

ROLE OF FINANCIAL TECHNOLOGY TO EXPEDITE THE GROWTH OF MSMES IN UTTARAKHAND: AN IPMA ANALYSIS WITH PLS-SEM APPROACH

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ABSTRACT

This study attempts to examine the impact of 'FinTech' (Financial Technology) in expediting the growth of Micro, Small, and Medium Enterprises (MSMEs) in Uttarakhand. Digitalization of Financial systems will bring about not only better financial management, but also will empower financial decision-making, a higher economy, and the upliftment of the society. This study has been done by using an IPMA analysis through 'PLS-SEM' to test the impact of 'Exogenous Construct' i.e. (Digital Credit, Digital Payment, and Digital Financial Management) on 'Endogenous Construct' in the growth of MSMEs in Uttarakhand, not focused upon in the previous studies. The Data were collected from 120 MSMEs and the sample size has also been tested on G*Power. 'The Reflective Measurement Model' of 'PLS-SEM' has been constructed through 'SMART PLZ 3.3.3' and 'Bootstrapping' has been performed to test Hypotheses. This research shows a significant role of factors of FinTech (Digital Credit, Digital Payment, and Digital Financial Management) in the overall growth of (MSMEs). The results of IPMA Analysis also show that MSMEs must focus more on 'Digital Financial Management. The collection of data from a Hill State like Uttarakhand is a major constraint. However, the 'Rate of Financial Technology Adoption' in small businesses is at its nascent stages, leaving a colossal scope for further study. Keywords: Financial Technology, Micro Small & Medium Enterprises, MSMEs Growth, PLS-SEM, IPMA Analysis. 1. Introduction

1.1FinTech

'FinTech' is an acronym for the words 'Finance' and 'Technology'. The word 'FinTech' is used to describe an industry that is engaged in using 'Technology' in Financial Services. So, in simple terms, we can say that the 'Use of Innovative Technological mediums for providing Financial Services' is known as 'FinTech'. The domain of the FinTech industry covers services like Mobile Payment, 'Crowd Funding', Book-Keeping, Insurance Services, Credit Scoring, Financial Planning, Capital Budgeting, and so on. Thus, the FinTech Industry is catering to the requirements of almost all financial services (**Puschmann, 2017**). The tools and investments provided by the FinTech industry will improve the approach of people toward their finances.

Nowadays, with the help of FinTech, we can avail of many financial services through our Smartphones. The FinTech industry is one of the pillars of the Industrial 4.0 era, as it brings Brick-and-Mortar Financial Institutions to the palm of someone holding a Smartphone. According to the report on Global FinTech Market, the FinTech market grew with a Compounded Annual Growth Rate of 7.9% since 2015. Globally the FinTech industry has accounted for \$111,240.5 million in 2019 and is expected to grow at a compounded growth rate of 9.2% to nearly \$158,014.3 million by 2023. The future of finance lies in the hands of the FinTech industry (Haddad & Hornuf, 2019).

1.1.1FinTech in India

India witnessed Technological Innovations in its Financial System after the 1990s when the Government of India liberalized its economic policy generally known as Liberalization, Privatization, and Globalization (LPG). This liberalization opened the doors for the introduction of Technological Changes in Indian Banks. MICR (Magnetic Ink Character Recognition), Electronic Transfer of funds, and other electronic payments marked the beginning of FinTech in India (Deepali & Luthra, 2018). After this, many FinTech startups came into existence. The period between the years 2005-2010 is considered the period during which FinTech in India got shaped and started spreading its roots. Initial FinTech startups came up in India during the above period, such as Mobikwik in 2009, Paytm in 2010, Freecharge in 2010, etc. After 2010, a lot many FinTech companies started in India in other segments including Credit Facilities, Payment Facilities, Personal Finance Management, etc. In April 2016, UPI (Unified Payment Interface) was started by the National Payment Corporation of India and this initiative boosted the FinTech industry in India. According to the UPI Product Statistics, till March 2019, 142 banks dealt in UPI with a monthly volume of 799.54 million transactions, and the value in terms of Indian currency is about Rs.1.334 trillion (Gochhwal, 2017).

The Indian Financial Market has changed to a great extent through the growth and development of the FinTech industry. The support from the government through different digital initiatives led to the development of this industry (**Vijai**, **2019**). The FinTech industry plays a vital role in the spread of financial services to rural areