to identify the gaps and the variables associated with business performance after tax reform (GST).

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

After completing the literature review and hypotheses development, this chapter comprises phases of research design to achieve the research objectives. It provides insight into the detailed sampling process- sample size selection and survey areas. Further, this chapter includes details on the survey instrument, the methods adopted to collect the data, and the statistical techniques for data interpretation.

Section 3.1 describes the research design, which provides insight into the step-by-step process followed to achieve the objectives. Section 3.2 provides the tools and techniques used in the present study. Section 3.3 provides an overall view of the research framework of the study. Finally, in section 3.4, the conceptual model was represented.

3.1 Research Design

A well-planned research design is the most important and crucial part of any research. It is a step-by-step procedure to achieve the objectives. Firstly, the sample size was determined (section 3.1.1). Secondly, the survey instrument, a structured questionnaire, was formulated and validated, followed by pilot testing to ensure its reliability (section 3.1.2). Thirdly, the data collection procedure and its sources are defined, followed by testing its reliability and validity (section 3.1.3).

3.1.1 Population and Sample Size

In India, we have selected one of the industrial states, Punjab, for our study. In 2019-20, Punjab's MSMEs showed a growth rate of 5% in economic activities and 10 % in employment generation. Punjab is one of India's influential states, which emerged as a textile industry hub. They are the primary source of India's woolen production (95%), sewing machine production (85%), and India's sports goods production (75%). Punjab's MSMEs contribute around 14.1% to Gross Domestic Product and 26.6% to Gross State Value Added. They have generated around 1.5 million employment opportunities (Department of Industries and Commerce, Government of India, February 2022). Furthermore, Punjab has shown an increase of 15% in registered MSMEs, from 1.8 lakh in 2016-17 to 2 lakh in 2017-18. In addition, a rise of 10% in employment opportunities,

from 13.5 lakh (2016-17) to 14.9 lakh (2017-18). Apart from the rise in registered MSMEs and growth in employment opportunities, a decline in their contribution to GDP declined from 7.6% in 2015-16 to 5.1% in 2016-2017 (Department of Finance, GoI, 2018) (Figure 1.4). Therefore, it becomes essential to examine the impact of GST on Punajb's MSMEs.

In order to determine the sample size for the study, we have first considered the total registered MSMEs as per MSMEs Annual Report 2017-18. As the population is segregated into three strata- micro, small and medium, we first adopted stratified random sampling. Later, we applied proportionate random sampling based on the total registered enterprises in Punjab's top five industrial districts.

The sample size has been calculated using population standard deviation, based on the registered MSMEs in Punjab during the last ten years. The following two formulas have been used to calculate the sample size at 95% confidence level. Both these two formulas come with the same sample size:

$$SE\ \bar{x} = \frac{\sigma p}{\sqrt{n}}$$

Where $SE_{\bar{x}}$ = Standard Error of the mean

σ_p = Standard Deviation of the population

n= Sample Size

$$SE\ \bar{x} = \frac{Error}{Z}$$

Z= Critical value at 5% level of significance (1.96)

Error= Margin of Error

Therefore, the sample size at 95% confidence based on registered MSMEs as per MSME Report 2017-18 comes to

$$\frac{error}{z} = \frac{\sigma p}{\sqrt{n}}$$

$$\frac{1192}{1.96} = \frac{14586}{\sqrt{n}}$$

Sample size, n= 581

As per (Israel, 1992), the formula used to calculate the sample size also amounts to the same results that have been manually calculated, taking the SD of population and Mean error.

$$n_0 = \frac{z^2 * 6^2}{e^2} = 581$$

Further, the sample of 581 has been divided among registered Micro, Small and Medium Enterprises using a proportionate sampling method using the base of MSME Annual Report 2017-18 (refer to Table 3.1)

TABLE 3.1: SAMPLE SIZE ALLOCATION

TYPE	SIZE
Micro	280
Small	250
Medium	51

Source: Self Compilation

After allocating the sample into Micro, Small and Medium enterprises, further it is segregated into the top five industrial districts/towns of Punjab using a proportionate sampling method based on the total number of MSME registered in Amritsar, Jalandhar, Ludhiana, Patiala and Sangrur (refer Table 3.2)

TABLE 3.2: SEGREGATION OF SAMPLES

TYPE	Amritsar	Jalandhar	Ludhiana	Patiala	Sangrur	**Size**
Micro	40	61	124	25	30	**280**
Small	33	55	110	25	27	**250**
Medium	7	10	23	5	6	**51**
Total	**80**	**126**	**257**	**55**	**63**	**581**

Source: Self Compilation

3.1.2 Survey Instrument

Questionnaire: A structured questionnaire was formulated after the detailed literature review, keeping the study's objectives in mind. It was piloted by 15 academicians and 15 practitioners to measure the questionnaire's content validity. After their valuable feedback and guidance, a few alterations have been incorporated into the questionnaire, such as deleting few repetitive and not-so-relevant statements. Their feedback enhanced the content quality of the questionnaire.

Further, to assort the kind of measures- objective or subjective measures to be used in the questionnaire survey, many scholars have discussed the necessity of using subjective performance measures as a substitute for objective measures (Vij and Bdi, 2016; Masadeh et al., 2015; Kim et al., 2004; Wall et al., 2004). MSMEs are often cautious to openly/publicly reveal their financial performance, leading to the non-responsiveness of the surveys. Therefore, the scholars require subjective measures (using Likert scaling in empirical research) and further enable them to examine, evaluate and compare the data empirically (Vij and Bdi, 2016). Furthermore, these measures help to maintain the results of different magnitudes and give more valid and reliable results as supported by the literature (Masadeh, 2015 and Dess and Robinson, 1984). Singh et al., (2016) empirically verified the validity and reliability of subjective measures by summarizing 207 parameters during 2005-07 in his research studies. Further in the validation, Dess and Robinson (1984) state that subjective measurements are strongly correlated with objective measurements, which they empirically proved by taking the absolute changes in return on assets and sales over the same period. The correlation (r) between objective and subjective measures of total sales gives a value of r of 0.80, and return on assets gives a value of *r* of 0.79. This supports the validity of the performance evaluation through subjective measures. The respondents were requested to point out the degree of the performance relating to their industry type using a five and three-point Likert scale to know the impact on overall business performance rather than just financial indicators (Dawes, 1999; Wall et al., 2004 and Kim, 2006).

The questionnaire is bifurcated into two segments-A and B (Annexure A1). Section A has statements related to firms' characteristics and demographic aspects. Section B has statements on tax system changeover, information sources, tax awareness, and knowledge level; GST

compliance system and time spent to adhere to the system; technological transition in the tax system (GSTN); and business performance parameters (for details, refer Table 3.3).

Table 3.3 Information on Questionnaire

	S. No.	List of statements	Measurement	Objective
Section A	1.	Name		Data Identification
	2.	Designation		Data Identification
	3.	Organization Name and Address		Data Identification
	4.	Form of Organization		Firm' Characteristics
	5.	Nature of Business		Firm' Characteristics
	6.	Type of Unit		Firm' Characteristics
	7.	Annual Turnover		Firm' Characteristics
	8.	Registration prior to GST		Firm' Characteristics
	9.	Age		Demographic Details
	10.	Gender		Demographic Details
	11.	Education		Demographic Details
	12.	Personal Annual Income		Demographic Details
Section B	13.	Tax system Changeover (20 statements)	5-point Likert Scale	Objective 1
	14.	A. Information Sources (9 statements) B. Level of Tax Awareness (6 statements) C. Level of Tax Knowledge (9 statements)	5-point Likert Scale 5-point Likert Scale 5-point Likert Scale	Objective 2
	15.	A. GST compliance System(8 statements) B. Time Spent in adhering the compliance system (6 statements) C. Technological Transition- Goods and Service Tax Network (15 statements)	5-point Likert Scale 4-point Likert Scale 5-point Likert Scale	Objective 3
	16.	Business Performance A. Operational (15 statements) B. Profit (7 statements) C. Financial position (5 statements) D. Managerial and Operational Efficiency (10 statements)	 5-point Likert Scale 3-point Likert Scale 3-point Likert Scale 3-point Likert Scale	

Source: Self Compilation

3.1.3 Data collection and its reliability and validity

This section is bifurcated into two parts- the first sub-section 3.1.3.1 demonstrates the sources for data collection, that is, the respondents of the study, followed by the pilot testing of the questionnaire to ensure its reliability. The second sub-section 3.1.3.2 demonstrates the reliability and validity of the entire data, that is, 605 samples.

3.1.3.1 Data Sources and Pilot Testing:

The target sample for the present study was Punjab's micro, small and medium enterprises. The questionnaire respondents were the top management personnel, that is, owners, managers, or tax experts who manage the MSME units and their tax affairs. These personnel were targeted as they play a crucial role in firms' tax planning, investment decisions and structuring the policies (Shackelford and Shevlin, 2001; Chen et al. 2010). The questionnaire was administered by hand, post, Google forms, and e-mails with two to four follow-up reminders among registered MSMEs of Punjab. In addition, there were many revisits to augment partaking of these respondents in the sample. Seven hundred fifty questionnaires were administered, out of which 605 complete responses were utilized for the study. The response rate was 80% (605/750)

In the preliminary stage, before starting the sample collection, pilot testing was conducted to obtain accurate responses and reduce the chances of bias. The most common method to check the internal consistency of a questionnaire is through Cronbach Alpha, as it depicts the reliability of constructs (Cronbach, 1951). The study had good internal reliability as the Cronbach alpha value is more than 0.70 for all the constructs (refer to table 3.4).

Table 3.4 Internal Reliability of Questionnaire- Pilot Testing

S No.	Items	No. of Items	Cronbach alpha
1.	To map the driving factors influencing the changeover of VAT to GST.	20	0.872
2.	The smooth functioning of GST requires proper Awareness and Knowledge about it		
	A. Sources to attain awareness and knowledge about GST	9	0.767
	B. Level of Tax Awareness	6	0.893
	C. Level of Tax Knowledge	9	0.782

3.	Different factors of GST that influence the business performance of MSMEs		
	A. GST Compliance system	8	0.861
	B. Time Spent on Compliance system	6	0.917
	C. Technological Transition- Goods and Service Network (GSTN)	15	0.886
4.	Business Performance Parameters		
	A. Operational Performance	15	0.940
	B. Profitability	7	0.904
	C. Financial Position	5	0.745
	D. Managerial and Operational Efficiency	10	0.756

Source: Self Compilation

3.1.3.2 Reliability and Validity

A total of 605 samples were collected from the registered MSMEs of Punjab. The biasedness, reliability, and validity were tested on the total number of samples.

Firstly, through common method bias (CMB), the unbiasedness of the data collected is tested. Common method bias happens when variations in responses are caused by the instrument rather than the actual predispositions of the respondents that the instrument attempts to uncover. The prescribed threshold limit for the total variance for a single factor should be less than 40% to ensure that the data is unbiased (Podsakoff et al., 2003 and 2012). The results were significant, which narrated that the data is unbiased as the total variance is less than 40%, that is, 13.892%.

Secondly, reliability ensures how well the survey questionnaire captured the information it intended to measure to achieve the objectives. Reliability was tested through Cronbach's alpha, which was significant for all the variables (above 0.70).

Thirdly, the data set's reliability was tested through standard deviation and criterion validity (Pearson's Correlation). Standard deviation highlights how spread out the values are in a given data set (Table 3.5). Pearson correlation tests the constructs' validity and is commonly used to verify the linear relation between predictor and response variables (Paranhos et al., 2014) (refer to Table 3.6). In the present study, Table 3.5 depicts that all the constructs have low values of standard

deviation, which reflect the much consistency in respondents' opinions regarding the impact of GST and ensures the validity of the data set.

Table 3.5 Validity of Data- Mean and Standard Deviation

Descriptive Statistics			
	Mean	Std. Deviation	Number of samples
Tax System changeover (TS)	3.830	0.391	605
Information Sources (IS)	2.462	0.522	605
Tax Awareness level (TAL)	3.692	0.537	605
Tax knowledge Level (TKL)	3.884	0.493	605
GST compliance System (TCS)	3.856	0.367	605
Time Spent (TTCS)	1.358	0.393	605
Technological Transition (GSTN)	4.234	0.334	605
Operation Performance (OP)	3.840	0.466	605
Profit Margins (PP)	2.369	0.746	605
Financial Position (FP)	2.001	0.350	605
Managerial and operational efficiency (MOE)	2.079	0.235	605

Source: Self Compilation

According to Table 3.6, the Pearson correlation test has shown significant correlations of all the constructs (predictor and response), which validates the existence of the linear relationship. All the constructs, namely, tax system changeover, information sources, tax awareness and knowledge level, and technological transition, have shown a positive correlation with all the variables and business performance parameters. However, the GST compliance system and time spent adhering to the system have shown a significant negative correlation with other constructs. The test confirms that the data set has enough statistical power to achieve the objectives.

Table 3.6 Validity of Data- Pearson Correlation

Correlations												
		TS	IS	TAL	TKL	TCS	TTCS	GSTN	OP	PP	FP	MOE
Tax system changeover	Pearson Correlation	1	**0.328****	**0.392****	**0.482****	**-0.091***	**-0.302****	**0.507****	**0.496****	**0.245****	**0.012**	**0.112****
	Covariance	0.153	0.067	0.082	0.093	-0.013	-0.047	0.066	0.091	0.072	0.002	0.010
Information sources	Pearson Correlation	**0.328****	1	**0.306****	**0.236****	-0.056	-0.004	**0.144****	**0.206****	**0.207****	-0.028	**0.080***
	Covariance	0.067	0.273	0.086	0.061	-0.011	-0.001	0.025	0.050	0.081	-0.005	0.010
Tax Awareness	Pearson Correlation	**0.392****	**0.306****	1	**0.504****	**0.116****	**-0.281****	**0.424****	**0.331****	**0.162****	0.040	0.046
	Covariance	0.082	0.086	0.289	0.134	0.023	-0.059	0.076	0.083	0.065	0.008	0.006
Tax knowledge	Pearson Correlation	**0.482****	**0.236****	**0.504****	1	**0.081***	**-0.181****	**0.390****	**0.374****	0.056	-0.012	0.011
	Covariance	0.093	0.061	0.134	0.244	0.015	-0.035	0.064	0.086	0.021	-0.002	0.001
GST compliance system	Pearson Correlation	**-0.091***	-0.056	**0.116****	**0.081***	1	**0.329****	0.037	-0.019	**-0.111****	0.046	-0.036
	Covariance	-0.013	-0.011	0.023	0.015	0.135	0.048	0.005	-0.003	-0.031	0.006	-0.003
Tax administrative burden (Time Spent)	Pearson Correlation	**-0.302****	-0.004	**-0.281****	**-0.181****	**0.329****	1	**-0.402****	**-0.319****	**-0.117****	-0.041	**-0.107****
	Covariance	-0.047	-0.001	-0.059	-0.035	0.048	0.155	-0.053	-0.059	-0.034	-0.006	-0.010
GSTN	Pearson Correlation	**0.507****	**0.144****	**0.424****	**0.390****	0.037	**-0.402****	1	**0.482****	**0.168****	0.060	**0.174****
	Covariance	0.066	0.025	0.076	0.064	0.005	-0.053	0.112	0.075	0.042	0.007	0.014
Operational	Pearson Correlation	**0.496****	**0.206****	**0.331****	**0.374****	-0.019	**-0.319****	**0.482****	1	**0.160****	0.055	**0.166****
	Covariance	0.091	0.050	0.083	0.086	-0.003	-0.059	0.075	0.218	0.056	0.009	0.018
Profit	Pearson Correlation	**0.245****	**0.207****	**0.162****	0.056	**-0.111****	**-0.117****	**0.168****	**0.160****	1	**-0.181****	**0.205****
	Covariance	0.072	0.081	0.065	0.021	-0.031	-0.034	0.042	0.056	0.558	-0.047	0.036
Financial position	Pearson Correlation	**0.012***	-0.028	0.040	-0.012	0.046	-0.041	**0.060***	0.055	**-0.181****	1	**0.107****
	Covariance	0.002	-0.005	0.008	-0.002	0.006	-0.006	0.007	0.009	-0.047	0.123	0.009
MOE	Pearson Correlation	**0.112****	**0.080***	0.046	0.011	-0.036	**-0.107****	**0.174****	**0.166****	**0.205****	**0.107****	1
	Covariance	0.010	0.010	0.006	0.001	-0.003	-0.010	0.014	0.018	0.036	0.009	0.055
**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).												

Source: Self Compilation

3.2 Tools and Techniques

In the present study, Statistical Package for Social Sciences (SPSS) and Analysis of Moment Structure (AMOS 23) were used to analyze the primary data. SPSS is a comprehensive statistical software that performs complex statistical tests efficiently. It enables to manage the large data powerfully and provides better results with fewer measurement errors. AMOS supports large sample sizes and works on a covariance-based algorithm that enhances the relationship strength between the predictor and response variables to evaluate the impact. Further, AMOS empirically supports the mixed type of scales in one model to enable the researchers to conduct comprehensive research (Arbuckle, 2010; Fernandes and Cahyoningtyas, 2021). The following tools and techniques were applied in order to each objective:

- The first objective is to analyze the factors to map the changeover from Value Added Tax (VAT) to Goods and Service Tax (GST) on MSMES. To achieve this objective initially data reduction technique Exploratory Factor Analysis was conducted. Later, Analysis of Variance (ANOVA) was applied to analyze the factors based on firms' characteristics of MSMEs, using SPSS 25.

- The second objective is to examine the awareness and knowledge level of MSMEs towards GST. To achieve this objective mean score analysis and stepwise multiple regression was used via SPSS 25.

- The last objective is to develop a model to examine the impact of Goods and Service Tax (GST) on the business performance of MSMEs. To achieve this objective Structured Equation Model (SEM) was developed using AMOS 23.

3.2.1 Descriptive Statistics

Descriptive statistics enables to summarize the data set by measuring its central tendency (mean) and measures of variability (standard deviation, skewness, variance, and kurtosis). It provides the researcher a direction for data analysis by organizing, simplifying and summarizing the data. In the present study, mean and standard deviation values are used to rank the information and awareness sources preferred by the respondent. Firms' characteristics and demographic aspects

have been analyzed using pie charts, bar diagrams, and mean frequencies. Further, the mean score analysis and data frequency (mode) were also conducted to measure tax awareness and knowledge level of GST.

3.2.2 Explorative Factor Analysis

Exploratory Factor Analysis is a data reduction technique that helps reduce the data into smaller sets and allows exploring the underlying theoretical aspect (Cooper and Schindler, 2006; Henson and Roberts, 2006; Byrne, 2010). The present study applied EFA to map the changeover factors from VAT to GST. The technique helped to map the tax system changeover factors, which were further analyzed based on MSMEs' characteristics

3.2.3 Analysis of Variance

Analysis of Variance (ANOVA) is a statistical technique to measure the cause and effect of an independent (with one or more categorical sets) on a dependent (one continuous) variable. In the present study, one-way ANOVA was applied to analyze the factors of tax system changeover based on the firm's characteristics. The test was applied to study whether or not a significant difference exists in the factors based on types of enterprises (micro, small and medium), form of enterprises (proprietorship, partnership and companies), nature of business (manufacturing and servicing) and business turnover.

3.2.4 Multiple Regression Technique- Stepwise Regression

Stepwise regression is a step-by-step method where the most significant predictor variables are iterated in the final model. After each iteration, the non-significant variables are excluded, providing the researcher with only the statistically significant predictor variables. In the present study, stepwise regression was applied to determine the most preferred information sources and demographic variables that might influence the tax awareness and knowledge level of MSMEs.

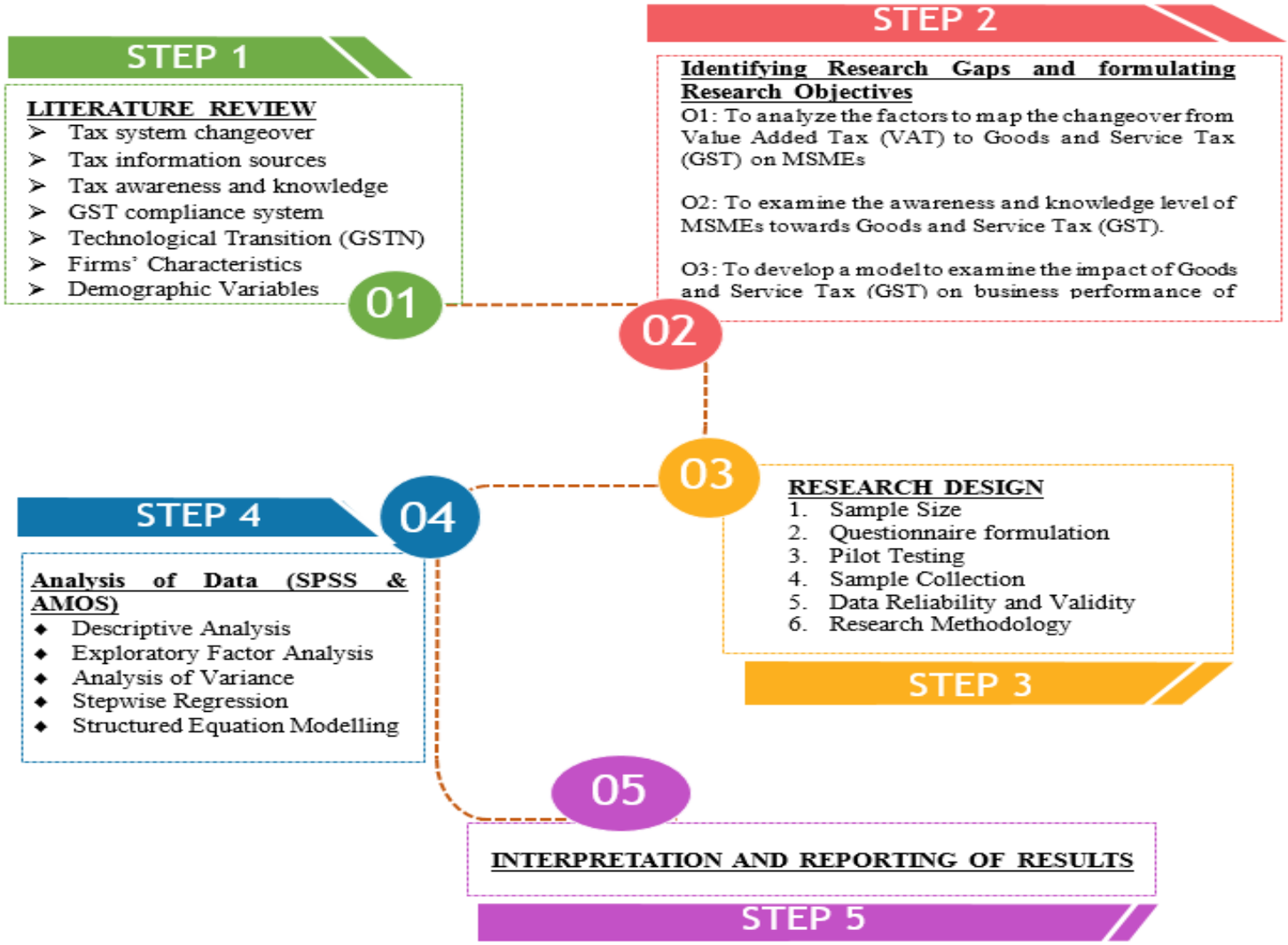
3.2.5 Structural Equation Modeling

Structural Equation Modeling (SEM) is a multivariate analysis technique that helps test a conceptual or theoretical model. It is applied to test the relationship between variables, hypothesizing or evaluating the impact. It enables handling a complex structure by running

multiple regression models simultaneously with multiple independent and dependent variables. In the present study, we developed a model using AMOS 23, to examine the impact of GST on the business performance of MSMEs. Multiple factors were considered: firms' characteristics, tax system changeover, tax awareness and knowledge, GST compliances and GSTN, to examine the impact on different business performance parameters. Two models were developed- the first examines the impact on operational performance and profitability margin and the second on the MSMEs' financial position and managerial and operational efficiency.

3.3 Research Framework

Figure 3.1 : *RESEARCH FRAMEWORK*



Source: Self Compilation

3.4 Conceptual Research Model

The conceptual model outlines the possible relationship between the constructs used in the study based on the detailed literature review. It is a framework that gives a logical direction to achieve the objectives in a systematic way. Figure 3.2 represents the conceptual model depicting the impact of tax system changeover, tax awareness and knowledge level, GST compliance system, technological transition (GSTN) and firms' characteristics on the business performance of MSMEs. Further, the influence of information sources on tax awareness and knowledge level is also highlighted. The model also highlights a mediation effect (dotted arrows) of time spent by MSMEs in adhering to the compliance system via the GST compliance system and technological shift (GSTN).

The majority of the studies emphasized that the change in the tax system occurs to eradicate the shortcoming of the previous tax system (Shome, Mukhopadhayay and Saleem, 1996 and Sinha, 1987; Govind, 2011 and Vasanthgopal, 2011; Kantaradhya, 2000; Khoja and Khan, 2020; Sury, 2017). So after the major tax reform of 2017, Goods and Service Tax, it becomes vital to evaluate the impact of change in the tax system on them. Further, most studies focused on the impact of tax awareness and knowledge on tax evasion, tax compliance, tax morality, and behavior of MSMEs (Asrinanda, 2018; Nurlis and Ariani, 2020; Newman et al., 2018; Negara and Purnamasari, 2019). But so far, how the tax awareness and knowledge level impacts the business performance is under-researched. Along with it, the association of information sources, tax awareness, and knowledge level needs to be analyzed as the past studies highlighted that MSMEs are resource constraints and slow adaptors to reforms (Wang and Kesan, 2020; Lymer et al., 2012). So it will be crucial to examine this association which may provide a broader perspective on how the availability of information sources might influence the firms.

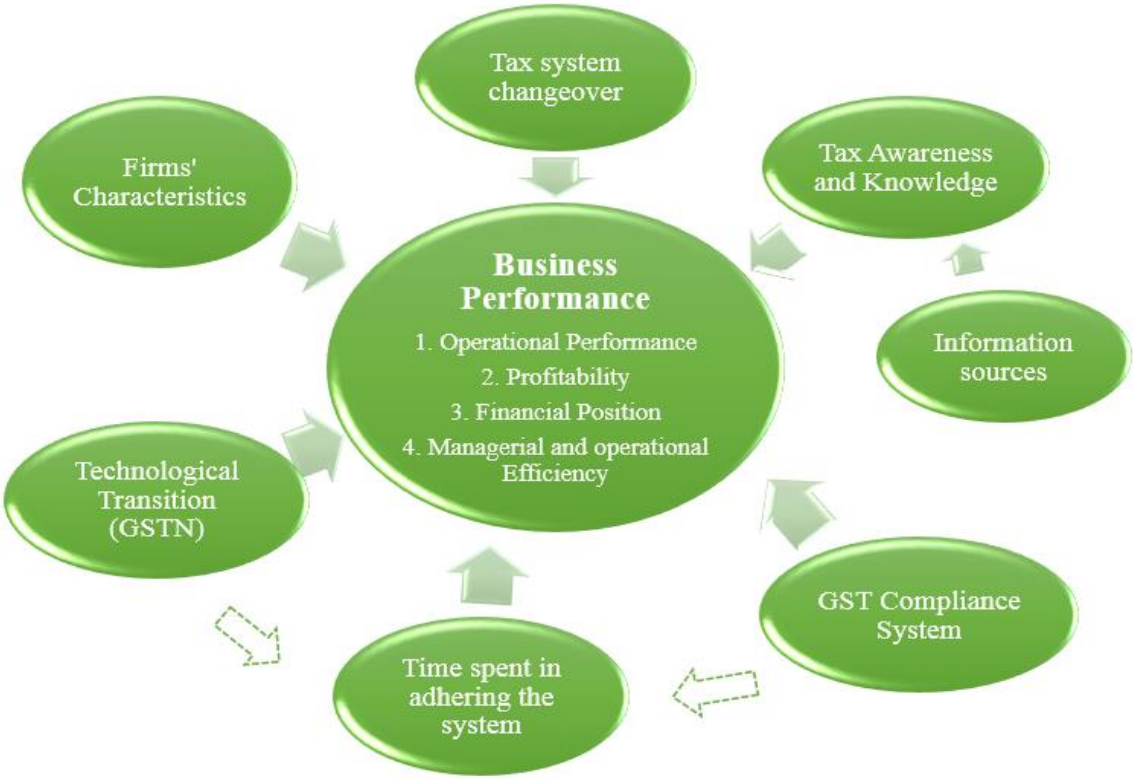
Tax reform not only brings a change in the tax system but also overhauls the entire compliance process. Therefore, MSMEs must upgrade their compliance system to survive in a new tax environment. But how the compliance system impacts the businesses and its performance and further the time spent adhering to it is under-researched because previous studies stressed the MSMEs' level of tax compliance or tax compliance behavior (Wijayanti et al., 2020; Utomo et al., 2022). Digitalization and emerging technologies have revolutionized business models by paving the way to internationalization, globalization and expansion (Hinterhuber and Nilles, 2021;

Kotaraba, 2018). The widespread of technological innovation is not limited to entrepreneurship (Jafari and Biancone, 2018); healthcare, pharmaceuticals etc. (Rezaei et al., 2021) but has also impacted the fiscal system of a country by influencing the tax design system and its administration (Onkan and Arikan, 2022; Bird and Zolt, 2008). The technological function in every business is well researched but at the same time how the technological advancement in tax function might impact its performance level need to be examined in detail. The new tax reform (GST) has launched a particular Goods and Service Tax Network portal to deal with all the matters related to GST, from registration to filing tax returns. Whether or not the new system has aided the MSMEs or not needs to be researched in detail, as these firms are resource constrained and slow in technology adaption compared to large enterprises.

MSMEs play a major role in economic development and have the potential to grow in the larger firms in the near future eventually (Boateng et al., 2019; Gupta et al., 2018). But due to the presence of different economies of scale, their performance parameters might vary from firm to firm (Mermelstein et al., 2020; Pati et al., 2018). So it is vital to evaluate the impact of firms' characteristics, namely type, legal form, nature of business and business turnover on the performance.

For business performance- four parameters have been used in the present study. Resmi et al., (2021) emphasized that different parameters of performance and its assessment exist. Concerning the definition of business performance, researchers have different conceptualizations of business performance in general and particular. Therefore, through extensive literature review, four parameters are identified which represents the business performance- profitability, managerial and operation efficiency, financial stability in the position and enhancement in operational performance. These basic parameters achieve the goals from the perspective of stakeholders, investors, and the firm itself.

Figure 3.2 Conceptual Model



Source: Self Compilation

3.5 Concluding Remarks

The chapter focuses on the research framework adopted to achieve the objectives of the study. It portrays a detailed map of designing the survey instrument, the questionnaire, its construct measurement and pilot testing. Further, the chapter explains the details of data collection- its respondents from MSMEs, sources, and validity and reliability. The chapter also outlines the research methods used to examine the impact of GST on the business performance of MSMEs. Finally, the statistical tools and techniques applied are explained separately for each objective and the reasoning why they suit the best in each particular objective to test the hypotheses.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

This chapter interprets the findings of the current research study. At first, the study evaluated the factors of the changeover of Value Added Tax (VAT) to Goods and Service Tax (GST). Next, it examined the level of tax awareness and knowledge of GST. Finally, the models are developed to examine the impact of GST on business performance.

Section 4.1 demonstrates the details of firms' characteristics to understand the profile of MSMEs and Section 4.2 states the demographic profile to understand the nature of respondents. Section 4.3 empirically analyzes the changeover factors from VAT to GST (objective 1). Section 4.4 gives a brief on GST information sources and cognizance of awareness programs. Section 4.5 demonstrates the detailed analysis to evaluate the tax awareness and knowledge level, followed by evaluating the association of tax information sources with tax awareness and knowledge level (objective 2). Section 4.6 illustrates the models developed to examine the impact of GST on the performance level of MSMEs (objective 3). Finally, section 4.7 narrates the concluding remarks.

4.1 Firms' Characteristics

4.1.1 Type of Enterprises:

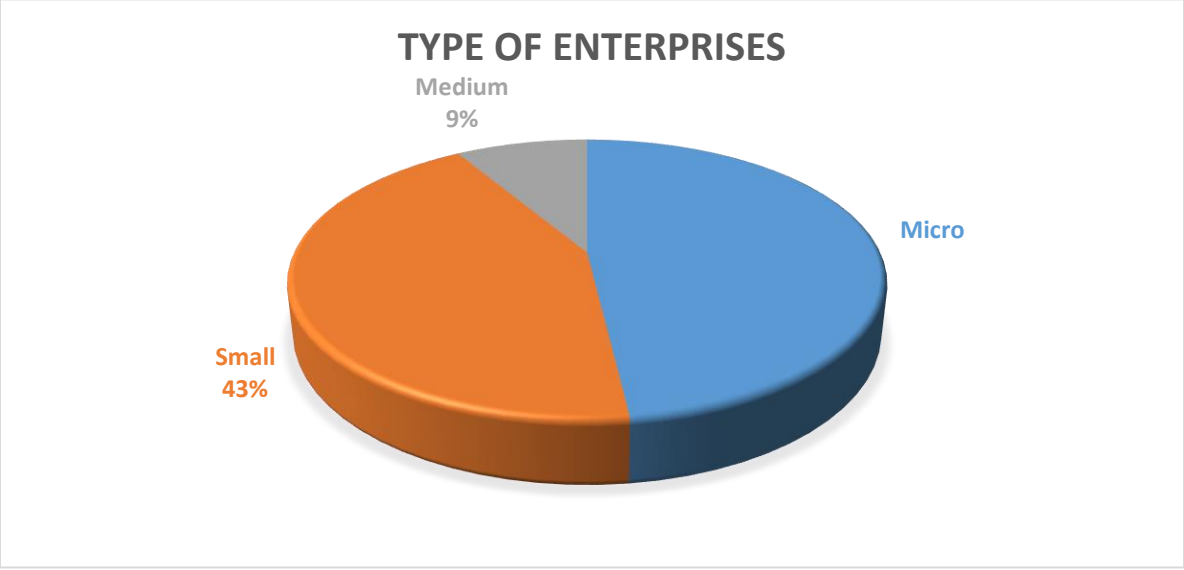
Amongst micro, small and medium-sized enterprises, micro firms constitute the highest proportion of 48 percent (291/605); small firms 43 percent (262/605) and medium 9 percent (52/605). The bifurcation is represented in Figure 4.1.1 and table 4.1.1

Table 4.1.1 Type of Enterprises

Profile of MSME units		
Attributes	**Number of units**	**Percentage**
Type of units:		
Micro	291	48
Small	262	43
Medium	52	9
Total	605	100

Source: Self Compilation

Figure 4.1.1 Type of Enterprises



Source: Self Compilation

4.1.2 Form of Enterprises:

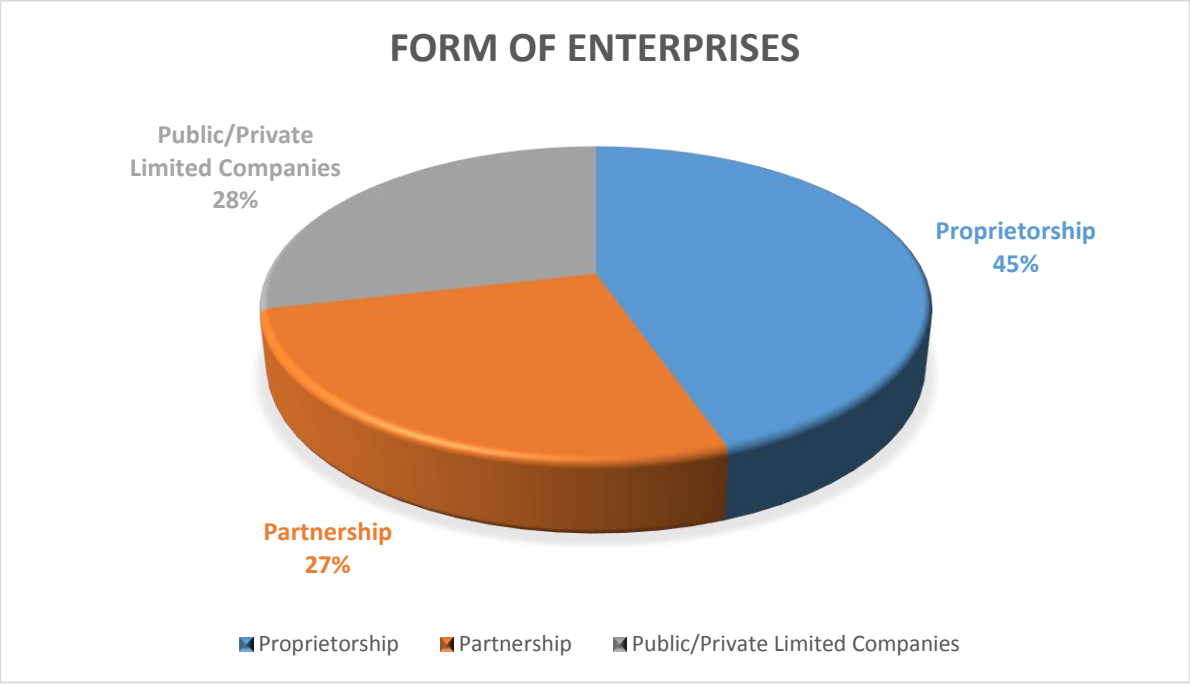
Three major forms of enterprises are undertaken for the study- proprietorship firms, partnerships and companies. Amongst three as shown in Figure 4.1.2 and Table 4.1.2, proprietorship firms are around 45 percent of the sample; 27 percent are partnership firms and 28 percent are companies.

Table 4.1.2 Form of Enterprises

Form	Number of units	Percentage
Proprietorship	270	45
Partnership	162	27
Companies	173	28
Total	605	100

Source: Self Compilation

Figure 4.1.2 Form of Enterprises



Source: Self Compilation

4.1.3 Nature of business:

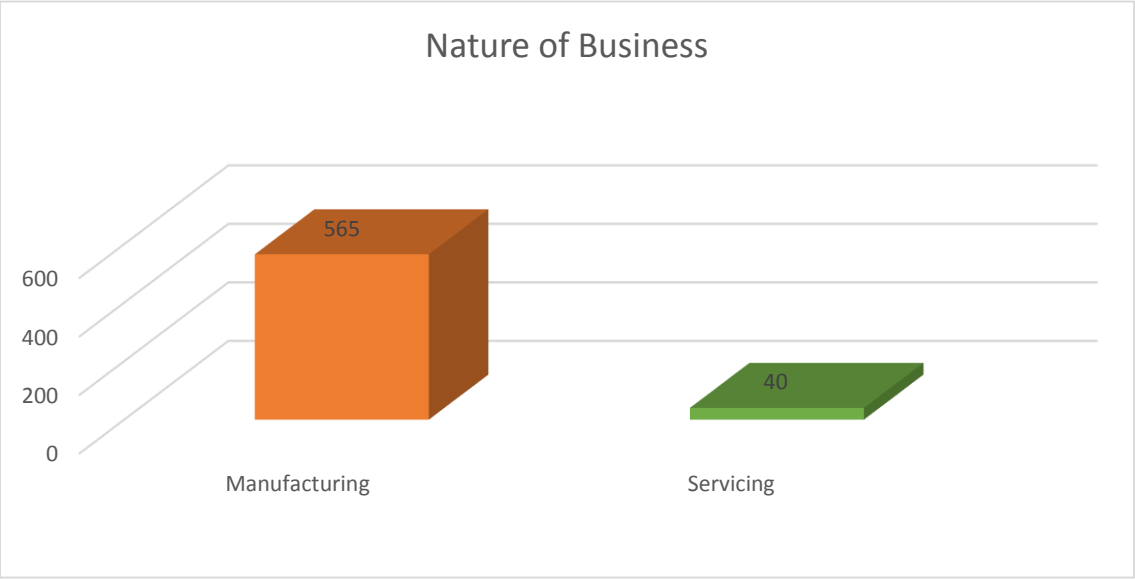
Nature of business represents the industrial undertaking of the MSMEs, that is, whether they are manufacturing firms or servicing. In the present study, Manufacturing firms dominate the sample by 93 percent, and 7 percent constitute around servicing firms, as depicted in Figure 4.1.3 and Table 4.1.3 below.

Table 4.1.3 Nature of Business

Nature	Number of units	Percentage
Manufacturing	565	93
Servicing	40	7
Total	605	100

Source: Self Compilation

Figure 4.1.3 Nature of Business



Source: Self Compilation

4.1.4 Annual Business Turnover

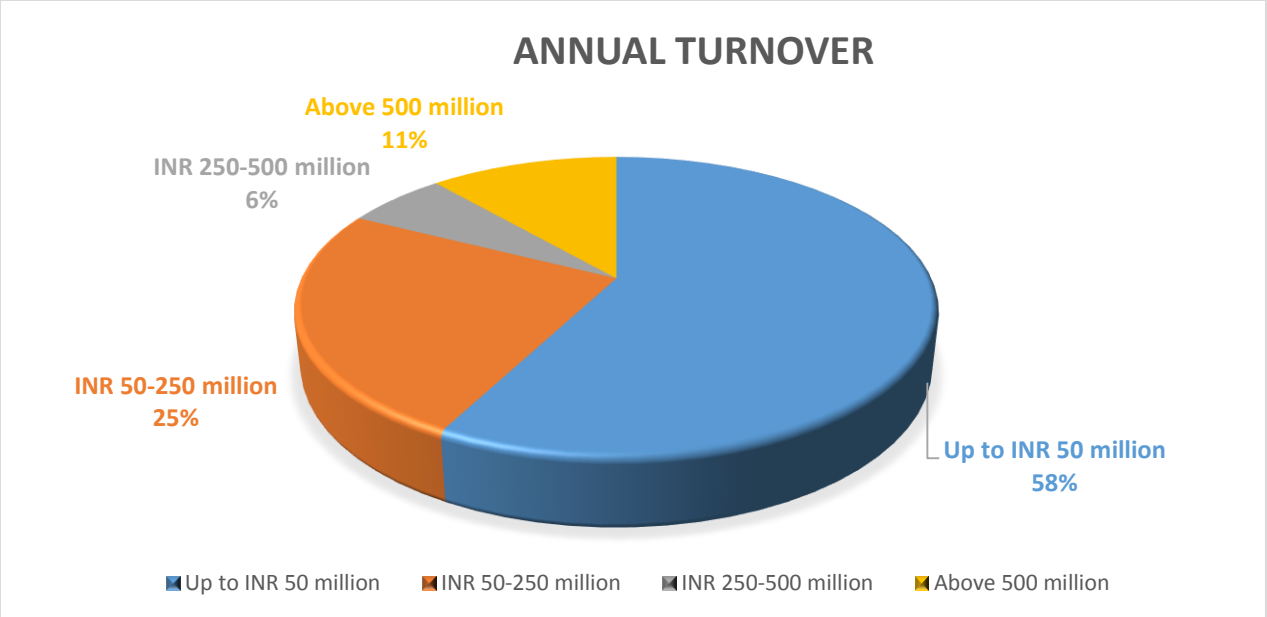
Amongst the four categories of the annual turnover of MSMEs, turnover up to (Indian Rupees) INR 50 million group dominated with 58 percent of the sample; followed by INR 50-250 million with 25 percent, 11percentage for the group above INR 500 million and 6 percent for the group INR 250-500 million of the sample. The bifurcation is depicted in the Table and Figure 4.1.4

Table 4.1.4 Annual Turnover of business

Annual Turnover	Number of units	Percentage
Up to INR 50 million	349	58
INR 50-250 million	150	25
INR 250-500 million	37	6
Above INR 500 million	69	11
Total	605	100
Note: 1 million = 10 lakhs Indian Rupees (INR)		

Source: Self Compilation

Figure 4.1.4 Annual Turnover of the business



Source: Self Compilation

4.2 Demographic Profile of the respondents

4.2.1 Gender Profile

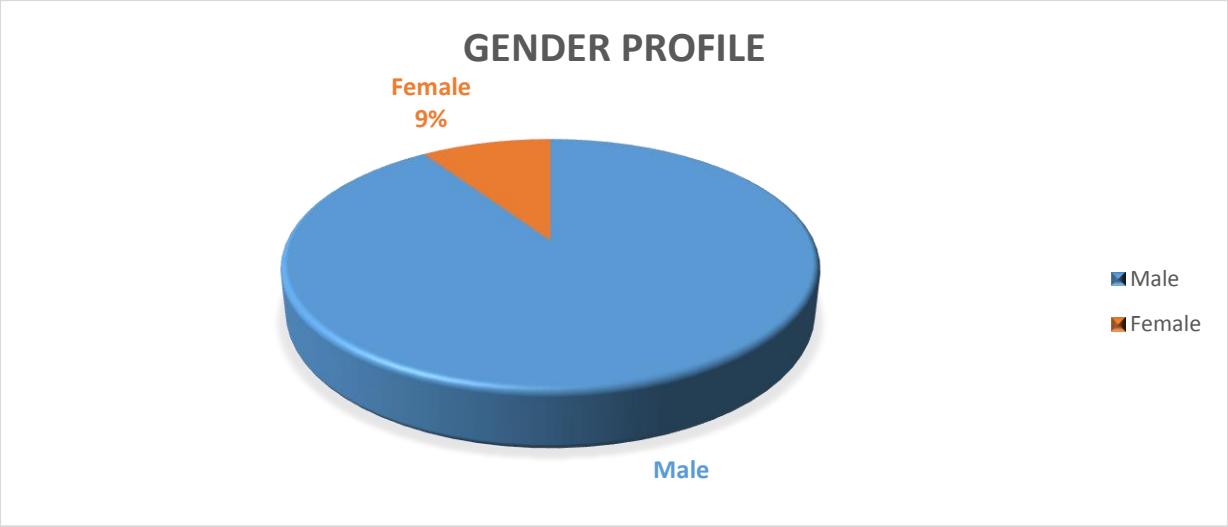
From the sample of MSMEs, male respondents dominate the population by 91percent (548 respondents) than female respondents of 9 percent (57respondents), as shown in Table and Figure 4.2.1.

Table 4.2.1 Gender Profile

Gender	Number	Percentage
Male	548	91
Female	57	9
Total	605	100

Source: Self Compilation

Figure 4.2.1 Gender Profile



Source: Self Compilation

4.2.2 Age Profile

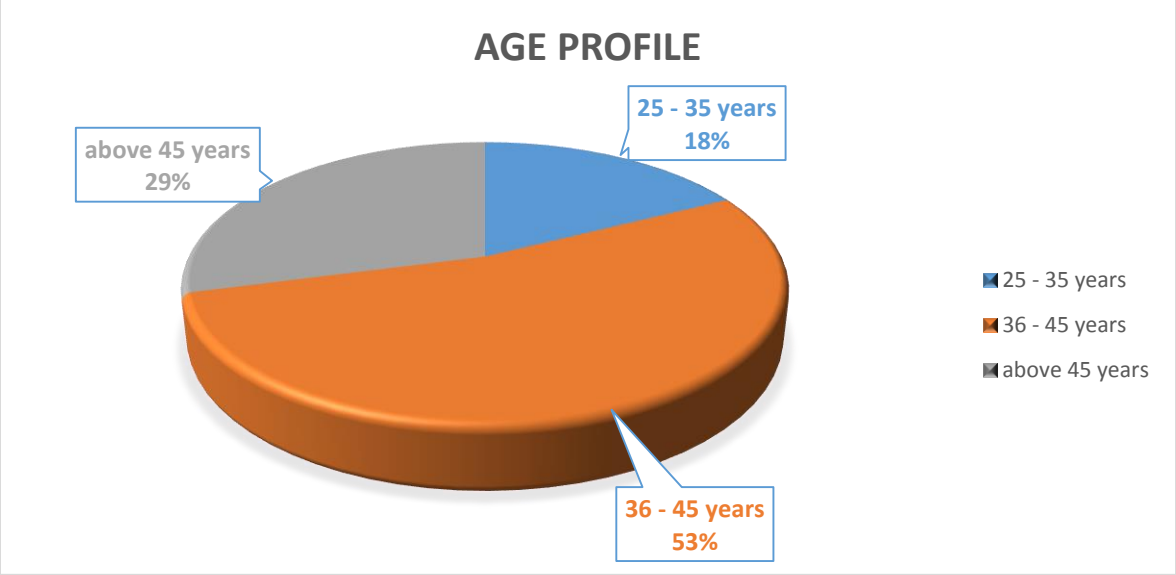
Three age groups were undertaken for the study: 25-35; 36-45 and above 45. Table and Figure 4.2.2 depicts that respondents falling in the age group of 25-35 years constitute 18percentage, followed by 53percentage from the age group 36-45 years and 29 percentage from the third group, above 45 years. From the sample of MSMEs, the most respondents fall in the age group of 36-45 years.

Table 4.2.2 Age Profile

Age	Number	Percentage
25-35 years	106	18
36-45 years	323	53
Above 45 years	176	29
Total	605	100

Source: Self Compilation

Figure 4.2.2 Age Profile



Source: Self Compilation

4.2.3 Educational Status

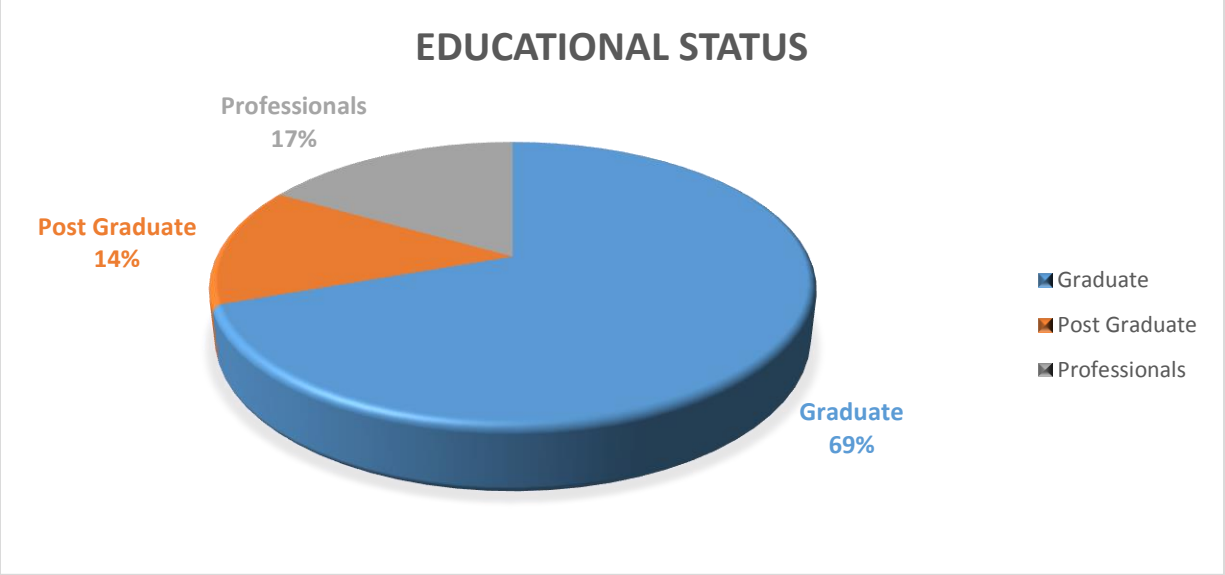
Three level of educational qualifications were considered for the present study: Graduate, Postgraduate and Professional (CA/CS/MBA). Table and Figure 4.2.3 indicate that 69 percent of the respondents are graduate and undergraduate, 14 percent are post-graduate and 17 percent are professionally qualified, mostly having a Master in Business Administration.

Table 4.2.3 Educational Status

Educational Qualification	Number	Percentage
Under-Graduate/ Graduate	421	69
Post Graduate	83	14
Professional (MBA/CA/CS)	101	17
Total	605	100

Source: Self Compilation

Figure 4.2.3 Educational Status of respondents



Source: Self Compilation

4.2.4 Annual income of respondents

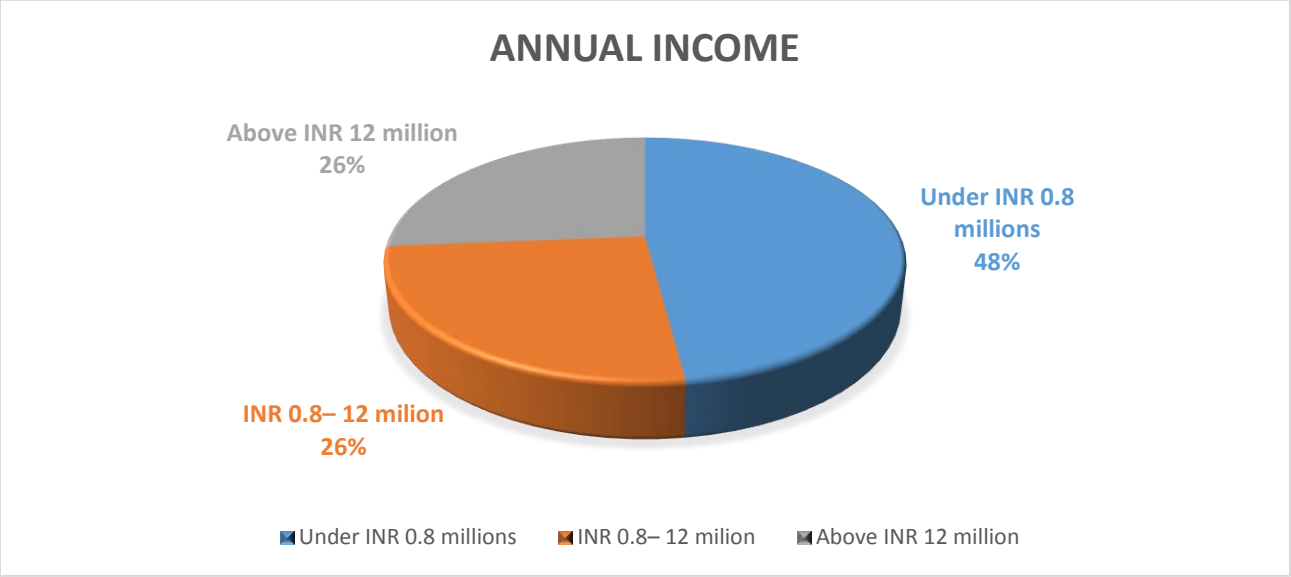
Amongst the three groups asked for the annual personal income of respondents, income under INR 0.8 million (8 lakhs) constituted 48 percent of the sample; followed by the income group of INR 0.8-12 million and above INR 12 million by 26 percent each as shown in Table and Figure 4.2.4.

Table 4.2.4 Annual Personal Income

Annual Income	Number	Percentage
Under INR 0.8 million	290	48
INR 0.8 – 12 million	156	26
Above INR 12 million	159	26
Total	605	100
Note: 1 million = 10 lakhs INR (Indian Rupees)		

Source: Self Compilation

Figure 4.2.4 Annual Income of the Respondents



Source: Self Compilation

4.3 Analyzing the factors to map the switchover from Value Added Tax to Goods and Service Tax for MSMEs

Objective 1 (O1): To analyze the factors to map the changeover from Value Added Tax (VAT) to Goods and Service Tax (GST) on MSMEs

This section analyzes the factors to map the switchover from Value Added Tax to Goods and Service Tax based on the firms' characteristics of MSMEs. To achieve the objective, firstly, Exploratory Factor Analysis (EFA) is applied to determine the factors of changeover (sub-section 4.3.1). Secondly, an Analysis of Variance is conducted to empirically map the changeover from VAT to GST based on firms' characteristics (Type, Form, Turnover and Nature of business) (sub-section 4.3.2).

4.3.1 Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) is one of the data reduction techniques which helps to bring the inter-correlated variables together. The basic purpose of EFA is to reduce the dimensionality of large number of factors and bring them together under a more general underlying variable (Rietveld and Van Hout 1993). The EFA techniques enable a clear view of the data and help in empirically analyzing them better (Field, 2000; Rietveld and Van Hout, 1993).

To map the factors of switchover from VAT to GST, twenty statements were asked in the survey, based on the literature review. These 20 statements were subjected to exploratory factor analysis using IBM SPSS 25, to reduce the number of variables by looking at whether underlying assumptions are met in communalities (> 0.50), factor loadings (≥ 0.50) and Eigen value (>1), communalities ($>.50$). Principal Component Analysis along with Varimax rotation was performed. After the underlying factors were extracted using EFA, it was then possible to analyze the switchover from VAT to GST based on the firms' characteristics (type, form, turnover and nature).

Table 4.3.1.1 states Bartlett's test of sphericity and KMO (Kaiser-Meyer Olkin) test to examine the appropriateness of applying exploratory factor analysis (EFA). A KMO value should lie in between 0.8 to 1, as these value indicate the adequate fit for the EFA. Further, the significance value for the Bartlett's test should below 0.05 as this signifies the substantial correlation in the

data, with minimum loss of information (Dodge, 2008; Gonick, 1993; Klein, 2013 and Vogt, 2005). The present results indicate a KMO value 0.796 (falling in the range) and Bartlett' test significant at 1% level (p-value < 0.000), which signifies that data is suitable to run the EFA.

Table 4.3.1.1 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.796
Bartlett's Test of Sphericity	Approx. Chi-Square	6366.433
	Df	190
	Sig.	0.000***

*** significant at 1% level p-value ≤ 0.000

Source: Self Compilation

Communalities are the proportion of variance explained by each principal component. It should be greater than 0.5 for each construct to be able to get accepted (Osborne et al., 2008). Table 4.3.1.2 demonstrates the communalities values for all the 20 items used in the study, greater than 0.5, in the acceptable range. The values of communalities imply a greater sum of variance can be extracted from it.

Table 4.3.1.2 Communalities Values

S. No.	Statements	Initial	Extraction
S1	Subsuming of taxes with the introduction of GST, both at Central and State level has eased the jurisdictional discrepancies	1.000	0.570
S2	Tax structure and tax compliance procedure under GST are simpler as compared to VAT	1.000	0.595
S3	The unfair demands while applying for registration for VAT has been narrowed down under GST.	1.000	0.733
S4	Under the VAT regime, there was no central jurisdiction to resolve the issues of every state which was highly inconvenient.	1.000	0.559
S5	The cascading effect that prevailed throughout the production-distribution supply chain has been removed under the GST system.	1.000	0.596

S6	GST has improved the efficiency of the tax system	1.000	0.869
S7	GST has helped to bring in transparency, fairness and equity.	1.000	0.820
S8	GST has controlled the issuance of wrong invoices.	1.000	0.826
S9	GST's mechanism has helped in reducing tax evasions.	1.000	0.905
S10	GST has prevented tax frauds in comparison to earlier tax system	1.000	0.884
S11	Seamless tax credits would ensure a strong mechanism of transfer of tax credits from one state to another state under GST.	1.000	0.700
S12	Strong tax credit mechanism system of GST has reduced illegal refunds	1.000	0.789
S13	GST has controlled missing/insolvent trader frauds through validation system by PAN and AADHAR	1.000	0.766
S14	Input tax credit under GST has increased the profitability of MSME firms in comparison to the pre GST era.	1.000	0.690
S15	With regard to the movement of goods under the GST system, it has smoothened the flow of business operations	1.000	0.692
S16	Through e-way bills, the quantity of goods can be crosschecked and greater control can be exercised to prevent leakages.	1.000	0.553
S17	GST Model is progressive in nature whereas the VAT Model was regressive.	1.000	0.500
S18	GST has abolished the classification dispute which was due to multiple tax rates on similar goods in different states, existed in the VAT era.	1.000	0.584
S19	The current taxable rates of GST throughout country (3%, 5%, 12%, 18% and 28%) are rational in comparison to earlier indirect tax rates.	1.000	0.747
S20	GST tends to increase the revenue and expand the indirect tax base in comparison to the earlier tax system (VAT, Service Tax and Excise duty)	1.000	0.738
	Extraction Method: Principal Component Analysis.		

Source: Self Compilation

To retain the number of factors, the Eigen values are checked, which should be greater than 1. Eigen value is the measure of variance explained by each factor. Table 4.3.1.3 demonstrates that up to 6 factors the Eigen values are greater than 1, which explains the maximum variance without losing much information. Total Variance Explained (TVE) tells the variance explained by all the factors, which must not be less than 60%. In the present study, six factors explain 69.572% of the total variance, which indicates the adequate fit of the factorial model.

Table 4.3.1.3 Total Variance Explained

Total Variance Explained (TVE)									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.971	29.857	29.857	5.971	29.857	29.857	3.120	15.600	15.600
2	2.344	11.719	41.575	2.344	11.719	41.575	2.391	11.955	27.554
3	1.886	9.428	51.004	1.886	9.428	51.004	2.302	11.512	39.066
4	1.350	6.748	57.752	1.350	6.748	57.752	2.191	10.955	50.021
5	1.286	6.430	64.181	1.286	6.430	64.181	2.158	10.791	60.812
6	1.078	5.391	69.572	1.078	5.391	69.572	1.752	8.761	69.572
7	0.948	4.738	74.310						
8	0.819	4.094	78.404						
9	0.725	3.623	82.027						
10	0.644	3.220	85.248						
11	0.604	3.018	88.265						
12	0.401	2.006	90.272						
13	0.382	1.908	92.180						
14	0.364	1.820	93.999						
15	0.316	1.581	95.580						
16	0.268	1.338	96.918						
17	0.219	1.093	98.011						
18	0.174	0.872	98.884						
19	0.135	0.673	99.557						
20	0.089	0.443	100.000						
Extraction Method: Principal Component Analysis.									

Source: Self Compilation

Table 4.3.1.4 states the factor loading values for which the study applies principal component analysis and varimax rotation with KMO to extract the six factors converged with eight iterations. The loading values for all the factors are in the acceptable range (above 0.50). All the statements under each factor are positively correlated with each other. Further, Factor 1 explains 15.60% of variance; Factor 2: 11.96%; Factor 3: 11.51%; Factor 4: 10.96%; Factor 5: 10.79% and Factor 6 explains 8.76% of the variance.

Table 4.3.1.4 Exploratory Factor Analysis with Varimax Rotation

Rotated Component Matrix[a]							
S No	Statements	Factors					
		Fac1	Fac2	Fac3	Fac4	Fac5	Fac6
S9	GST's mechanism has helped in reducing tax evasions.	0.901					
S10	GST has prevented tax frauds in comparison to earlier tax system	0.875					
S8	GST has controlled the issuance of wrong invoices.	0.851					
S15	With regard to the movement of goods under the GST system, it has smoothened the flow of business operations		0.741				
S16	Through e-way bills, the quantity of goods can be crosschecked and greater control can be exercised to prevent leakages.		0.703				
S17	GST Model is progressive in nature whereas the VAT Model was regressive.		0.583				
S3	The unfair demands while applying for registration for VAT has been narrowed down under GST.			0.817			
S4	Under the VAT regime, there was no central jurisdiction to resolve the issues of every state which was highly inconvenient.			0.719			
S2	Tax structure and tax compliance procedure under GST are simpler as compared to VAT			0.679			
S1	Subsuming of taxes with the introduction of GST, both at Central and State level has eased jurisdictional discrepancies.			0.552			
S6	GST has improved the efficiency of the tax system				0.885		
S7	GST has helped to bring in transparency, fairness and equity.				0.857		
S5	The cascading effect that prevailed throughout the production-distribution supply chain has been removed under the GST system.				0.583		

S13	GST has controlled missing/insolvent trader frauds through validation system by PAN and AADHAR					0.836	
S12	Strong tax credit mechanism system of GST has reduced illegal refunds					0.712	
S11	Seamless tax credits would ensure a strong mechanism of transfer of tax credits from one state to another state under GST.					0.608	
S14	Input tax credit system under GST has increased the profitability of MSME firms in comparison to the pre GST era.					0.514	
S20	GST tends to increase the revenue and expand the indirect tax base in comparison to the earlier tax system (VAT, Service Tax and Excise duty)						0.852
S19	The current taxable rates of GST throughout country (3%, 5%, 12%, 18% and 28%) are rational in comparison to earlier indirect tax rates.						0.748
S18	GST has abolished the classification dispute which was due to multiple tax rates on similar goods in different states, existed in the VAT era.						0.510
	Total Variance	15.60%	11.96%	11.51%	10.96%	10.79%	8.76%
	a. Rotation converged in 8 iterations. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.						

Source: Self Compilation

The Six factors are formed through EFA to map the changeover from Value Added Tax (VAT) to Goods and Service Tax (GST) for MSMEs. After the extensive literature review, the factors formed through EFA are named as:

Fac 1 Preventing fraudulent tax practices (three statements)

Fac 2 Progressive Model (three statements)

Fac 3 Smooth Tax jurisdiction (four statements)

Fac 4 Tax System Efficiency (three statements)

Fac 5 Tax credit mechanism (four statements)

Fac 6 Tax rates and thresholds (three statements)

4.3.2 Analysis of Variance (ANOVA)

For the present study, we have applied one-way ANOVA to analyze the factors of the switchover from VAT to GST. An effort was made to evaluate whether any difference in perception regarding factors of changeover exists or not, on the basis of firms' characteristics- type, form, business turnover and nature of business. The following hypothesis is tested:

Hypothesis 1a:	*There exists a significant difference in factors of tax system changeover based on types of MSMEs (Micro, Small and Medium)*
Hypothesis 1b:	*There exists a significant difference in factors of tax system changeover based on form of enterprises (Proprietorship, Partnership, Companies)*
Hypothesis 1c:	*There exists a significant difference in factors of tax system changeover based on business turnover*
Hypothesis 1d:	*There exists a significant difference in factors of tax system changeover based on nature of businesses (Manufacturing and Servicing)*

For ANOVA, at first, homogeneity of variance was tested through Levene's test. Homogeneity of variance essentially depicts whether the distribution of variance in each group is comparable. The condition of homogeneity of variance is met when Levene's test comes insignificant, that is, p-value > 0.05. For the present study, Levene's test was insignificant for all the factors, which signifies that the assumption of homogeneity of variance was met.

4.3.2.1 ANOVA based on the type of enterprises:

The one-way ANOVA test was conducted to empirically analyze whether any significant difference exists in the factors of changeover based on types of enterprises. The results from Table 4.3.2.1 highlight that MSMEs type, that is, micro, small and medium enterprises, have a significant difference in the perception for the four major factors "preventing fraudulent tax practices, progressive model, smooth tax jurisdiction and registrations, and tax credit mechanism" at p-value< 0.05. At the same time, they have a similar perception of factors- tax system efficiency and rational tax rates and thresholds as the p-value value > 0.05.

The overall findings emphasize that- "*There exists a significant difference in factors of tax system changeover based on types of MSMEs (Micro, Small and Medium)." Thus hypothesis 1a is accepted.*

Table 4.3.2.1: ANOVA on Factors of switchover from VAT to GST for MSMEs based on type (Micro, Small and Medium)

ANOVA						
Factors		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
Preventing Fraudulent tax practices	Between Groups	14.314	2	7.157	7.306	**0.001*** **
	Within Groups	589.686	602	0.980		
	Total	604.000	604			
Progressive Model	Between Groups	14.501	2	7.250	7.404	**0.001*** **
	Within Groups	589.500	602	0.979		
	Total	604.000	604			
Smooth tax jurisdiction	Between Groups	18.808	2	9.404	9.674	**0.000*** **
	Within Groups	585.192	602	0.972		
	Total	604.000	604			
Tax System efficiency	Between Groups	0.891	2	0.445	0.445	0.641
	Within Groups	603.109	602	1.002		
	Total	604.000	604			
Tax Credit Mechanism	Between Groups	9.236	2	4.618	4.674	**0.010** **
	Within Groups	594.764	602	0.988		
	Total	604.000	604			
Tax rate and thresholds	Between Groups	0.727	2	0.364	0.363	0.696
	Within Groups	603.273	602	1.002		
	Total	604.000	604			

*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10

Source: Self Compilation

After the one-way ANOVA test, Tukey's HSD (Honest Significant Difference) was conducted to assess the significant difference between the three types of enterprises- micro, small and medium. Table 4.3.2.2 demonstrates the results, which emphasize that for the first factor- preventing fraudulent tax practices, the difference in perception for micro firms is higher as compared to small (mean difference (MD): 0.195, p-value: 0.054) and medium firms (MD: 0.528, p-value: 0.001). In comparison to medium firms, small firms have shown a high difference (MD: 0.333; p-value: 0.069). This implies that micro firms strongly perceive that one factor of changeover from VAT to GST is the prevention of fraudulent tax practices compared to small and medium enterprises.

Likewise, for the second and fourth factors, there is a significant difference in perception between micro and small firms only at a 1% significant level. In contrast, no significant difference exists with medium firms. For the third factor- smooth tax jurisdiction- medium firms strongly perceive that changeover has eased the tax jurisdiction in comparison to micro (MD: 0.650; p-value: 0.000) and small firms (MD: 0.522; p-value: 0.001).

Table 4.3.2.2 Tukey HSD (honest significant difference) Test on factors of switchover from VAT to GST for MSMEs based on type (Micro, Small and Medium)

Factors	(I) Type	(J) Type	Mean Difference (I-J)	Std. Error	Sig.
Preventing Fraudulent tax practices	Micro	**Small**	**0.195***	**0.084**	**0.054***
		Medium	**0.528*****	**0.149**	**0.001*****
	Small	**Micro**	**-0.195***	**0.084**	**0.054***
		Medium	**0.333***	**0.150**	**0.069***
	Medium	**Micro**	**-0.528*****	**0.149**	**0.001*****
		Small	**-0.333***	**0.150**	**0.069***
Progressive Model	Micro	**Small**	**0.311*****	**0.084**	**0.001*****
		Medium	0.301	0.148	0.108
	Small	**Micro**	**-0.311*****	**0.084**	**0.001*****
		Medium	-0.010	0.150	0.997
	Medium	Micro	-0.301	0.148	0.108
		Small	0.010	0.150	0.997
Smooth tax jurisdiction	Micro	Small	-0.128	0.083	0.280
		Medium	**-0.650*****	**0.148**	**0.000*****
	Small	Micro	0.128	0.083	0.280
		Medium	**-0.522*****	**0.149**	**0.001*****

	Medium	**Micro**	**0.650*** **	**0.148**	**0.000*** **
		Small	**0.522*** **	**0.149**	**0.001*** **
Tax Credit Mechanism	Micro	**Small**	**0.250*** **	**0.084**	**0.009*** **
		Medium	0.226	0.149	0.284
	Small	**Micro**	**-0.250*** **	**0.084**	**0.009*** **
		Medium	-0.023	0.150	0.986
	Medium	Micro	-0.226	0.149	0.284
		Small	0.023	0.150	0.986

*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10

Source: Self Compilation

4.3.2.2 ANOVA based on form of enterprises

The one-way ANOVA test was conducted to empirically analyze any significant difference in the factors of changeover based on form of enterprises. The results from Table 4.3.2.3 highlight that MSMEs form, that is, proprietorship partnership and companies, have a significant difference in the perception for all the six factors "preventing fraudulent tax preparers, progressive model, tax jurisdiction and registrations, tax system efficiency, tax credit mechanism, and tax rates and thresholds" at p-value< 0.05. Therefore, hypothesis *H1b: There exists a significant difference in factors of tax system changeover based on the form of enterprises (Proprietorship, Partnership, Companies)* is accepted.

Table 4.3.2.3: ANOVA on Factors of switchover from VAT to GST for MSMEs based on form (Form of Enterprises- proprietorship, partnership and companies)

ANOVA						
Factors		Sum of Squares	Df	Mean Square	F	Sig.
Preventing Fraudulent tax practices	Between Groups	43.097	2	21.549	23.127	**0.000*** **
	Within Groups	560.903	602	0.932		
	Total	604.000	604			
Progressive Model	Between Groups	27.815	2	13.907	14.531	**0.000*** **
	Within Groups	576.185	602	0.957		
	Total	604.000	604			
	Between Groups	22.648	2	11.324	11.726	**0.000*** **

Smooth tax jurisdiction	Within Groups	581.352	602	0.966		
	Total	604.000	604			
Tax System efficiency	Between Groups	7.745	2	3.873	3.910	**0.021****
	Within Groups	596.255	602	0.990		
	Total	604.000	604			
Tax Credit Mechanism	Between Groups	19.534	2	9.767	10.060	**0.000*****
	Within Groups	584.466	602	0.971		
	Total	604.000	604			
Tax rate and thresholds	Between Groups	10.563	2	5.281	5.358	**0.005*****
	Within Groups	593.437	602	0.986		
	Total	604.000	604			

*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10

Source: Self Compilation

Table 4.3.2.4 demonstrates Tukey's HSD results, which emphasize that for the first factor- preventing fraudulent tax practices, the difference in perception for proprietorship firms is higher as compared to companies (MD: 0.629; p-value: 0.000). Likewise for partnership firms with companies (MD: 0.490; p-value: 0.000), a significant difference in perception exists at 1% level. But no difference in perception exists in between proprietorship and partnership firms.

For the second factor- Progressive Model, the difference in perception exists between proprietorship with partnership (MD: 0.285; p-value: 0.009) and with companies (MD: 0.504; p-value: 0.000). But no difference in perception exists in between partnership and companies.

For the third factor- Smooth tax jurisdiction, in comparison to proprietorship firms', partnership firms have a strong perception that changeover was incorporated to smoothen the tax jurisdiction (MD: 0.415; p-value: 0.000). Likewise for companies (MD: 0.360; p-value:0.000).

For forth factor- Tax system efficiency, the difference in perception exist between partnership and companies at 1% significance level. For the fifth factor- Tax credit mechanism- there is no difference in perception between partnership and proprietorship firms. For the sixth factor- tax rates and thresholds- no difference exists between proprietors and companies.

Table 4.3.2.4 Tukey HSD (honest significant difference) Factors of switchover from VAT to GST for MSMEs based on Form- proprietorship, partnership and companies

Factors	(I) Form	(J) Form	Mean Difference (I-J)	Std. Error	Sig.
Preventing Fraudulent Tax Practices	Proprietorship	Partnership	0.138	0.095	0.318
		companies	**0.629*** **	**0.094**	**0.000*** **
	Partnership	Proprietorship	-0.138	0.095	0.318
		Companies	**0.490*** **	**0.105**	**0.000*** **
	Companies	**Proprietorship**	**-0.629*** **	**0.094**	**0.000*** **
		Partnership	**-0.490*** **	**0.105**	**0.000*** **
Progressive Model	Proprietorship	**Partnership**	**0.285*** **	**0.097**	**0.009*** **
		Companies	**0.504*** **	**0.095**	**0.000*** **
	Partnership	**Proprietorship**	**-0.285*** **	**0.097**	**0.009*** **
		Companies	0.218	0.106	0.102
	Companies	**Proprietorship**	**-0.504*** **	**0.095**	**0.000*** **
		Partnership	-0.218	0.106	0.102
Smooth Tax Jurisdiction	Proprietorship	**Partnership**	**-0.415*** **	**0.097**	**0.000*** **
		Companies	**-0.360*** **	**0.095**	**0.001*** **
	Partnership	**Proprietorship**	**0.415*** **	**0.097**	**0.000*** **
		Companies	0.054	0.107	0.870
	Companies	**Proprietorship**	**0.360*** **	**0.095**	**0.001*** **
		Partnership	-0.054	0.107	0.870
Tax System Efficiency	Proprietorship	Partnership	-0.169	0.098	0.201
		Companies	0.134	0.096	0.348
	Partnership	Proprietorship	0.169	0.098	0.201
		Companies	**0.303** **	**0.108**	**0.015** **
	Companies	Proprietorship	-0.134	0.096	0.348
		Partnership	**-0.303** **	**0.108**	**0.015** **
Tax Credit Mechanism	Proprietorship	Partnership	-0.005	0.097	0.998
		Companies	**0.395**	**0.095**	**0.000*** **
	Partnership	Proprietorship	0.005	0.097	0.998
		Companies	**0.401**	**0.107**	**0.001*** **
	Companies	**Proprietorship**	**-0.395**	**0.095**	**0.000*** **
		Partnership	**-0.401**	**0.107**	**0.001*** **
Tax Rates and Thresholds	Proprietorship	**Partnership**	**-0.319**	**0.098**	**0.004*** **
		Companies	-0.079	0.096	0.692
	Partnership	**Proprietorship**	**0.319**	**0.098**	**0.004*** **
		Companies	**0.240**	**0.108**	**0.069***

	Companies	Proprietorship	0.079	0.096	0.692
		Partnership	**-0.240**	**0.108**	**0.069***

*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10

Source: Self Compilation

4.3.2.3 ANOVA based on business' turnover

The one-way ANOVA test was conducted to empirically analyze that any significant difference exists in the factors of changeover based on business turnover. The results from Table 4.3.2.5 highlight that MSMEs' business turnover significantly differs in the perception of "preventing fraudulent tax preparers, progressive model, tax jurisdiction and registrations" at p-value< 0.05. At the same time, they have a similar perception of factors- tax system efficiency, tax credit mechanism and rational tax rates and thresholds as the p-value value > 0.05. The overall findings emphasize that- *There exists a significant difference in factors of tax system changeover based on business turnover. Therefore, hypothesis H1c, is accepted.*

Table 4.3.2.5: ANOVA on Factors of switchover from VAT to GST for MSMEs based on business' turnover

ANOVA						
Factors		Sum of Squares	Df	Mean Square	F	Sig.
Preventing Fraudulent tax practices	Between Groups	22.501	3	7.500	7.752	**0.000****
	Within Groups	581.499	601	0.968		
	Total	604.000	604			
Progressive Model	Between Groups	11.104	3	3.701	3.752	**0.011****
	Within Groups	592.896	601	0.987		
	Total	604.000	604			
Smooth tax jurisdiction	Between Groups	17.102	3	5.701	5.838	**0.001*****
	Within Groups	586.898	601	0.977		
	Total	604.000	604			
Tax System efficiency	Between Groups	2.653	3	0.884	0.884	0.449
	Within Groups	601.347	601	1.001		
	Total	604.000	604			
Tax Credit Mechanism	Between Groups	5.605	3	1.868	1.877	0.132
	Within Groups	598.395	601	0.996		

	Total	604.000	604			
Tax rate and thresholds	Between Groups	0.356	3	0.119	0.118	0.949
	Within Groups	603.644	601	1.004		
	Total	604.000	604			

*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10

Source: Self Compilation

Four categories were considered under the turnover of MSMEs in the present study- Type 1: upto INR 50 million; Type 2: INR50-250 million; Type3: INR 250-500 million and Type 4: above INR 500 million. Table 4.3.2.6 demonstrates Tukey's HSD results, which emphasize that for first factor- preventing fraudulent tax practices, the difference in perception for Type 1 turnover is higher as compared to type 3 (MD: 0.517; p-value: 0.013) and type 4 (MD: 0.503; p-value: 0.001). likewise, difference in perception exists based on type 2 with type 3 and type 4 turnover.

For factor- progressive model, the difference in perception exists only in firms with turnover upto 50 million (type 1) and turnover above INR 500 million (type 4) at 5% significance level. Likewise for factor- smooth tax jurisdiction, the difference in perception exists in type 4 turnover and type 1 and type 2 at 1% and 10% significance level, respectively.

Table 4.3.2.6 Tukey HSD Test on Factors of switchover from VAT to GST for MSMEs based on business' turnover

Factors	(I) Turnover	(J) Turnover	Mean Difference (I-J)	Std. Error	Sig.
Preventing Fraudulent Tax Practices	Upto INR 50 million	INR 50-250 million	0.003	0.096	1.000
		INR 250-500 million	**0.517****	**0.170**	**0.013****
		Above INR 500 million	**0.503*****	**0.129**	**0.001*****
	INR 50-250 million	Upto INR 50 million	-0.003	0.096	1.000
		INR 250-500 million	**0.514****	**0.180**	**0.024****
		Above INR 500 million	**0.499*****	**0.143**	**0.003*****
	250-500 million	**Upto INR 50 million**	**-0.517****	**0.170**	**0.013****
		50-250 million	**-0.514****	**0.180**	**0.024****
		Above INR 500 million	-0.014	0.200	1.000
	Above INR 500 million	**Upto INR 50 million**	**-0.503*****	**0.129**	**0.001*****

		INR 50-250 million	**-0.499*** **	**0.143**	**0.003*** **
		INR 250-500 million	0.014	0.200	1.000
Progressive Model	Upto INR 50 million	INR 50-250 million	0.193	0.096	0.189
		INR 250-500 million	0.326	0.171	0.228
		Above INR 500 million	**0.353** **	**0.130**	**0.036** **
	INR 50-250 million	Upto INR 50 million	-0.193	0.096	0.189
		INR 250-500 million	0.132	0.182	0.886
		Above INR 500 million	0.159	0.144	0.687
	250-500 million	Upto INR 50 million	-0.326	0.171	0.228
		50-250 million	-0.132	0.182	0.886
		Above INR 500 million	0.026	0.202	0.999
	Above INR 500 million	**Upto INR 50 million**	**-0.353** **	**0.130**	**0.036** **
		INR 50-250 million	-0.159	0.144	0.687
		INR 250-500 million	-0.026	0.202	0.999
Smooth Tax Jurisdiction	Upto INR 50 million	INR 50-250 million	-0.178	0.096	0.251
		INR 250-500 million	-0.097	0.170	0.941
		Above INR 500 million	**-0.529*** **	**0.130**	**0.000*** **
	INR 50-250 million	Upto INR 50 million	0.178	0.096	0.251
		INR 250-500 million	0.081	0.181	0.970
		A**bove INR 500 million**	**-0.351***	**0.143**	**0.070***
	250-500 million	Upto INR 50 million	0.097	0.170	0.941
		50-250 million	-0.081	0.181	0.970
		Above INR 500 million	-0.432	0.201	0.139
	Above INR 500 million	**Upto INR 50 million**	**0.529*** **	**0.130**	**0.000*** **
		INR 50-250 million	**0.351***	**0.143**	**0.070***
		INR 250-500 million	0.432	0.201	0.139

*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10

Source: Self Compilation

4.3.2.4 ANOVA based on nature of business

The one way ANOVA test was conducted to empirically analyze that any significant difference exists in the factors of changeover based on nature of business. The results from Table 4.3.2.7 highlight that MSMEs based on the nature of businesses- manufacturing and servicing concern- significantly differ in the perception of "tax system efficiency" at p-value< 0.05. The f-value 3.876, signifies large effect size (f-value >0.40). *Therefore, the hypothesis, H1d: There exists a significant difference in factors of tax system changeover based on nature of businesses (Manufacturing and Servicing)*

Table 4.3.2.7: ANOVA on Factors of switchover from VAT to GST for MSMEs based on nature of business (Manufacturing or Servicing)

ANOVA						
Factors		Sum of Squares	Df	Mean Square	F	Sig.
Preventing Fraudulent tax practices	Between Groups	1.195	2	0.598	0.597	0.551
	Within Groups	602.805	602	1.001		
	Total	604.000	604			
Progressive Model	Between Groups	1.024	2	0.512	0.511	0.600
	Within Groups	602.977	602	1.002		
	Total	604.000	604			
Smooth tax jurisdiction	Between Groups	1.362	2	0.681	0.680	0.507
	Within Groups	602.638	602	1.001		
	Total	604.000	604			
Tax System efficiency	Between Groups	7.679	2	3.839	3.876	**0.021****
	Within Groups	596.321	602	0.991		
	Total	604.000	604			
Tax Credit Mechanism	Between Groups	2.200	2	1.100	1.100	0.333
	Within Groups	601.800	602	1.000		
	Total	604.000	604			
Tax rate and thresholds	Between Groups	.723	2	0.362	0.361	0.697
	Within Groups	603.277	602	1.002		
	Total	604.000	604			

*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10

Source: Self Compilation

Table 4.3.2.8 demonstrates the results which emphasize that for factor- tax system efficiency, the difference in perception for servicing firms is higher than manufacturing firms (MD: 0.403; p-value: 0.062). Whereas, no significant difference exist in perception for all the five factors.

Table 4.3.2.8 Tukey HSD Test on Factors of switchover from VAT to GST for MSMEs based on nature of business (Manufacturing or Servicing)

Factors	(I) Nature	(J) Nature	Mean Difference (I-J)	Std. Error	Sig.
Tax System Efficiency	Manufacturing	**Servicing**	**-0.403**	**0.178**	**0.062***
	Servicing	**Manufacturing**	**0.403**	**0.178**	**0.062***

*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10

4.4 Characteristics of information sources and GST awareness programs

This section gives a brief on GST information sources preferred by MSMEs (sub-section 4.4.1) and cognizance towards awareness programs (sub-section 4.4.2)

4.4.1 GST information sources preferred by MSMEs

MSMEs access information about GST through newspapers, media channels, the internet, tax journals, Bare Act, friends, experts, and tax consultants. Table 4.4.1 depicts the ranking (based on mean and standard deviation) of information sources preferred by respondents concerning GST. The responses have been rated on the scale of 1-5 with 1 relating to not at all preferable and 5 being extremely preferable.

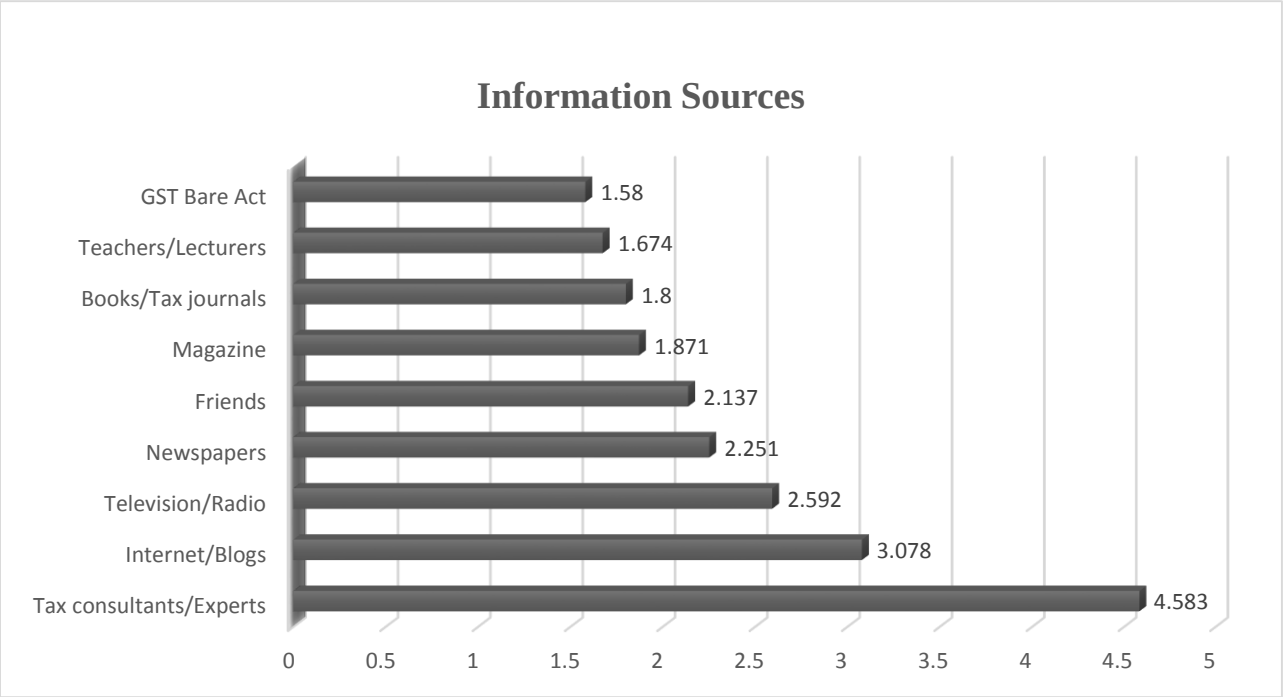
The results as stated in Table and Figure 4.4.1 highlighted the most preferable information sources used by MSMEs to obtain information in relation to GST. Tax consultants and experts are the main source of information for MSMEs, having the highest average (4.583) and low standard deviation (0.5624). According to the ranking, the second and third preferred sources were internet (3.078), and Television/Radio (2.592), followed by newspapers (2.251). The least preferred source is the GST Bare Act (1.580), as the respondents might find it hard and difficult to understand the technical language.

Table 4.4.1 Information Sources

Statements	Items	Mean	Std Deviation	Rank
IS7	Tax consultants/Experts	4.583	0.5624	1
IS6	Internet/Blogs	3.078	0.8587	2
IS5	Television /Radio	2.592	0.9082	3
IS4	Newspapers	2.251	0.9295	4
IS9	Friends	2.137	0.7404	5
IS3	Magazine	1.871	0.8258	6
IS2	Books/Tax journals	1.800	0.8105	7
IS8	Teachers/Lecturers	1.674	0.7772	8
IS1	GST Bare Act	1.580	0.7134	9

Source: Self Compilation

Figure 4.4.1 Preferred Information Sources



Source: Self Compilation

4.4.2 Cognizance about GST Awareness sessions

For the present study, the level of awareness in MSMEs in regards to training sessions, workshops, technical skills aided by the government, private institutions, seminars, conferences, and tax agent services were asked through the survey. The rating on a scale of 1-5 was asked to know the level of awareness about GST, with 1 being not at all aware and 5 being extremely aware. Ranks were allotted based on the means and standard deviation, as shown in Table 4.4.2.

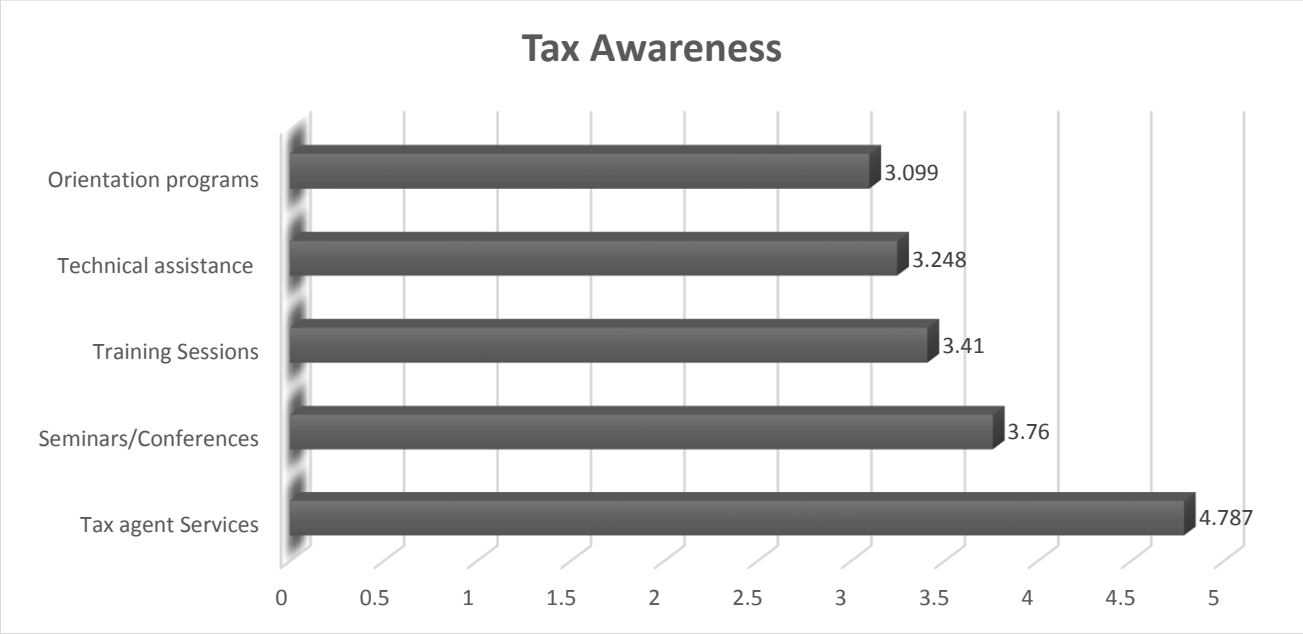
The results stated in Table and Figure 4.4.2, emphasized that most MSMEs are aware of tax agent services in regards to GST with the highest average value (4.787). MSMEs being resource constraints, prefer to outsource the technical GST work, as the awareness regarding tax agent services highlight that. Further, they are well aware about the seminars/ conferences conducted for MSMEs for their understanding of GST and the regular FAQs/GST circulars issued in relation to their businesses with mean value (3.760) and standard deviation (1.01). Further, they are aware of technical sessions (3.410) and assistance/ software packages aided by private organizations (3.248).

Table 4.4.2 Cognizance of GST Awareness sessions

S. No.	Items	Mean	Std Deviation	Rank
TA5	Tax agent Services	4.787	0.4908	1
TA4	Seminars/Conferences/FAQ/GST circulars	3.760	1.0101	2
TA1	Training Sessions	3.410	0.8824	3
TA3	Technical assistance and special GST software package aided by private organizations	3.248	0.9550	4
TA2	Orientation programs by Governments	3.099	0.9358	5

Source: Self Compilation

Figure 4.4.2 Cognizance of GST Awareness sessions



Source: Self Compilation

4.5 Empirically analyzing the awareness and knowledge level of MSMEs towards GST

Objective 2 (O2): To examine the awareness and knowledge level of MSMEs towards Goods and Service Tax (GST).

This section analyzes MSMEs' tax awareness and knowledge level towards GST using mean score analysis based on frequency mode. Further, the association of information sources and demographic variables with tax awareness and knowledge level were analyzed using stepwise regression. Sub-section 4.5.1 demonstrates the level of tax awareness, followed by tax knowledge level in sub-section 4.5.2. Later, the association of information sources and demographic variables with tax awareness and knowledge are demonstrated in sub-section 4.5.3 and 4.3.4, respectively.

4.5.1 Tax Awareness Level

To measure the level of awareness, we applied mean score analysis on the data set. A total of six statements were asked from the respondents regarding their awareness level on GST rules, training and orientation programs, software packages, seminars, conferences and tax agent services. Based on their responses, whether they agree or not with the statement (Likert scale 1 to 5; 1= strongly disagree to 5= strongly agreed), the awareness level is predicted (as shown in Table 4.5.1).

The results in Table 4.5.1 demonstrates that for statement coded as TA 1, TA 2, TA 3 and TA 5, the respondents are moderately aware as these statements have high-frequency response for the scale 4- moderately aware. The statement coded as TA1 depicts 68.1% weightage on scale 4 compared to others, likewise, TA2: 52.7%; TA 3: 35.2%; TA 5: 39.7%. For statement TA5 regarding tax agent services, they were extremely aware (81.7%) and regarding statement TA4 (software packages) they were somewhat aware. Overall results state that MSMEs have moderate tax awareness level.

Table 4.5.1 Score of Tax awareness towards GST

Codes	Statements on tax awareness	Categories	Mode	%	Mean	S.D
TA 1	The rules, regulations, exemptions and rates applicable to the respective business.	1 – not at all aware	10	1.7	3.846	0.712
		2 – Slightly aware	16	2.6		
		3 – Somewhat aware	99	16.4		
		4 – Moderately aware	**412**	**68.1**		
		5 – Extremely aware	68	11.2		
TA 2	Extensive training is required in equipping the skills to handle the matters of GST.	1 – not at all aware	7	1.2	3.410	0.882
		2 – Slightly aware	113	18.7		
		3 – Somewhat aware	138	22.8		
		4 – Moderately aware	**319**	**52.7**		
		5 – Extremely aware	28	4.6		
TA 3	Government agencies organize regular training and orientation program on GST.	1 – not at all aware	27	4.5	3.099	0.935
		2 – Slightly aware	137	22.6		
		3 – Somewhat aware	208	34.4		
		4 – Moderately aware	**213**	**35.2**		
		5 – Extremely aware	20	3.3		
TA 4	Private organizations provide technical assistance and software packages to handle GST compliances	1 – not at all aware	13	2.1	3.248	0.955
		2 – Slightly aware	122	20.2		
		3 – Somewhat aware	**230**	**38.0**		
		4 – Moderately aware	182	30.1		
		5 – Extremely aware	58	9.6		
TA 5	Seminars, conferences, FAQS (Frequently Asked Questions) and Government circulars provide practical clarity about working of GST.	1 – not at all aware	14	2.3	3.760	1.010
		2 – Slightly aware	58	9.6		
		3 – Somewhat aware	140	23.1		
		4 – Moderately aware	**240**	**39.7**		
		5 – Extremely aware	153	25.3		
TA 6	Tax consultants or tax agent services are required for handling GST matters	1 – not at all aware	1	0.2	4.787	0.490
		2 – Slightly aware	1	0.2		
		3 – Somewhat aware	13	2.1		
		4 – Moderately aware	96	15.9		
		5 – Extremely aware	**494**	**81.7**		

Source: Self Compilation

4.5.2 Tax Knowledge Level:

To measure the level of knowledge, we applied mean score analysis to the data set. A total of nine statements were asked from the respondents regarding their knowledge on GST model, e-way bill, registration, tax rates, exemption list, software and penalties for not complying with GST rules and regulations. Based on their responses whether they agree with the statement (Likert scale 1 to 5; 1= strongly disagree to 5= strongly agreed), the knowledge level is predicted whether they are aware (as shown in Table 4.5.2).

The results in Table 4.5.2 demonstrates that for statement coded as TK 1, TK 2, TK 3, TK 4 and TK 5, the respondents are moderately aware as these statements have highly frequency response for the scale 4- moderately aware. The statement coded as TK1 depicts 64.3% weightage on scale 4 compared to others, likewise TK2: 65.1%; TK 3: 57.5%; TK 4: 46.6% and TK 5: 35.7%. For statements TA7, TK8 and TK9 regarding amendments, types of software and penalties, they were extremely aware and regarding statement TA6 (exemption list) they were somewhat aware with a maximum frequency of responses (26.8%) on the scale 3. Overall results state that MSMEs have moderate tax knowledge level.

Table 4.5.2 Score of Tax knowledge towards GST

S. No	Statements on tax knowledge	Categories	Mode	%	Mean	S.D
TK 1	The GST model is divided into different taxes	1 – not at all aware	5	0.8	3.965	0.668
		2 – Slightly aware	5	0.8		
		3 – Somewhat aware	101	16.7		
		4 – Moderately aware	**389**	64.3		
		5 – Extremely aware	105	17.4		
TK 2	The E-way bill is mandatory for the intra/interstate trade.	1 – not at all aware	0	-	3.937	0.601
		2 – Slightly aware	3	0.5		
		3 – Somewhat aware	120	19.8		
		4 – Moderately aware	**394**	65.1		
		5 – Extremely aware	88	14.5		
TK 3	Different types of rates are applicable to goods and services.	1 – not at all aware	4	0.5	3.788	0.737
		2 – Slightly aware	20	3.3		
		3 – Somewhat aware	154	25.5		
		4 – Moderately aware	**348**	57.5		

		5 – Extremely aware	79	13.1		
TK 4	Different types of threshold limits exist for the registration under GST	1 – not at all aware 2 – Slightly aware 3 – Somewhat aware **4 – Moderately aware** 5 – Extremely aware	17 43 189 **282** 74	2.8 7.1 31.2 46.6 12.2	3.583	0.894
TK 5	Separate registration is required for composition scheme and casual taxable person.	1 – not at all aware 2 – Slightly aware 3 – Somewhat aware **4 – Moderately aware** 5 – Extremely aware	23 73 190 **216** 103	3.8 12.1 31.4 35.7 17.0	3.501	1.030
TK 6	Few products are kept out of the ambit of GST	1 – not at all aware 2 – Slightly aware **3 – Somewhat aware** 4 – Moderately aware 5 – Extremely aware	37 115 **162** 137 154	6.1 19.0 26.8 22.6 25.5	3.423	1.225
TK 7	The new reforms and amendments are made time to time by Government	1 – not at all aware 2 – Slightly aware 3 – Somewhat aware 4 – Moderately aware **5 – Extremely aware**	13 105 138 173 **176**	2.1 17.4 22.8 28.6 29.1	3.651	1.134
TK 8	Different types of software exist to manage GST compliances	1 – not at all aware 2 – Slightly aware 3 – Somewhat aware 4 – Moderately aware **5 – Extremely aware**	3 26 54 221 **301**	0.5 4.3 8.9 36.5 49.8	4.307	0.842
TK 9	Penalties for not complying the rules and regulations of the GST Act	1 – not at all aware 2 – Slightly aware 3 – Somewhat aware 4 – Moderately aware **5 – Extremely aware**	1 2 6 97 **499**	0.2 0.3 1.0 16.0 82.5	4.803	0.466

Source: Self Compilation

4.5.3 Association of Information Sources and Demographic Variables with Tax Awareness

Further, to provide a broader perspective on how the availability of tax information sources might influence the firms' awareness and knowledge level, stepwise regression was applied.

Problem Statement- Do information sources and demographic variables influence the tax awareness and knowledge level?

Hypothesis 2a: Information sources has a positive association with tax awareness level of MSMEs.

Hypothesis2 c: Demographic variables (Age, Gender, Income, Educational level) positively influence the tax awareness level of MSMEs.

Table 4.5.3.1 demonstrates the Pearson correlation matrix. It helps to measure the strength of linear relationships among the variables. The pearson correlation value with -1 states a negative correlation and +1 emphasis the positive correlation. All the variables are positively correlated except for the relationship between nature of business and information sources (denoted as IS).

Table 4.5.3.1 Pearson Correlation in firm's characteristics, information sources, tax awareness tax knowledge mean scores

	TA	TK	Form	Nature	Type	Turnover	Age	Gender	Education	Income	IS1	IS2	IS3	IS4	IS5	IS6	IS7	IS8	IS9
TA	1	.504**	.336**	--	.326**	.262**	.336**	--	.105**	.343**	.218**	.125**	.265**	.187**	.276**	.271**	.247**	.161**	--
TK	.504**	1	.250**	.005	.233**	.159**	.189**	--	--	.246**	.179**	--	.166**	.236**	.232**	.193**	.129**	.122**	--
Form	.336**	.250**	1	.361**	.871**	.817**	.849**	.306**	.559**	.961**	.098*	-.071	.168**	.243**	.222**	--	--	--	--
Nature	--		.361**	1	.551**	.576**	.347**	.825**	.663**	.370**	--	-.080*	-.087*	-.116**	-.159**	-.151**	--	--	--
Type	.326**	.233**	.871**	.551**	1	.837**	.713**	.470**	.633**	.898**	--	-.101*	.132**	.189**	.166**	--	.103*	--	--
Turnover	.262**	.159**	.817**	.576**	.837**	1	.737**	.492**	.835**	.842**	--	--	--	.109**	.083*	--	--	--	--
Age	.336**	.189**	.849**	.347**	.713**	.737**	1	.294**	.535**	.825**	--	--	.125**	.161**	.156**	--	--	--	.152**
Gender	.025	.009	.306**	.825**	.470**	.492**	.294**	1	.558**	.315**	-.052	-.085*	-.092*	-.110**	-.176**	-.160**	--	--	--
Education	.105**	--	.559**	.663**	.633**	.835**	.535**	.558**	1	.582**	--	--	--	--	--	-.100*	--	--	.096*
Income	.343**	.246**	.961**	.370**	.898**	.842**	.825**	.315**	.582**	1	.089*		.166**	.235**	.222**	--	--	--	--
IS1	.218**	.179**	.098*	--	--	--	--	-.052	--	.089*	1	.711**	.712**	.664**	.545**	.451**	.248**	.153**	--
IS2	.125**			-.080*	-.101*	--		-.085*	--		.711**	1	.627**	.522**	.438**	.467**	.304**	.122**	---
IS3	.265**	.166**	.168**	-.087*	.132**	--	.125**	-.092*	--	.166**	.712**	.627**	1	.707**	.687**	.537**	.283**	.133**	--
IS4	.187**	.236**	.243**	-.116**	.189**	.109**	.161**	-.110**	--	.235**	.664**	.522**	.707**	1	.787**	.550**	.248**	.116**	--
IS5	.276**	.232**	.222**	-.159**	.166**	.083*	.156**	-.176**	--	.222**	.545**	.438**	.687**	.787**	1	.654**	.347**	.109**	--
IS6	.271**	.193**	--	-.151**	--	--	--	-.160**	-.100*	--	.451**	.467**	.537**	.550**	.654**	1	.492**	.187**	--
IS7	.247**	.129**			.103*						.248**	.304**	.283**	.248**	.347**	.492**	1	--	--
IS8	.161**	.122**	--	--	--	--	--	--	--	--	.153**	.122**	.133**	.116**	.109**	.187**	--	1	.382**
IS9	--	--	--	--	--	--	.152**	--	.096*	--	--	--	--	--	--	--	--	.382**	1

**Correlation is significant at the 0.01 level (2-tailed) *Correlation is significant at the 0.05 level (2-tailed).

Source: Self Compilation

Step-wise regression was applied to evaluate the association of information sources and demographic variables with the tax awareness level. Table 4.5.3.2 demonstrates that information sources and demographic variables positively influence the tax awareness level at 1 % significance level (p-value <0.000). T-statistics have been used to measure the confidence that the predictor variables were able to influence the tax awareness level. The t-statistic measures how many standard errors the coefficient is away from zero. Generally, a value greater than +2 or less than –2 is acceptable. The higher the t-value, the greater our confidence in the coefficient as a predictor (Hair et al., 1998). Information source- internet (β: 0.126; t-stats: 4.815); teachers (β: 0.074; t-stats: 2.963) and tax consultants (β: 0.097; t-stats: 2.465) positively influence the awareness of MSMEs. Further, the demographic factors- age (β: 0.208; t-stats: 5.088) and education level (β: 0.236; t-stats: 3.374) have also shown a positive influence on the tax awareness level of MSMEs. All the variables have shown significant and higher t-stats values.

For the large effect size, F-value should be above 10. The model depicts a high effect size with F-value 31.926, significant at 1%. The model has no multicollinearity problem as the Variance Inflation Factor (VIF) value for all the variables is below 3 (Hair et al., 2017; Craney, 2002; Malhotra, 2009). Further, no autocorrelation problem exists in the model as the Durbin Watson ratio is near to 2 (Malhotra and Dash, 2009; Krishnaswamy et. al, 2009; Marcus and Svend, 2006). The model fits all the parameters for a good fit model. The model is able to explain 24.3% of the variance (R^2: 0.243 and adjusted R^2: 0.235). The difference between R^2 and adjusted R^2 is less than 0.05. Frost, 2019 and Rose and Mc Guire, 2019 narrated that even when the R-squared is low, low P values still indicate a real relationship between the significant predictors and the response variable. The low R-squared graph shows that even noisy, high-variability data can have a significant trend. The trend indicates that the predictor variable still provides information about the response even though data points fall further from the regression line; interpreting a regression coefficient that is statistically significant does not change based on the R-squared value. **This leads to acceptance** ***of Hypothesis 2a: Information sources positively affect the tax awareness level of MSMEs and Hypothesis 2c: Demographic variables positively influence the tax awareness level of MSMEs.***

Table 4.5.3.2 Regression Analysis on the level of tax awareness (Stepwise Regression)

Variable		Regression Coefficient (β)	t-statistics	Significance	Tolerance	VIF
Information Sources	**IS 6 (Internet)**	0.126	4.815	**0.000*** **	0.725	1.379
	IS 8 (Teachers)	0.074	2.936	**0.003*** **	0.957	1.045
	IS 7 (Tax consultants)	0.097	2.465	**0.014** **	0.744	1.344
Demographic	**Age**	0.208	5.088	**0.000*** **	0.478	2.093
	Education level	0.236	3.374	**0.001*** **	0.578	1.730
Constant		2.256	12.930	**0.000*** **	--	--
R		0.493				
R-square		0.243				
Adjusted R-square		0.235				
Durbin Watson		1.489				
F-value		**31.926*** **				
p-value		**0.000**				

*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10

Source: Self Compilation

4.5.4 Association of Information Sources and Demographic Variables with Tax Knowledge

Problem Statement- Do information sources and demographic variables influence the tax awareness and knowledge level?

Hypothesis 2b: Information sources has a positive association with tax knowledge level of MSMEs

Hypothesis 2d: Demographic variables (Age, Gender, Income, Educational level) positively influence the tax knowledge level of MSMEs

Step-wise regression was applied to evaluate the association of information sources, demographic variables, and tax awareness level with tax knowledge. Table 4.5.4 demonstrates that information sources and tax awareness level positively influence the tax knowledge level at 1 % significance level (p-value <0.000). Tax awareness level (β: 0.441; t-stats: 13.688) positively influence the tax knowledge of MSMEs. Further, the information sources- newspaper (β: 0.112; t-stats: 5.150) and books/ tax journals (β: 0.074; t-stats: 3.002) have also shown a positive influence on the tax knowledge level of MSMEs.

The model depicts high effect size with F-value 80.318, significant at 1% (f-value> 10). The model has no problem of multicollinearity as the VIF value for all the variables is below 3 (Hair et al.,

2017; Craney, 2002; Malhotra, 2009). Further, no problem of autocorrelation exist in the model as the Durbin Watson ratio is near to 2 (Malhotra and Dash, 2009; Krishnaswamy et. al, 2009; Marcus and Svend, 2006). The model fits all the parameters for a good fit model. The model is able to explain 28.6% of the variance (R^2: 0.286 and adjusted R^2: 0.283). The difference between R^2 and adjusted R^2 is less than 0.05. Frost, 2019 and Rose and Mc Guire, 2019 narrated that even when the R-squared is low, low P values still indicate a real relationship between the significant predictors and the response variable as explained above***. This leads to acceptance of Hypothesis 2b: Information sources has a positive association with tax knowledge level of MSMEs. But rejection of Hypothesis 2d: Demographic variables positively influence the tax knowledge level of MSMEs***

Table 4.5.4 Regression Analysis on the level of tax knowledge (Stepwise Regression)

Variable		**Regression Coefficient**	**t-statistics**	**Significance**	**Tolerance**	**VIF**
Tax awareness		0.441	13.688	**0.000*** **	0.964	1.037
Information Sources	**IS 4 (Newspaper)**	0.112	5.150	**0.000*** **	0.713	1.403
	IS 2 (Books/Tax journals)	0.074	3.002	**0.003*** **	0.727	1.375
Constant		2.138	17.714	**0.000*** **	--	--
R		0.535				
R-square		0.286				
Adjusted R-square		0.283				
Durbin Watson		1.414				
F-value		**80.318*** **				
p-value		**0.000**				

*** Significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10

Source: Self Compilation

4.6 Developing a model to examine the impact of GST on business performance of MSMEs through Structured Equation Modeling

Objective 3 (O3): To develop a model to examine the impact of Goods and Service Tax (GST) on business performance of MSMEs.

This section examines the impact of GST on the business performance of MSMEs through Structured Equation Modeling. For business performance, four parameters were analyzed- operational performance, profitability, financial position and managerial and operational efficiency. Two SEM models were developed, the first signifies the impact on operational performance (OP) and profitability performance (PP) and the second model depicts the impact on financial position (FP) and managerial and operational efficiency (MOE). Sub-section 4.6.1 demonstrates the statistical properties of the goodness of fit model followed by measurement results for the first SEM model (OP and PP). Sub-section 4.6.2 highlights the results for second SEM model (FP and MOE). From the models, Hypothesis H3a to H3f are tested.

Hypothesis 3a: *Change in tax system positively impacts the MSMEs' business performance.*

Hypothesis 3b: *Tax awareness and knowledge positively impacts MSMEs'* business *performance.*

Hypothesis 3c: *GST compliance system negatively impacts the MSMEs' business performance.*

Hypothesis 3d: *GST compliance system enhances the tax administrative burden of MSMEs.*

Hypothesis 3e: *Technological advancement (GSTN) positively impacts the MSMEs' business performance*

Hypothesis 3f: *Firm's Characteristics (type, form, business turnover and nature) are positively associated with the business performance of MSMEs*

Firstly, the reliability and validity of the model are verified through three tests-

I. Composite Reliability:

Composite Reliability is a measure of internal consistency, which implies the degree to which measurements are free from error and yield consistent results (Netemeyer, 2003). The threshold value for CR should be greater than 0.70

$$CR = \frac{(\sum standardized\ loadings)^2}{(\sum standardized\ loadings)^2 + \sum measurement\ error\ variance}$$

II. Convergent Validity:

Convergent validity (CV) reflects whether the measured item correlates strongly with its assumed theoretical construct. The factor loadings and Average Variance Extracted (AVE) are determined to support convergent validity. They should be greater than 0.5. The formula for calculating AVE using the formula suggested by Hair *et al*., (1995) as given below:

$$AVE = \frac{\sum (standardized\ loadings)^2}{\sum (standardized\ loadings)^2 + \sum measurement\ error\ variance}$$

III. Model Fit Indices:

As per the studies suggested by Muller (1996) and Hu and Benter (1995), model fit indices include five measures- Chi-square test, Normed Fit Index (NFI), Incremental Fit Index (IFI), Comparative Fit Index (CFI) and Root Mean Square Error (RMSEA).

Chi-square (CMIN) test is done to test if observed variables and expected results are statistically significant or not. It is the traditional measure for evaluating overall model fit. For acceptable and reasonable fit for the model the value for CMIN/df should lie between 3 to 5. Normed Fit Index (NFI) is an incremental measure of goodness of fit, which is not affected by the number of parameters. The adjusted version of it, where it is not affected by the sample size and degree of freedom, is the Incremental Fit Index (IFI). Compared Fit Index (CFI) is the revised form of NFI,

which is the most adopted and preferred measure in all the SEM models as CFI is not affected by the sample size. The threshold value for NFI ≥ 0.90; IFI ≥ 0.90 and CFI ≥ 0.91. Further, Root Mean Square Error (RMSEA) helps to assess how well the model optimally fit (with low error). For a good fit model the RMSEA should be lower than 0.08.

4.6.1 SEM Model to examine the impact of GST on operational performance (OP) and profitability performance (PP)

In this section, firstly, the statistical properties of a good fit model are tested (sub-section 4.6.1.1), which compromises of test of model indices, composite reliability and convergent validity of the model. Later the empirical findings of the models are described in detail in sub-section 4.6.1.2.

4.6.1.1 Statistical properties of a good fit model

For the good fit model, we have tested five major indices for the model- chi-square statistics, normed fit index (NFI), incremental fit index (ICI), comparative fit index (CFI) and root mean square error (RMSEA). Table 4.6.1.1 demonstrates the model fit results. The accepted model fit value for the CFA model, with CMIN/df (chi-square statistics), is 4.627, which is below 5, NFI is 0.886, IFI is 0.907 and CFI is 0.908, which is above the acceptable range (above 0.90) and RMSEA is 0.077 (below 0.08) as recommended by Muller (1996), Kline (1998), Arbuckle and Wothke, (2001), which proposes a good fit of the model.

Table 4.6.1.1 Model Fit Indices results for operational performance and profitability

Measurement Model	CMIN (χ^2)	Df	CMIN/DF	RMSEA	NFI	IFI	CFI	p-value
	1008.821	218	4.627	0.077	0.886	0.907	0.908	0.000***

*** Significant at 1% level p-value ≤ 0.000
Source: Self Compilation via IBM AMOS

Three measures were used to test the SEM's statistical properties: loading values, composite reliability and convergent validity. The factor loading values and average variance extracted depict the model's convergent validity. Table 4.6.1.2 demonstrates that all variables' factor loading values are in the acceptable range (above 0.7) and the average variance extracted for all the variables lies above 0.5. This lends support to the measures' convergent validity. In addition, the composite

reliability is tested for all the values which lie above the threshold limit of 0.70. Thus the model signifies that constructs have good internal reliability.

Table 4.6.1.2 Construct Reliability and Validity for operational performance and profitability

Factors	Codes used	Loading Value	Composite Reliability	AVE
Tax system Changeover	Wrong Invoice	0.841		
	Tax Frauds	0.882		
	Illegal refunds	0.831	0.859	0.671
Technological Advancement	Governance	0.618	1	1
Tax awareness and knowledge	GST technical assistance	0.693		
	GST training orientation programs	0.887	0.676	0.514
Compliance System	Record Keeping	0.899		
	Number of tax returns	0.767		
	Cumbersome	0.779	0.847	0.650
Compliance Burden	Tax filing issues	0.867		
	Query personally	0.954		
	Training of staff	0.924	0.876	0.702
Firms' Characteristics	Form	0.642		
	Type	0.825		
	Turnover	0.875	0.824	0.613
Efficiency Ratios	Credit turnover	0.877		
	Debtor turnover	0.766		
	Asset turnover	0.684	0.833	0.628
Operational Performance	Working Capital	0.783		
	Ease of Doing	0.762	0.689	0.525
Profitability Performance (PP)	ROI	0.808		
	ROE	0.961		
	Net sales	0.8	0.857	0.669

Source: Self Compilation

4.6.1.2 Empirical findings for operational and profitability performance

In this section, measurement model results are explained (Table 4.6.1.3), followed by structural path analysis of the model (Table 4.6.1.4).

Measurement Model Results: The measurement model results for operational and profitability performance in Table 4.6.1.3, highlight the impact of firms' characteristics and GST factors: tax system changeover, tax awareness and knowledge, GST compliance system, compliance burden and technological advancement (GSTN). All the factors can explain 63.9% variance for operational performance and 57.3% for the profitability of the MSMEs (Table 4.6.1.3 and Figure 4.6.1).

Operational Performance:

The model highlight that tax system changeover, tax awareness and knowledge and technological advancement (GSTN) positively enhance the operational performance at 1% significant level. Furthermore, firms' characteristics have positively impacted operational performance at a 5% significant level (p-value < 0.05).

The results in Table 4.6.1.3 demonstrate that tax system changeover (β: 0.286; c.r: 5.432; p-value: 0.000), tax awareness and knowledge (β: 0.203; c.r: 3.250; p-value: 0.001), technological advancement (GSTN) (β: 0.826; c.r: 3.297; p-value: 0.000) and firms' characteristics have positively impacted operational performance (β: 0.115; c.r: 2.465; p-value: 0.014).

Profitability:

The model highlight that tax system changeover, technological advancement (GSTN) and firms' characteristics have positively enhanced the MSMEs' profitability at 1% significant level. But in contrast compliance system has negatively impacted the performance at 10% significant level. Along with it, efficiency ratios drivers of the firms have shown an inverse relationship with profitability at 1% significant level.

The results in Table 4.6.1.3 demonstrate that tax system changeover (β: 0.158; c.r: 4.103; p-value: 0.000) technological advancement (GSTN) (β: 0.192; c.r: 4.220; p-value: 0.000) and firms' characteristics have positively impacted the profitability (β: 0.129; c.r: 3.515; p-value: 0.000).

Whereas, the compliance system (β: -0.062; c.r: -1.763; p-value: 0.078) and efficiency ratio drivers (β: -0.701; c.r: -15.677; p-value: 0.000) have shown an inverse relationship with the profitability after GST.

Compliance Burden:

The time spent in adhering to the compliance procedure is denoted as the compliance burden. The cumbersome compliance system of GST has enhanced the burden on the firms (β: 0.172; c.r: 4.112; p-value: 0.000). Whereas, the technological advancement in the tax system has reduced the burden on the firms (β: -0.566; c.r: -4.632; p-value: 0.000). Overall the variables are able to explain 35% of the variance.

Table 4.6.1.3: Measurement Model results for operational performance and profitability

Factors	**Regression weights estimate**	**Standard Error (S.E.)**	**Critical Ratio (C.R.)**	**P-value**	**Standardized Regression Weights (β)**	**Squared Multiple Correlations**
Operational Performance ← Tax system Changeover	0.218	0.040	5.432	**0.000*** **	0.286	0.639
Operational Performance ←Tax awareness and knowledge	0.126	0.039	3.250	**0.001*** **	0.203	
Operational Performance ← Technological Advancement	2.057	0.624	3.297	**0.000*** **	0.826	
Operational Performance ←Compliance Burden	0.442	0.240	1.841	**0.066***	0.270	
Operational Performance ←Firms' Characteristics	0.109	0.044	2.465	**0.014****	0.115	
Profitability Performance (PP) ←Tax system changeover	0.130	0.032	4.103	**0.000*** **	0.158	0.573
Profitability Performance (PP) ← Technological Advancement	0.514	0.122	4.220	**0.000*** **	0.192	
Profitability Performance (PP) ←Compliance System	-0.057	0.032	-1.763	**0.078***	-0.062	
Profitability Performance (PP) ←Firms' Characteristics	0.132	0.037	3.515	**0.000*** **	0.129	
Profitability Performance (PP) ← Efficiency Ratios	-0.569	0.036	-15.677	**0.000*** **	-0.701	
Compliance Burden ← Technological Advancement	-0.860	0.186	-4.632	**0.000*** **	-0.566	0.350
Compliance Burden ← Compliance System	0.090	0.022	4.112	**0.000*** **	0.172	
*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10						

Source: Self Compilation

Structural Path Analysis: Table 4.6.1.4 highlights the Structural Path Analysis for each variable: tax system changeover, tax awareness and knowledge, technological advancement (GSTN), GST compliance system, compliance burden, firms' characteristics and operational and profitability performance.

Tax system changeover: The results in Table 4.6.1.4 highlights the key significant factors of tax system changeover that has impacted the operational and profitability performance. The results demonstrates that detection of wrong invoices (β: 0.841; R^2: 0.707; p-value: 0.000) and tax frauds (β: 0.882; c.r: 24.903; R^2: 0.778; p-value: 0.000) has helped in narrowing down the missing insolvent traders/manufacturers, which was a big hurdle in the previous tax system-VAT. This not only led to enhanced operational performance but has positively impacted the firms' profitability. In addition, the reduction of illegal refunds (β: 0.831; c.r: 23.280; R^2: 0.690; p-value: 0.000) has paved way in reducing the working capital blockage of the firms and fetching higher returns. The higher loading values, critical ratios and significant squared multiple correlations (R^2) emphasize the influence of each latent variable on the performance parameters.

Tax awareness and knowledge: The results in Table 4.6.1.4 exhibit the key significant factors of tax awareness and knowledge level that have positively impacted operational performance. The results demonstrate that GST technical assistance (β: 0.693; c.r: 4.066; R^2: 0.480; p-value: 0.000) and training and orientation program (β: 0.887; R^2: 0.787; p-value: 0.000) has enabled the MSMEs to handle the GST matters appropriately, which led to ease of doing in the business.

Technological advancement (GSTN): The results in Table 4.6.1.4 demonstrate that technological advancement has led to good tax governance (β: 0.618; R^2: 0.381; p-value: 0.000) as the special Goods and Service Tax Network (GSTN) portal has aided the MSMEs with a unified information technology platform to deal with all the matters related to GST. This has not only narrowed down the compliance burden but has helped in easing out the business operations and contributed positively in enhancing the profit margins

Compliance System: The results in Table 4.6.1.4 highlights that the compliance system procedures emerges out to be cumbersome (β: 0.779; c.r: 20.490; R^2: 0.607; p-value: 0.000). The extensive record keeping process (β: 0.899; R^2: 0.808; p-value: 0.000) and the increase in number of tax returns (β: 0.767; c.r: 23.280; R^2: 0.588; p-value: 0.000) have enhanced the compliance burden of the firms (time spent). This has negatively impacted the profitability of the MSMEs as the

productive time that can be used for business expansion gets blocked in complying with the compliance system.

Compliance Burden: The results in Table 4.6.1.4 signifies that majority of the time of MSMEs was spent in training the staff (β: 0.924; R^2: 0.855; p-value: 0.000) and solving the queries (β: 0.954; c.r: 41.518; R^2: 0.911; p-value: 0.000) and tax filing issues of the GST (β: 0.867; c.r: 33.308; R^2: 0.751; p-value: 0.000). This has negatively impacted the operational performance and profitability of the MSMEs.

Firms' characteristics: MSMEs are resource constraint and suffer from limited economies of scale, which emphasizes that firms' characteristics could play a vital role in influencing performance. The results in Table 4.6.1.4 emphasizes the type (micro, small and medium), form (proprietorship, partnership and companies) and turnover positively enhance both the performance parameters- operational and profitability. The different types (β: 0.825; c.r: 15.742; R^2: 0.680; p-value: 0.000); forms (β: 0.642; R^2: 0.412; p-value: 0.000) and turnover categories β: 0.875; c.r: 15.193; R^2: 0.765; p-value: 0.000) have contributed significantly in influencing the performance of MSMEs.

Efficiency Ratios: The results emphasized that businesses are paying off aggressively, that's is, credit turnover ratio (β: 0.877; R^2: 0.770; p-value: 0.000) in comparison to generating revenues from assets (asset turnover- β: 0.684; c.r: 17.580; R^2: 0.468; p-value: 0.000) and debtor collection (debtor turnover- β: 0.766; c.r: 20.006; R^2: 0.586; p-value: 0.000). This has built an inverse relationship with MSMEs' profitability and can harm them in longer run.

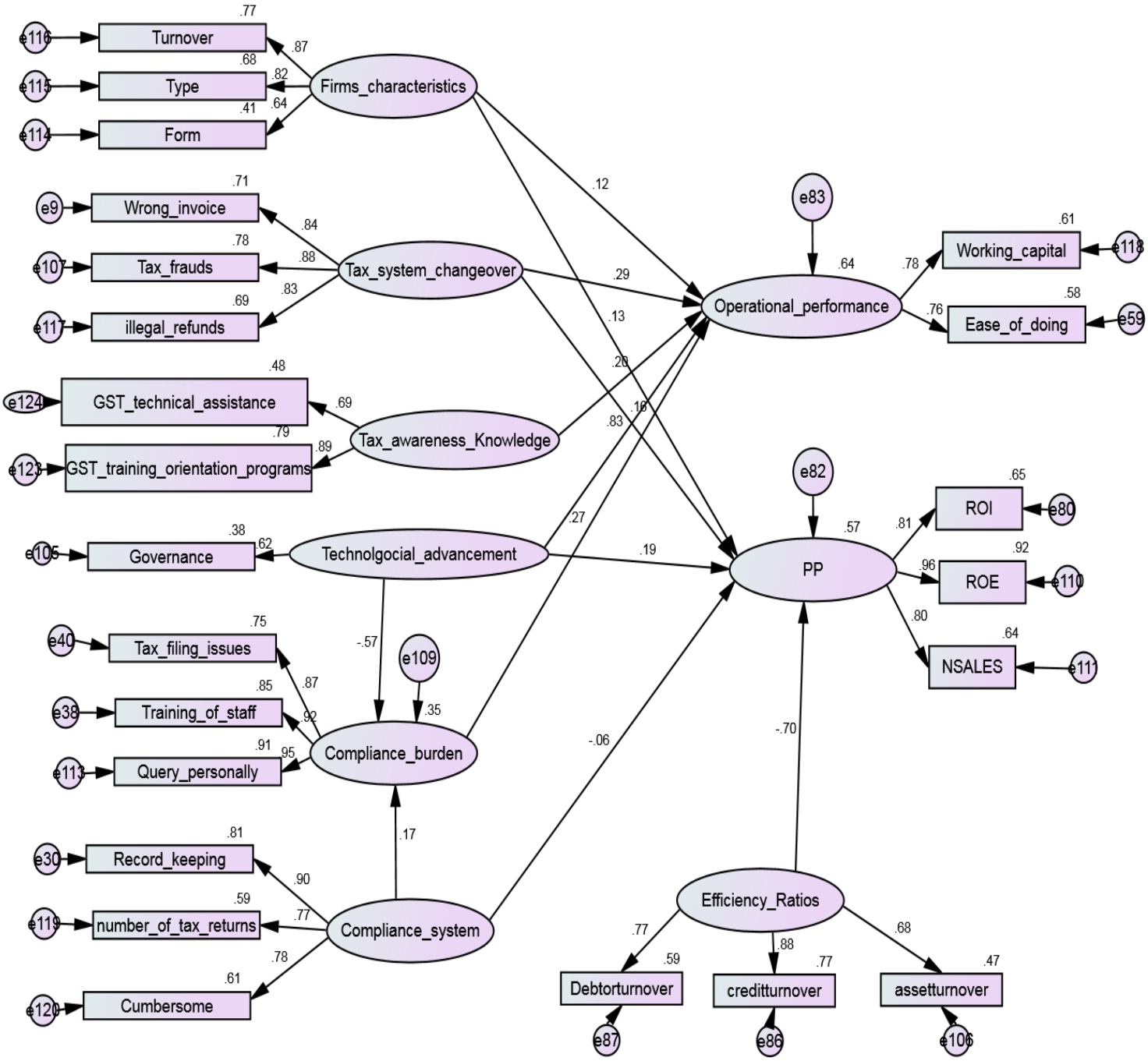
Performance Parameters- Two business performance parameters were examined- operational and profitability. After GST, the ease of doing business and reduction in working capital blockage were determined and the variables came out to be significant (β: 0.783; c.r: 13.830; R^2: 0.613; p-value: 0.000). The SEM model describes that an increase in net sales (β: 0.800; c.r: 23.017; R^2: 0.640; p-value: 0.000); ROI (β: 0.808; R^2: 0.653; p-value: 0.000) and ROE (β: 0.0.961; c.r: 28.564; R^2: 0.923; p-value: 0.000) is observed after the implementation of GST. This indicates the progress of micro, small and medium firms in terms of revenue generation (net sales, ROE, ROI).

Table 4.6.1.4: Structural Path Analysis for operational and profitability performance

Factors	Regression weights estimate	Std Error (S.E.)	Critical Ratio (C.R.)	P-value	Stand Regression Weights (β)	Squared Multiple Correlations
Wrong Invoice ← Tax system Changeover	1.000				0.841	0.707
Tax Frauds ← Tax system Changeover	1.071	0.043	24.903	0.000***	0.882	0.778
Illegal refunds← Tax system Changeover	0.482	0.021	23.280	0.000**	0.831	0.690
Governance ← Technological Advancement	1.000				0.618	0.381
GST technical assistance ← Tax awareness and knowledge	0.797	0.196	4.066	0.000***	0.693	0.480
GST training orientation programs ← Tax awareness and knowledge	1.000				0.887	0.787
Record Keeping ←Compliance System	1.000				0.899	0.808
Number of tax returns ←Compliance System	0.482	0.021	23.280	0.000***	0.767	0.588
Cumbersome ←Compliance System	1.154	0.056	20.490	0.000***	0.779	0.607
Tax filing issues ←Compliance Burden	1.130	0.034	33.308	0.000***	0.867	0.751
Query personally ←Compliance Burden	1.189	0.029	41.518	0.000***	0.954	0.911
Training of staff ←Compliance Burden	1.000				0.924	0.855
Form ←Firms' Characteristics	1.000				0.642	0.412
Type ←Firms' Characteristics	0.976	0.062	15.742	0.000***	0.825	0.680
Turnover ←Firms' Characteristics	1.625	0.107	15.193	0.000***	0.875	0.765
Credit turnover ←Efficiency Ratios	1.000				0.877	0.770
Debtor turnover← Efficiency Ratios	0.822	0.041	20.006	0.000***	0.766	0.586
Asset turnover ← Efficiency Ratios	0.648	0.037	17.580	0.000***	0.684	0.468
Working Capital←Operational Performance	1.064	0.077	13.830	0.000***	0.783	0.613
Ease of Doing ←Operational Performance	1.000				0.762	0.581
ROI ← Profitability Performance (PP)	1.000				0.808	0.653
ROE← Profitability Performance (PP)	1.352	0.047	28.564	0.000***	0.961	0.923
Net sales← Profitability Performance (PP)	1.116	0.048	23.017	0.000***	0.800	0.640
*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤ 0.05; * 10% level p-value ≤ 0.10						

Source: Self Compilation

Figure 4.6.1: SEM model examining the impact of GST on operational and profitability of MSMEs



Source: Self Compilation via AMOSS 23

4.6.2 SEM Model to examine the impact of GST on managerial and operational efficiency and financial position of MSMEs

In this section, firstly, the statistical properties of a good fit model are tested (sub-section 4.6.2.1), which compromises of test of model indices, composite reliability and convergent validity of the model. Later the empirical findings of the models are described in detail in sub-section 4.6.2.2.

4.6.2.1 Statistical properties of a good fit model

For the good fit model, we have tested five major indices for the model- chi-square statistics, normed fit index (NFI), incremental fit index (ICI), comparative fit index (CFI) and root mean square error (RMSEA). Table 4.6.2.1 demonstrates the model fit results. The accepted model fit value for the model, with CMIN/df (chi-square statistics), is 3.391, which falls between 3 to 5, NFI is 0.963, IFI is 0.974 and CFI is 0.974, which is above the acceptable range (above 0.90) and RMSEA is 0.063 (below 0.08) as recommended by Muller (1996), Kline (1998), Arbuckle and Wothke, (2001), which proposes a good fit of the model.

Table 4.6.2.1 Model Fit results for managerial and operational efficiency and financial position of MSMEs

Measurement Model	CMIN (χ^2)	Df	CMIN/DF	RMSEA	NFI	IFI	CFI	p-value
	159.397	47	3.391	0.063	0.963	0.974	0.974	**0.000*** **

***significant at 1% level (p-value ≤ 0.000)

Source: Self Compilation

To test the SEM's statistical properties, three measures were used- loading values, composite reliability and convergent validity. The factor loading values and average variance extracted depicts the convergent validity of the model. Table 4.6.2.2 demonstrates that factor loading values for all the variables are in the acceptable range, except for the liquidity ratio, which is 0.540 (near to 0.60) and the average variance extracted for all the variables lies above 0.5. But for the financial position, it drops down to 0.369. Finally, the composite reliability is tested for all the values are in the acceptable range (≥ 0.60). For financial position, the composite reliability is on the borderline of 0.538.

Table 4.6.2.2: Construct Reliability and Validity for managerial and operational efficiency and financial position of MSMEs

Variables	Codes used	Loading Value	Composite Reliability	AVE
Tax system changeover	Tax frauds	0.874		
	Tax evasion	0.994		
	Wrong invoice	0.858	0.874	0.699
Technological advancement	Governance	0.931		
	Unified Tax platform	0.715	0.689	0.530
Firms' characteristics	Turnover	0.882		
	Type	0.819		
	Form	0.638	0.825	0.615
Managerial and Operational Efficiency (MOE)	Tax compliant	0.972		
	Production	0.948	0.781	0.640
Financial Position	Liquidity Ratio (LR)	0.540		
	Debt to Total Asset	0.610	0.538	0.369

Source: Self Compilation

4.6.2.2 Empirical findings for managerial and operational efficiency and financial position

In this section, measurement model results are explained (Table 4.6.2.3), followed by structural path analysis of the model (Table 4.6.2.4).

Measurement Model Results: The measurement model results for managerial and operational efficiency and financial position are demonstrated in Table 4.6.2.3. The model highlight the impact of firms' characteristics, tax system changeover and technological advancement (GSTN) on the performance parameters. All the factors can explain 64% variance for financial position and 8% for the managerial and operational efficiency of the MSMEs (Table 4.6.2.3 and Figure 4.6.2).

Financial Position:

The model highlight that tax system changeover, technological advancement (GSTN) and firms' characteristics positively enhance performance at 1% and 5% significant level.

The results in Table 4.6.2.3 demonstrate that tax system changeover (β: 0.179; c.r: 3.327; p-value: 0.000), technological advancement (GSTN) (β: 0.132; c.r: 2.356; p-value: 0.018) and firms' characteristics have positively impacted the performance (β: 0.287; c.r: 4.851; p-value: 0.000).

Managerial and Operational Efficiency: The results highlight that tax system changeover, technological advancement (GSTN) and firms' characteristics have enhanced the MOE of the MSMEs, which are significant at 1% and 10% level.

The results in Table 4.6.2.3 demonstrate that tax system changeover (β: 0.078; c.r: 1.791; p-value: 0.073), technological advancement (GSTN) (β: 0.197; c.r: 4.366; p-value: 0.000) and firms' characteristics have positively impacted the performance (β: 0.183; c.r: 4.020; p-value: 0.000).

Table 4.6.2.3: Measurement Model results for managerial and operational efficiency and financial position of MSMEs

Factors	**Regression weights estimate**	**S.E.**	**C.R.**	**P-value**	**Standardized Regression Weights**	**Squared Multiple Correlations**
Managerial and Operational Efficiency (MOE) ← Tax system changeover	0.082	0.046	1.791	**0.073***	0.078	0.08
Managerial and Operational Efficiency (MOE) ← Technological advancement	0.303	0.069	4.366	**0.000*****	0.197	
Managerial and Operational Efficiency (MOE) ←Firms' characteristics	0.255	0.063	4.020	**0.000*****	0.183	
Financial Position (FP) ← Tax system changeover	0.081	0.024	3.327	**0.000*****	0.179	0.640
Financial Position (FP) ← Technological advancement	0.086	0.037	2.356	**0.018****	0.132	
Financial Position (FP) ←Firms' characteristics	0.170	0.035	4.851	**0.000*****	0.287	
Financial Position (FP) ← MOE	0.277	0.027	10.142	**0.000*****	0.652	
*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤0.05; * 10% level p-value ≤ 0.10						

Source: Self Compilation

Structural Path Analysis: Table 4.6.2.4 highlights the Structural Path Analysis for each variable: tax system changeover, technological advancement (GSTN), firms' characteristics and performance parameters.

Tax system changeover: The results in Table 4.6.2.4 highlights the key significant factors of tax system changeover that have impacted the performance. The results demonstrates that after GST, the detection of wrong invoices (β: 0.858; R^2: 0.737; p-value: 0.000), tax frauds (β: 0.874; c.r: 29.927; R^2: 0.764; p-value: 0.000) and tax evasion (β: 0.994; c.r: 35.507; R^2: 0.988; p-value: 0.000) has narrowed down the illegal flow of funds which increased the firms' liquidity. The new GST' matching concept has led the firms to be more tax compliant without evading the taxes. The higher loading values, critical ratios and significant squared multiple correlations (R^2) emphasize the influence of each latent variable on the performance parameters.

Technological advancement (GSTN): The results in Table 4.6.2.4 demonstrate that technological advancement has led to good tax governance (β: 0.931; c.r: 5.216; R^2: 0.867; p-value: 0.000) as the special Goods and Service Tax Network (GSTN) portal has aided the MSMEs with unified information technology platform (β: 0.715; R^2: 0.511; p-value: 0.000) to deal with all the matters related to GST. This led to timely compliance by the firms as all the matters related to GST were one click away through technology.

Firms' characteristics: MSMEs are resource constrained and suffer from limited economies of scale, which emphasizes that firms' characteristics could play a vital role in influencing their performance. The results in Table 4.6.2.4 emphasizes the type (micro, small and medium), form (proprietorship, partnership and companies) and turnover positively enhance the performance. The different types (β: 0.819; R^2: 0.670; p-value: 0.000); forms (β: 0.638; c.r: 15.775; R^2: 0.408; p-value: 0.000) and turnover categories (β: 0.882; c.r: 18.050; R^2: 0.778; p-value: 0.000) have contributed significantly in influencing the performance of MSMEs. Firms characteristics have positively influenced the production capacity and maintained the financial position of the firms strongly after GST

Performance Parameters- Two business performance parameters were examined- managerial and operational efficiency and financial position. After GST, the liquidity of the firms have risen (β:0.540; R^2: 0.292; p-value: 0.000) and debt to total assets have decreased (β: -0.610; c.r: -9.397; R^2: 0.372; p-value: 0.000). Even the GST system has made MSMEs more tax compliant (β: 0.972;

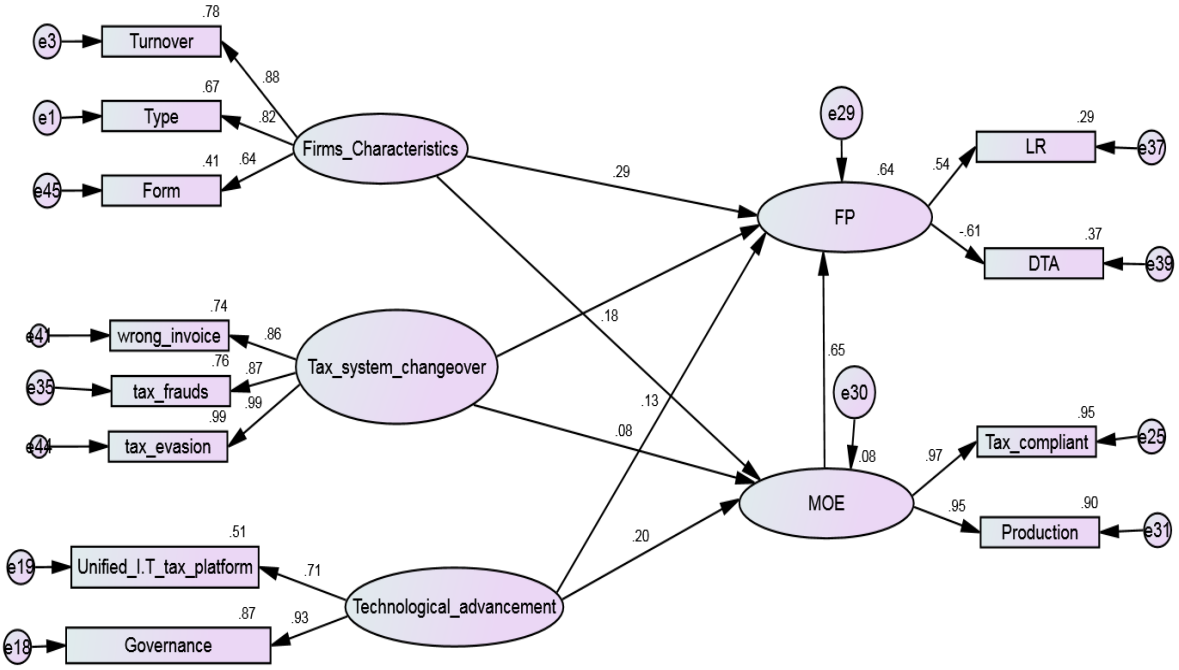
R^2: 0.946; p-value: 0.000). In addition after GST, MSMEs' production capacity enhanced (β: 0.948; c.r: 30.954; R^2: 0.899; p-value: 0.000).

Table 4.6.2.4: Structural Path Analysis for financial position and managerial and operational efficiency

Factors	**Regression weights estimate**	**S.E.**	**C.R.**	**P-value**	**Regression Weights**	**Squared Multiple Correlations**
Tax frauds ← Tax system changeover	1.040	0.035	29.927	0.000***	0.874	0.764
Tax evasion ← Tax system changeover	1.149	0.032	35.507	0.000***	0.994	0.988
Wrong invoice ← Tax system changeover	1.000				0.858	0.737
Governance ← Technological advancement	1.152	0.221	5.216	0.000***	0.931	0.867
Unified Tax platform ←Technological advancement	1.000				0.715	0.511
Turnover ←Firms' characteristics	1.691	0.094	18.050	0.000***	0.882	0.778
Type ←Firms' characteristics	1.000				0.819	0.670
Form ←Firms' characteristics	1.027	0.065	15.775	0.000***	0.638	0.408
Tax compliant ← MOE	1.000				0.972	0.946
Production ← MOE	1.015	0.033	30.954	0.000***	0.948	0.899
Liquidity Ratio (LR) ← FP	1.000				0.540	0.292
Debt to Total Asset ← FP	-1.257	0.134	-9.397	0.000***	-0.610	0.372
*** significant at 1% level p-value ≤ 0.000; ** 5% level p-value ≤0.05; * 10% level p-value ≤ 0.10						

Source: Self Compilation

Figure 4.6.2: SEM model examining the impact of GST on managerial and operational efficiency and financial position of MSMEs



Source: Self Compilation via AMOS 23

From both the models (Figure 4.6.1 and 4.6.2) and results from the Tables 4.6.1.3, 4.6.1.4 and 4.6.2.3 and 4.6.2.4, it is empirically verified that all the hypotheses H3a to H3f are supported.

4.7 Concluding Remarks

This chapter covered the analysis of the collected data from the MSMEs of Punjab. In the beginning, the firms' characteristics and demographic profile of the respondents are explained in detail. Then the factors to map the switchover from VAT to GST were formulated, followed by empirically analyzing them to achieve the first objective. Further, the chapter depicts the preferred information sources for GST and cognizance of MSMEs towards GST awareness sessions. Then, the MSMEs' tax awareness and knowledge level of GST were analyzed to achieve the second objective. Finally, the chapter ends with designing two models examining the impact of GST on- I) operational and profitability performance and II) Managerial and operational efficiency and financial positions of MSMEs, achieving the third objective.

CHAPTER 5

DISCUSSION AND CONCLUSION

After empirically analyzing the research objectives in Chapter 4, this chapter provides insight into the significant research findings in Section 5.1. Then all the study objectives were revisited to discover how they have been achieved, as described in Section 5.2. The practical implications of the present research are provided in section 5.3, followed by limitations and directions for future research in section 5.4

5.1 Major Findings

The research has been undertaken to examine the impact of Goods and Service Tax on the business performance of MSMEs of Punjab. The study has taken GST implementation variables- tax system changeover, GST compliance system, time spent complying with the system, and technological transition (Goods and Service Tax Network) for analyzing the impact of GST on MSMEs' business. The present research also examines MSMEs' tax awareness and knowledge of GST and their impact on business performance. MSMEs are resource constraints, so the present study also highlighted the influence of their firms' characteristics on their performance. The major finding of the current study are mentioned below:

I. First Objective

The first objective of the present research is to map the factors of changeover from Value Added Tax (VAT) to Goods and Service Tax (GST). The study identifies the significant factors of tax system changeover based on the extensive literature and limitations in previous tax systems. Twenty statements were formulated and empirically analyzed. The Exploratory Factor Analysis (EFA), applying Principal Component Analysis (varimax), was conducted to formulate the factors. EFA formed six changeover factors, namely- i) *Preventing fraudulent tax practices, ii) Progressive Model, iii) Smooth Tax jurisdiction, iv) Tax System Efficiency, v) Tax credit mechanism, vi)Tax rates and thresholds.*

In the indirect tax structure, there existed many shortcomings; to remove them, the government implemented a unified GST tax structure. Based on it, the perception of MSMEs was asked on the

changeover factors. The results emphasized that the GST system is a progressive tax model, unlike VAT which was considered regressive. Thomas (2020) empirically verified in his study conducted on 27 OECD countries that broad-based VAT with multiple tax rates led to its regressivity. Further, the present study highlighted changeover prevents fraudulent tax practices and brings out tax system efficiency. The study by Koja and Khana (2020) opined that similar implications were conducted on tax commodity structure that GST would enhance revenue efficiency and reduce the cascading effects in India.

In addition, the results further verified that after the GST, the problem of the input tax credit mechanism would be resolved, and rational tax rates and threshold limits would prevail. As in the earlier tax system, there were multiple tax rates for different goods and services, and in fact, for different states as well and availing of the input tax credit was a perplexing task (Sinha and Srivastava, 2020). A unified GST tax structure led to smooth tax jurisdiction. Similar implications were analysed by Nayyar and Singh (2018), Pankaj and Sekhar, (2016) and Maheshwari (2022).

Further, the factors of changeover were explored using Analysis of Variance (ANOVA) that whether any difference in perception exists or not based on firms' characteristics- type (firm size), the form of organizations, business turnover and nature of business. Tukey HSD (Honest Significant Difference) test highlights the difference that existed in the factors of changeover based on firms' characteristics. The results from ANOVA emphasized that based on firms' characteristics- type, form, turnover and nature of business, they all agree that GST has brought efficiency to the tax system and rationalized the tax rates and threshold limits throughout the country. Maheshawari, (2022) opined the similar outcomes that GST has led to enhancement of threshold limits

II. Second Objective

Moving ahead with the second objective- to examine MSMEs' awareness and knowledge level towards Goods and Service Tax (GST). Firstly, the sources of information on GST preferred by MSMEs were analyzed. The results are based on the mean and standard deviation. The results identified that the information sources most preferred by MSMEs concerning GST are tax consultants and experts, followed by internet blogs/GST websites and television advertisements.

The study by Nyamwanza et al., (2014) and Schmidt et al., (2007) lend support to this observation. The present results also stressed that the least preferred source is the GST Bare Act.

After scrutinizing the preferred information sources for GST, the study measured the tax awareness and knowledge of MSMEs towards GST. To measure the level of awareness, we applied- mean score analysis to the data set. A total of six statements were asked from the respondents regarding their awareness level of GST rules, training and orientation programs, software packages, seminars, conferences, and tax agent services. The results emphasized that the respondents were extremely aware of tax agent services and special software packages to handle GST matters. On the other hand, they were moderately aware of the existing rules and regulations and training and orientation programs applicable to the respective business to handle the new tax reform. Overall results highlight a moderate level of tax awareness. The present findings are supported by the studies of- Salcedo, (2021) who emphasized that MSME owner in the Philippines prefer tax experts and their services to handle all their tax matters. Further, MSMEs, aware of the importance of tax, taxes and tax reports, prefer tax training programs (Akande, 2011; Resmi, Pahlevi and Sayekti, 2021).

To measure the level of knowledge, a total of nine statements were asked from the respondents regarding their knowledge of the GST model, e-way bill, registration, tax rates, exemption list and penalties for not complying with GST rules and regulations. The results demonstrate that MSMEs are extremely aware of penalties and moderately aware of the GST model, tax rates, e-way bills and threshold limits. But they have insufficient knowledge regarding the exemption lists. Overall results state that MSMEs have moderate tax knowledge levels. These findings have also been established empirically in previous studies by Ibara et al, (2015) who stressed on the level of tax knowledge and Palil and Mustapha (2011) and Kamil (2015) stressed the influence of tax penalties, and tax rates in MSMEs.

After measuring the level of tax awareness and knowledge, we examined whether any association exists between tax awareness and knowledge level and the information sources and demographic variables. Finally, stepwise regression was applied to provide a broader perspective on how tax information sources might influence the firms' awareness and knowledge level.

The results from stepwise regression for tax awareness highlighted that information sources- the internet, teachers, and tax consultants- significantly positively influence the awareness of MSMEs. Further, the demographic factors- age and education level have also shown a positive influence on the tax awareness level of MSMEs. These findings are consistent with PACEC (2004) and Schmidt (2007), who stressed that the internet as the key variable influencing awareness among small enterprises. Further, the studies by Bruce (2014); Altman, Madsen and Schmidt (2021) establish a similar relationship between age, educational level and tax awareness level.

The stepwise regression was also applied to measure the influence of tax awareness, information sources and demographic variables on tax knowledge. The results highlighted that tax awareness level positively influences MSMEs' tax knowledge. The study of OECD (2013) lends support to this finding. Further, the information sources- newspapers and tax journals have also shown a positive influence on the tax knowledge level of MSMEs. However, at the same time, demographic variables have not significantly influenced MSMEs' tax knowledge level. This finding contradicts the study by Pratama, (2018), who highlighted that gender does not influence tax knowledge, while age and education level have an influence over tax knowledge.

III. Third Objective

In the end, the third and final objective of the study was achieved by developing a structured equation model (SEM) using AMOS to examine the impact of GST on the business performance of MSMEs. In order to achieve it, we opted for GST variables- tax system changeover, tax awareness and knowledge, GST compliance system, compliance burden (time spent in adhering with the compliances and technological transition (Goods and Service Tax Network). In addition, the study has examined the impact of firms' characteristics on business performance. For business performance, the study has gauged four parameters- operational performance (OP), profitability (PP), managerial and operational efficiency (MOE), and financial position (FP).

Two SEM models are developed-A) Operational and profitability performance and B) managerial and operational efficiency and financial position of MSMEs. Both the models exhibit goodness fit of the model by meeting the threshold limits of indices for the model- chi-square statistics (ranges between 3 to 5), normed fit index (NFI) (≥ 0.90), incremental fit index (ICI) (≥ 0.90), comparative fit index (CFI) (≥ 0.91)and root mean square error (RMSEA) (≤ 0.08) as recommended by Muller

(1996), Kline (1998), Arbuckle and Wothke, (2001). Both the models meet the criteria of convergent validity (≥ 0.50) and composite Reliability (≥ 0.70).

A) For Operational Performance and Profitability

The *measurement model results* for operational and profitability performance highlight the impact of firms' characteristics and GST factors: tax system changeover, tax awareness and knowledge, GST compliance system, compliance burden and technological advancement (GSTN). All the factors can explain 63.9% variance for operational performance and 57.3% for the profitability of the MSMEs.

The model highlight that tax system changeover, tax awareness and knowledge and technological advancement (GSTN) positively enhance the operational performance at 1% significant level. Furthermore, firms' characteristics have positively impacted operational performance at a 5% significant level.

For profitability, the model highlight that tax system changeover, technological advancement (GSTN) and firms' characteristics have positively enhanced the MSMEs' profitability at 1% significant level. But in contrast compliance system has negatively impacted the performance at 10% significant level. Along with it, efficiency ratios drivers of the firms have shown an inverse relationship with profitability at 1% significant level. Further, the model stressed that the cumbersome compliance system of GST has enhanced the burden on the firms, whereas the technological advancement in the tax system has reduced the burden on the firms. Overall the variables are able to explain 35% of the variance.

The first model highlighted the following notable impact of the variables used in the study

- *Tax system changeover:*

The results demonstrate that detecting wrong invoices and tax frauds have helped narrow down the missing insolvent traders/manufacturers, which was a big hurdle in the previous tax system-VAT. This led to an enhancement in operational performance and has positively impacted the firms' profitability. In addition, the reduction of illegal refunds has paved the way in reducing the working capital blockage of the firms and fetching higher returns. The present findings support

that the GST system has brought transparency and robustness to the indirect tax structure, which enhanced the operational efficiency of the MSMEs. Further, the study suggests that the availability of input tax credit and prevention of stock leakages has contributed to MSMEs' performance by reducing the working capital blockage of funds. Sing et al. (2018) examined that change in the tax system brought relief to manufacturers by simplifying the earlier tax system's complexities and increasing supply chain management efficiency.

- *Tax awareness and knowledge:*

The results demonstrate that GST technical assistance and training and orientation program has enabled the MSMEs to handle GST matters appropriately, which led to ease of doing in the business. The study suggested that proper tax awareness and knowledge aided the MSMEs in abiding with the new taxation system, filing tax returns on time, and saving them from fines and penalties, thereby increasing the profit margins of the units. Further, the study's findings suggested that seminars, workshops, and conferences conducted on tax reform by government and private organizations have helped MSMEs learn the applicable new taxation rules, regulations, and GST models. Proper awareness and knowledge of GST lead to its lawful tax compliance. A similar opinion is observed by Persaud (2001) that a low level of tax knowledge directly affects the SMEs' business by lowering the profit margins. Atawodi and Ojeka (2012) and Cuccia and Carnes (2001) opined that the lack of tax knowledge led to complexity regarding SMEs' regulations, which negatively impacted the business and led to tax non-compliance (Rahmayanti and Prihatiningtias, 2020).

- *Technological advancement (GSTN)*:

The results demonstrate that technological advancement has led to good tax governance as the special Goods and Service Tax Network (GSTN) portal has aided the MSMEs with a unified information technology platform to deal with all the matters related to GST. This has narrowed down the compliance burden and helped ease the business operations and contributed positively to enhancing the profit margins. The latest technological aspect of GST has amplified its performance. The focus of technology advancement in tax reform was on the simplicity of tax design and transparency in tax administration. The IT system has simplified the cumbersome paperwork process, which in turn saved the time of MSMEs. As supported by the study by

Suparadianto, Ferdiana and Sulistyo, (2019) state that technology plays an essential part to ease out the working processes and provide MSMEs with a global platform (Nellen, 2012 and Ohja, Sahu and Gupta, 2009)

- *Compliance System:*

The results highlight that the compliance system procedures emerge out to be cumbersome. The extensive record-keeping process and the increase in the number of tax returns have enhanced the compliance burden of the firms (time spent). This has negatively impacted the profitability of the MSMEs as the productive time that can be used for business expansion gets blocked in complying with the compliance system. The study established a negative impact of the GST compliance system on performance, both directly and indirectly (through compliance burden as mediator). The new GST compliance system has increased the compliance burden in terms of efforts and time spent complying with new compliance rules and procedures. In addition, the increase in the number of tax returns and documentation processes led to the slow progression of business expansion and proved to be a hindrance. Similar implications were analyzed in Malaysian and Australian firms (Chen and Taib, 2016; Siddiq and Prasad, 2017).

- *Tax administrative Burden (Compliance Burden):*

The results signify that most of MSMEs' time was spent training the staff and solving the queries and tax filing issues of the GST. This has negatively impacted the operational performance and profitability of the MSMEs. The studies by Schmidt et al., (2007) and Munnich (2007) stressed similar implications on tax administrative costs and burden.

- *Firms' characteristics:*

MSMEs are resource constrained and low on administrative sources, which emphasizes that a firm's characteristics play a vital role in influencing its performance. The results emphasize that the type (micro, small and medium), form (proprietorship, partnership and companies) and turnover positively enhance the performance parameters- operational and profitability. The study's uniqueness lies in evaluating the impact of firm characteristics, that is, MSMEs' size, turnover, and forms, on business performance. Findings reveal that variation in type, turnover level and forms determines tax compliances of a firm, that is, the number of tax returns, invoice records,

documentation of accounts, applicable tax rates, rules and due dates, which in turn impacts the performance of the MSMEs (CGST Act, 2017)

- *Efficiency Ratios:*

The results emphasized that businesses are paying off aggressively, that is, credit turnover ratio compared to generating revenues from assets and debtor collection; this has built an inverse relationship with MSMEs' profitability and can harm them in the long run. Mendoza, 2015 opined in his study that MSMEs must take care of its turnover ratios (creditor, debtor and asset) as a significant influence of these ratios has been recognized on profitability.

- *Performance Parameters-*

Two business performance parameters were examined- operational and profitability. After GST, the ease of doing business and reduction in working capital blockage was determined, and the variables came out to be significant. The SEM model describes an increase in net sales; Return on Investments (ROI) and Return on Equity (ROE) are observed after implementing GST. This indicates the progress of micro, small and medium firms in revenue generation (net sales, ROE, ROI) after GST.

B) For Managerial and Operational Efficiency and Financial Position

The *'SECOND MEASUREMENT MODEL'* results for managerial and operational efficiency and financial position highlight the impact of firms' characteristics, tax system changeover and technological advancement (GSTN) on the performance parameters. All the factors can explain 64% variance for financial position and 8% for the managerial and operational efficiency of the MSMEs. The model highlight that tax system changeover, technological advancement (GSTN) and firms' characteristics positively enhances the financial position and managerial and operational efficiency of MSMEs at 1% and 5% significant level.

The second model highlighted the following notable impact of the variables used in the study-

- *Tax system changeover:*

The results highlight the key factors of tax system changeover that have impacted the performance. The results demonstrate that after GST, the detection of wrong invoices, tax frauds, and reduction in tax evasion has narrowed down the illegal flow of funds, increasing the firms' liquidity. The new GST' matching concept has led the firms to be more tax compliant without evading taxes. The present findings have been supported by Nayyar and Singh (2018). The present findings support that the GST system has brought transparency and robustness to the indirect tax structure, which enhanced the managerial and operational efficiency of the MSMEs.

- *Technological advancement (GSTN)*:

The results demonstrate that technological advancement has led to good tax governance as the special Goods and Service Tax Network (GSTN) portal has aided the MSMEs with a unified information technology platform to deal with all the matters related to GST. This led to timely compliance by the firms as all the matters related to GST were one click away through technology (Bird and Zolt, 2008). GSTN led to flexibility in tax administration which led to better tax governance. Further, it narrows down the burdensome process of tax credit availment by digitalizing it, which enhances the liquidity of the firms (Sury, 2019 and Sinha and Srivastava, 2020)

- *Firms' characteristics:*

Firms' characteristics have positively influenced the production capacity and maintained the financial position of the firms strongly after GST. Micro-enterprises have shown a more significant and positive impact on them. After the implementation of GST, the micro firms started to fall into the ambit of the tax net as earlier, the threshold limit was INR 15 million, which fell to 2 million. So, the micro and small firms can avail themselves with the unique tax benefits, exemptions, and input tax credits, which were inaccessible to them in previous tax systems (Shome, Mukhopadhayay and Saleem, 1996) Sinha, 1987; Vasanthgopal, 2011).

- *Performance Parameters-*

Two business performance parameters were examined- managerial and operational efficiency and financial position. After GST, the firms' liquidity has risen and debt to total assets has decreased. Even the GST system has made MSMEs more tax compliant. In addition, after GST, MSMEs' production capacity enhanced.

5.2 Revising the objectives

It is very much required to revisit the objective to understand whether the study can fulfill them for which it was conducted.

Objective 1 (O1): To analyze the factors to map the changeover from Value Added Tax (VAT) to Goods and Service Tax (GST) on MSMEs

For analyzing the factors, firstly, factors were determined using Exploratory Factor Analysis using SPSS. Six factors were formed, namely, - i) *Preventing fraudulent tax practices, ii) Progressive Model, iii) Smooth Tax jurisdiction, iv) Tax System Efficiency, v) Tax credit mechanism, vi) Tax rates and thresholds.* Analysis of Variance (ANOVA) was applied to analyze these factors based on the firms' characteristics. The results of the hypothesis tested are depicted in Table 5.1

Table 5.1 Hypotheses testing of factors of changeover from VAT to GST

	Hypotheses	**Results**
H1a	*There exists a significant difference in factors of tax system changeover based on types of MSMEs (Micro, Small and Medium)*	Supported
H1b	*There exists a significant difference in factors of tax system changeover based on form of enterprises (Proprietorship, Partnership, Public, Private Limited companies)*	Supported
H1c	*There exists a significant difference in factors of tax system changeover based on business turnover*	Supported
H1d	*There exists a significant difference in factors of tax system changeover based on nature of businesses (Manufacturing and Servicing)*	Supported

Source: Self Compilation

The results emphasized that MSMEs mapped the factors of changeover from VAT to GST but a difference in perception exists based on their firms' characteristics. Focusing on these factors may aid MSMEs' specific type, form, or nature to enhance their performance.

Objective 2 (O2): To examine the awareness and knowledge level of MSMEs towards Goods and Service Tax (GST).

To examine MSMEs' awareness and knowledge level towards Goods and Service Tax (GST). Firstly, the sources of information on GST preferred by MSMEs were analyzed. Then, we applied to mean score analysis based on the frequencies of the responses on the data set. **The results in Table 5.2 depicted a 'moderate level' of tax awareness and knowledge level.**

Table 5.2 Frequencies of the responses on Tax awareness and Tax knowledge

Responses	Tax Awareness Frequencies	Tax knowledge Frequencies
Not at all aware	4	0
Slightly aware	9	6
Somewhat aware	145	107
Moderate aware	410	426
Extremely aware	37	66
Total	605	605

Source: Self Compilation

After measuring the level of tax awareness and knowledge, we examined whether any association exists amongst tax awareness and knowledge level and the information sources and demographic variables. Stepwise regression was applied to provide a broader perspective on how tax information sources' availability might influence the firms' awareness and knowledge level. The results of the hypothesis tested are depicted in Table 5.3

Table 5.3 Hypotheses testing of association of information sources, demographic variables on tax awareness and knowledge level

	Hypotheses	**Results**
H2a	*Information sources has a positive association with tax awareness level of MSMEs.*	Supported
H2b	*Information sources has a positive association with tax knowledge level of MSMEs*	Supported
H2c	*Demographic variables (Age, Gender, Income, Educational background) positively influence the tax awareness level of MSMEs.*	Supported
H2d	*Demographic variables (Age, Gender,Income, Educational background) positively influence the tax knowledge level of MSMEs*	Not Supported

Thus it can be inferred that the level of tax awareness and knowledge gets influenced by the information sources preferred by the MSMEs. Even their own age and education level do impact tax awareness.

Objective 3 (O3): To develop a model to examine the impact of Goods and Service Tax (GST) on business performance of MSMEs.

For the third and final objective of the study, a structured equation model (SEM) was developed using AMOS. In order to achieve it, we opted for GST variables- tax system changeover, tax awareness and knowledge, GST compliance system, compliance burden (time spent in adhering with the compliances and technological transition (Goods and Service Tax Network). Along with, the study have examined the impact of firms' characteristics on business performance. The results of the hypothesis tested are depicted in Table 5.4

Table 5.4: ***Hypotheses testing to examine the impact of GST on business performance***

	Hypotheses	**Results**
H3a	*Tax system changeover positively impacts the MSMEs' business performance*	Supported
H3b	Tax awareness and knowledge positively impacts MSMEs' business performance.	Supported
H3c	*GST compliance system negatively impacts the MSMEs' business performance.*	Supported
H3d	*GST compliance system enhances the tax administrative burden of MSMEs.*	Supported
H3e	*Technological advancement (GSTN) positively impacts the MSMEs' business performance*	Supported
H3f	*Firms' Characteristics (type, form, business turnover and nature) are positively associated with the business performance of MSMEs*	Supported

Source: Self Compilation

Thus the results inferred that GST has positively enhanced the business performance of MSMEs. Further, it can be concluded that the GST compliance system has harmed performance, and focusing on this factor and its underlying variables may help the MSMEs in the long run.

5.3 Implications:

The study has the following theoretical and practical implications for MSMEs, policymakers and investors

A. *To Micro, Small and Medium Enterprises:*

The findings may prove beneficial to micro, small and medium enterprises as the study provides an in-depth view of the tax reform determinants that impact business performance. Through empirical results, they can become more vigilant about tax system changeover, compliance system and technological transition and can plan their business strategies accordingly to enhance their performance. As the results highlighted, that compliance system has harmed the performance of MSMEs, so technical sessions must be conducted in every MSME to make them well versed with the system, which might save their productive time.

Furthermore, the results also emphasized that with proper tax knowledge regarding procedural and legal, firms can prevent themselves from tax scams or frauds. In addition, timely tax awareness can lead them to avail tax benefits and incentives. Along with it, the MSMEs should prefer the information sources like newspaper, tax journals, tax consultants and official websites to avail the recent tax amendments or notifications updates. These sources have shown a strong positive influence on both tax awareness and knowledge, which can help them in enhancing their performance by being tax compliant and saving them from heavy penalties and fines.

The results have shown a strong association of firms' characteristics with performance, which can greatly benefit MSMEs. As under the GST Act 2017, the government has provided special threshold limits with preferential tax rates applicable to them. According to their firm's characteristics, especially business turnover, MSMEs can enroll themselves under the special preferential tax rate schemes and enhance their performance by availing the tax benefits.

B. *To policymakers and other developing nations:*

Developing countries often face challenges after tax reform to bring out their efficiency in their businesses. The new aspects related to tax system changeover, compliance system, and technological transition on the businesses may prove beneficial in highlighting their influence on macro and micro-economic levels. At the micro level, they influence business performance, which ultimately contributes to revenue generation and enhances economic growth.

The government and private institutions must conduct more seminars and workshops to eradicate the ambiguity of new taxation rules and policies. Proper training and skill must be provided to small firms' employees to reduce the compliance burden, which leads to the expansion of small businesses globally. Particular preferences must be provided to small and micro firms as they boost the industrial development in the rural areas. Furthermore, they must be provided with timely technical assistance and skills to cope up with the IT structure implemented in the GST regime. It would boost the small firm to establish a steady foot in the international market without difficulty.

C. To investors:

The results will benefit the investors, particularly foreign institutional investors (FII), and credit rating agencies, as they are concerned about firms with high profits and remain interested in investing in the MSME sector. The return on equity and return on investment represents the profitability measure of the stakeholders. The association of these measures with the efficiency ratios- debtor turnover, creditor turnover and asset turnover- can provide a comprehensive picture to the investors, which can provide them with safer bets, and fetch high returns from their investments after the reform.

D. Theoretical standpoint:

The present research might prove beneficial from an academic perspective as it significantly contributes to the literature. Further, it provides a direction for future research and realizing the key tax reform determinants that influence business performance. From a theoretical standpoint, our work adds to the literature on the impact of tax reform on four parameters of business performance in the Indian MSMEs context. In addition, we add new insights regarding the compliance system: the productive time spent in adhering to the multiple compliance processes apart from the compliance costs, which were studied in the past multiple times. This new insight into the compliance system may lead to sustainable economic development as firms being aware of the tax rules, procedures, and the process can make informed decisions and reflect the actual image without avoiding taxes.

5.4 Limitations and Future Research Direction

Regarding limitations, the current research focuses on one emerging state, Punjab. If the samples from all over India had been selected, the results would have been more comprehensive. But the same results can be replicated across India as a scope for future research, to provide a broader perspective of all types of MSMEs across different regions of the country (north, south, east and west). This will assist the businesses, policymakers and the government to identify the influential impact of tax reform on the businesses. Further, future research might use different methodologies (event study), and a longitudinal study can be conducted to see the year-wise impact of GST on

businesses. Furthermore, comparing different natures of businesses (manufacturing, servicing, construction, transport etc.) can also be examined to provide empirical evidence at the firm level.

Further, as a scope for furtue research, the empirical impact of the technological transition in the tax system can be evaluated in-depth as it led to great influence in the businesses. It might prove a strategic component for organizational transformation in the long run. The IT-equipped system of the Goods and Service Tax Network (GSTN) provides a common platform for all the business to e-file and e-register and helps them adminster the taxation at the center and state level. This has reduced the multiple complexities associated with the registration and tax filing of returns.

Moreover, deploying the technology in the tax function can help both businesses and the government. The evaluation of I.T. system with regards to the transaction costs, operational efficiencies of MSMEs can help the industry, government and the policyamakers at large. Further, the impact of demographic variables and firms' characteristics can be used for future research. It would be very significant for the policymakers of all the economies to see if, along with technological transition whether the firms' characteristics and demographic variables of MSMEs affect the performance level.

5.5 Policy Recommendations:

The policymakers and governments should be focus on formulating simple, straightforward and not cumbersome compliance processes and procedures. Tax compliance is crucial for governments as it directly influences their revenue collection. Whenever the compliance system is cumbersome and becomes hard to follow, it leads to tax evasion. The simplification of the compliance procedures would prove beneficial to both government and businesses in multiple ways. Simplifying the tax return filing and documentation process would reduce the compliance costs, time and tax burden. The more straightforward tax procedures would raise the tax compliance rate, reducing tax evasion and generating more revenue for the government. Further, the GST department must provide a help desk for MSMEs to provide timely assistance to solve the issues and queries related to compliance processes or tax filing.

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ANNEXURE

QUESTIONNAIRE

SECTION A

Personal Information

<table>
<tr><td>1. Name:</td><td colspan="2">2. Designation:</td></tr>
<tr><td>3. Organization Name:</td><td colspan="2">4. Address:</td></tr>
<tr><td>5. E-Mail/ Mobile :
(optional)</td><td colspan="2">6. Form of Organization:
☐ Proprietorship
☐ Partnership Firm
☐ Private/ Public Limited company
☐ Others</td></tr>
<tr><td rowspan="3">7. Nature of business :
☐ Manufacturing
☐ Service
☐ Trading</td><td colspan="2">8. Type of unit:</td></tr>
<tr><td>Manufacturing (Investment in plant and machinery)</td><td>Service (Investment in equipment)</td></tr>
<tr><td>☐ Micro (>25 lakh)
☐ Small(25lac- 5 crore)
☐ Medium (5cr-10cr)</td><td>☐ Micro (>10lac)
☐ Small (10lac-2cr)
☐ Medium (2cr-5cr)</td></tr>
<tr><td>9. Annual Turnover:
☐ Up to 5 crores
☐ 5-25 crores
☐ 25-50 crores
☐ Above 50 crores</td><td colspan="2">10. Registration held prior to GST in indirect tax :
☐ Value Added Tax
☐ Excise Duty
☐ Service Tax
☐ Central Sales Tax
☐ Others</td></tr>
<tr><td>11. Age:
☐ 25-35
☐ 35-45
☐ Above 45</td><td colspan="2">12. Gender:
☐ Male
☐ Female</td></tr>
<tr><td>13. Education:
☐ Under Graduate and Graduate/ Diploma
☐ Post-Graduate and equivalent
☐ Professional (CA, CS, Legal Advisors)</td><td colspan="2">14. Personal Annual Income:
☐ Under 8 lacs
☐ 8 lacs -12 lacs
☐ Above 12 lacs</td></tr>
<tr><td>15. Registered under GST
☐ Yes
☐ No</td><td colspan="2">16. GST compliances are done by:
☐ Self
☐ CA (Chartered Accountant)
☐ Lawyer
☐ Professional Accountant</td></tr>
</table>

SECTION B

17. To map the driving factors influencing the changeover of VAT (Value Added Tax) to GST (Goods and Service Tax)?

Please read each statement carefully and rate from 1 to 5 scale, where 1=Strongly Disagree and 5= Strongly Agree.

S.No	Factors					
a.	Subsuming of taxes with the introduction of GST, both at Central and State level has eased jurisdictional discrepancies	1	2	3	4	5
b.	Tax structure and tax compliance procedure under GST are simpler as compared to VAT	1	2	3	4	5
c.	The unfair demands while applying for registration for VAT has been narrowed down under GST.	1	2	3	4	5
d.	Under the VAT regime, there was no central jurisdiction to resolve the issues of every state which was highly inconvenient.	1	2	3	4	5
e.	The cascading effect that prevailed throughout the production-distribution supply chain has been removed under the GST system.	1	2	3	4	5
f.	GST has improved the efficiency of the tax system	1	2	3	4	5
g.	GST has helped to bring in transparency, fairness and equity.	1	2	3	4	5
h.	GST has controlled the issuance of wrong invoices.	1	2	3	4	5
i.	GST's mechanism has helped in reducing tax evasions.	1	2	3	4	5
j.	GST has prevented tax frauds in comparison to earlier tax system	1	2	3	4	5
k.	Seamless tax credits would ensure a strong mechanism of transfer of tax credits from one state to another state under GST.	1	2	3	4	5
l.	Strong tax credit mechanism system of GST has reduced illegal refunds	1	2	3	4	5
m.	GST has controlled missing/insolvent trader frauds through validation system by PAN and AADHAR	1	2	3	4	5
n.	Input tax credit under GST has increased the profitability of MSME firms in comparison to the pre GST era.	1	2	3	4	5
o.	With regard to the movement of goods under the GST system, it has smoothened the flow of business operations	1	2	3	4	5
p.	Through e-way bills, the quantity of goods can be crosschecked and greater control can be exercised to prevent leakages.	1	2	3	4	5
q.	GST Model is progressive in nature whereas the VAT Model was regressive.	1	2	3	4	5
r.	GST has abolished the classification dispute which was due to multiple tax rates on similar goods in different states, existed in the VAT era.	1	2	3	4	5
s.	The current taxable rates of GST throughout country (3%, 5%, 12%, 18% and 28%) are rational in comparison to earlier indirect tax rates.	1	2	3	4	5
t.	GST tends to increase the revenue and expand the indirect tax base in comparison to the earlier tax system (VAT, Service Tax and Excise duty)	1	2	3	4	5

18. The smooth functioning of GST requires proper awareness and knowledge about it. The following parameters help to access the level of awareness possessed.

Please read each statement carefully and rate from 1 to 5 scale, where 1=not at all preferable and 5= extremely preferable.

A.	**Which of the following sources do you prefer to attain knowledge about GST?**					
a.	GST Bare Act	1	2	3	4	5
b.	Books	1	2	3	4	5
c.	Magazines	1	2	3	4	5
d.	Newspapers	1	2	3	4	5
e.	T.V/ Radio	1	2	3	4	5
f.	Internet/Blogs	1	2	3	4	5
g.	Tax consultants/ Experts	1	2	3	4	5
h.	Teacher/ Lecturer	1	2	3	4	5
i.	Friends	1	2	3	4	5

Please read each statement carefully and rate from 1 to 5 scale, where 1=strongly disagree and 5= Most agreed.

B.	**Level of Awareness**					
a.	The rules, regulations, exemptions and rates applicable to the respective business.	1	2	3	4	5
b.	Extensive training is required in equipping the skills to handle the matters of GST.	1	2	3	4	5
c.	Government agencies organize regular training and orientation program on GST.	1	2	3	4	5
d.	Private organizations provide technical assistance and software packages to handle GST compliances	1	2	3	4	5
e.	Seminars, conferences, FAQS (Frequently Asked Questions) and Government circulars provide practical clarity about working of GST.	1	2	3	4	5
f.	Tax consultants or tax agent services are required for handling GST matters	1	2	3	4	5
C.	**Level of knowledge**					
g.	The GST model is divided into different taxes	1	2	3	4	5
h.	The E-way bill is mandatory for the intra/interstate trade.	1	2	3	4	5
i.	Different types of rates are applicable to goods and services.	1	2	3	4	5
j.	Different types of threshold limits exist for the registration under GST	1	2	3	4	5
k.	Separate registration is required for composition scheme and casual taxable person.	1	2	3	4	5
l.	Few products are kept out of the ambit of GST	1	2	3	4	5
m.	The new reforms and amendments are made time to time by Government	1	2	3	4	5
n.	Different types of software exist to manage GST compliances	1	2	3	4	5
o.	Penalties for not complying the rules and regulations of the GST Act	1	2	3	4	5

19. How different factors (compliance procedures, new technology and its working process) of GST has impacted the business performance of MSMEs?

please read each statement carefully and rate from 1 to 5 scale, where 1=strongly disagree and 5= Most agreed.

A.	**What are the factors that impact the GST comliances?**					
a.	The assessment procedure and compliance of GST is cumbersome in comparison to the earlier tax system	1	2	3	4	5
b.	GST compliance procedure resulted in consuming more time in record keeping.	1	2	3	4	5
c.	Time cost i.e. the time required to file returns and solving queries has increased.	1	2	3	4	5
d.	Non-time costs i.e. start-up cost, software cost, training fees, telephone bills, accounting and professional fees have increased due to an increase in compliance burden.	1	2	3	4	5
e.	The focus of GST is on compliance tax i.e. number of filing of returns and not on the applicability of tax.	1	2	3	4	5
f.	The administration of the Tax Department is still not efficient in resolving compliance matters.	1	2	3	4	5
g.	The compliance procedure has hindered the business from expanding by consuming more time towards it.	1	2	3	4	5
h.	The burden on tax agent/ tax consultants has increased manifold times.	1	2	3	4	5

B. How much approximate time is spent on GST compliances in the past 12 months?

S.No.	**Function**	**Up to 3 months**	**3-6 months**	**6-9 months**	**9-12 months**
a.	Training of staff				
b.	Managing queries (Personally)				
c.	Managing Queries (telephonically)				
d.	Record keeping				
e.	Filing GST Returns				
f.	Issue resolving				

C. The Goods and Service Network (GSTN) Technology has directly impacted the business and its working.

Please read each statement carefully and rate from 1 to 5 scale, where 1=strongly disagree and 5= Most agreed.

S.No.	**Factors**					
a.	GSTN is very efficient in tax administration as it is backed with end to end IT (Information Technology) system	1	2	3	4	5
b.	GSTN network has made tax governance easy.	1	2	3	4	5
c.	A robust and comprehensive IT system is the strong foundation of the GST Regime as all taxpayer services are available online.	1	2	3	4	5

d.	Online services such as registration, tax payments, return filing and refunds saves a lot of time.	1	2	3	4	5
e.	E-filing and credit mechanism system of GST have prevented frauds, corruption, tax leakages and led to transparency.	1	2	3	4	5
f.	The GSTN system has reduced the paperwork for returns.	1	2	3	4	5
g.	Paperless compliance has increased the business operational efficiency.	1	2	3	4	5
h.	GSTN network functions on matching engine concept that helps reversal or reclaim of input credit easily available.	1	2	3	4	5
i.	GSTN system provides an analysis of taxpayers' profiles in detail at one click.	1	2	3	4	5
j.	GSTN system provides easy matching of tax payments with the banking network and helps in tax reconciliation.	1	2	3	4	5
k.	The in-built mechanism design of the GST IT system will help in better control mechanism.	1	2	3	4	5
l.	Common GSTN portal is prone to many glitches and bugs at times of filing returns.	1	2	3	4	5
m.	The online system has freed from the direct interaction with officials.	1	2	3	4	5
n.	Helpline/helpdesk provided by the Government provides a quick and efficient response.	1	2	3	4	5
o.	The users face problems in learning the new technological know-how and still not ready with proper skills.	1	2	3	4	5

20. GST brings bountiful benefits to all stakeholders by enhancing business performance.

A. Overall factors that impact the business' operational performance

S.no	**Factors**					
a.	The implementation of GST has facilitated ease of doing business	1	2	3	4	5
b.	Unified market and simplified tax structure has reduced complexities and helped companies/ firms to compete at the global level	1	2	3	4	5
c.	The seamless flow of credit for all goods and services has reduced the blockage of working capital.	1	2	3	4	5
d.	GST has enabled easier export facilities helping MSMEs to compete internationally.	1	2	3	4	5
e.	Availability of input tax credit has improved liquidity and profitability of firms	1	2	3	4	5
f.	The emergence of a common single market has increased operational efficiencies	1	2	3	4	5
g.	E-way bills have made the transportation mechanism convenient and hassle-free.	1	2	3	4	5
h.	New threshold limits and composition scheme has eased out the burden of small units.	1	2	3	4	5
i.	The tax burden under GST is equally divided among goods and services without any differentiation.	1	2	3	4	5
j.	Cost of doing business has reduced as there are no hidden taxes, cascading effect or multiple taxes under the GST system	1	2	3	4	5

k.	Earlier the indirect taxes amounted to 32% which has been dropped down to 18-28% in total.	1	2	3	4	5
l.	Due to credit availed, taxes do not form part of the cost of production and ultimately leads to a reduction in prices.	1	2	3	4	5
m.	GST is charged on manufacturing cost and collected on point of sale, thereby increasing the consumption by benefiting the people with low prices	1	2	3	4	5
n.	GST has boosted India's economic development by breaking tax barriers with uniform rates between states	1	2	3	4	5
o.	The available legislation of GST provides clarity to MSMEs about its benefits and working and helps to flourish the business	1	2	3	4	5

Please read each statement carefully and rate from 1 to 3 scale, where 1= decrease, 2= stable and 3= increase.

B.	**What is the overall impact on profitability factors?**			
a.	Gross profit ratio	1	2	3
b.	Net profit ratio	1	2	3
c.	Net Sales	1	2	3
d.	Cash profit/ cash flow after tax	1	2	3
e.	Earning price per share (EPS)	1	2	3
f.	Return on Net worth/ equity	1	2	3
g.	Return on investment	1	2	3
h.	Return on capital employed	1	2	3

C.	**How the financial position is being affected after GST?**			
a.	Current ratio	1	2	3
b.	Liquidity ratio	1	2	3
c.	Debt equity ratio	1	2	3
d.	Debt to total liability	1	2	3
e.	Debt to total assets	1	2	3

D.	**What is the impact on managerial and operational efficiency?**			
a.	Whether the production/ receipts have risen?	1	2	3
b.	Whether the consumption of raw material has risen?	1	2	3
c.	Stock turnover ratio (i.e. how quickly stock is converted into sales)	1	2	3
d.	Debtor turnover ratio (i.e. how easily credits are managed)	1	2	3
e.	Creditor turnover ratio (i.e. ability to pay off its suppliers)	1	2	3
f.	Asset turnover ratio (efficiency to generate sales from assets)	1	2	3
g.	Working capital ratio (how well the short term funds are managed?)	1	2	3
h.	Fixed asset turnover ratio (i.e. how well fixed assets are used to generate sales)	1	2	3
i.	Whether GST collection has been ehanced on sales?	1	2	3
j.	Whether there is an increase in GST tax payments in comparison to the earlier tax system?	1	2	3

LIST OF PUBLICATIONS

S No.	Title of the paper; Name of Journal, Year, volume and pp.	Authors	Impact Factor in SSCI and SCIE list	Proof of it being attached in SSCI/SCIE list as attachment
1	Effect of Tax knowledge and technological shift in tax system on business performance : A PLS SEM Analysis; Sustainability; Vol 14(16), 10217	Neba Bhalla; Dr. Rakesh Kumar Sharma and Dr. Inderjit Kaur	SSCI & SCIE 3.889	Attached
2	Examining the effect of tax reform determinants, firms' characteristics and demographic factors on the financial performance of Small and Micro Enterprises; Sustainability; Vol. 14(14), 8270	Neba Bhalla Dr. Inderjit Kaur; Dr. Rakesh Kumar Sharma	SSCI & SCIE 3.889	Attached
	Investigating the effect of Goods and Service Tax on operational performance, cost efficiency and profit margins of MSMEs. *International Journal of Accounting, Auditing and Performance Evaluation (Inderscience Publication)*	Neba Bhalla; Dr. Rakesh Kumar Sharma and Dr. Inderjit Kaur	SCOPUS; ABDC	ACCEPTED
	Goods and Service Tax: A Compromise or Breakthrough. *International Journal of Business Excellence (InderScience Publications)*	Neba Bhalla Dr. Inderjit Kaur; Dr. Rakesh Kumar Sharma	SCOPUS	ACCEPTED

PAPERS PRESENTED AT CONFERNECES

S NO.	Authors	Year	Title of Paper	Name and Place of Conference
1.	Neba Bhalla, Dr. Rakesh Kumar Sharma and Dr. Inderjit Kaur	2021 (June)	Tax Reform and Business Performance of Micro, Small and Medium Enterprises: A Study of Indian Goods and Service Tax Reform	19th European Economics and Finance Society Annual Conference City, University of London
2.	Neba Bhalla; Dr. Rakesh Kumar Sharma; Dr. Inderjit Kaur	2021 (December)	Quantifying the Impact of Goods and Service Tax (GST) on Indian Economy: A changeover in Tax Reform	7th International Conference on Empirical Issues in International Trade and Finance IIFT Kolkata (Ministry of Commerce and Industry, Gov. of India)
3.	Neba Bhalla; Dr. Inderjit Kaur; Dr. Rakesh Kumar Sharma	2022 (January)	Indian Goods and Service Tax and Financial Performance of Micro, Small and Medium Enterprises	Academy of International Business (AIB) South Asia Conference 2022 Role of International Business and Sustainable Development in South Asian Economies IIM Visakhapatnam
4.	Neba Bhalla; Dr. Inderjit Kaur; Dr. Rakesh Kumar Sharma	2022 (July)	Effect of Firms' characteristics, Socioeconomic Factors and Determinants of tax (GST) system on MSMEs' Performance: With Special reference to DuPont Analysis	SJMSOM Conference 2022 International Conference on Financial Markets and Corporate Finance IIT Bombay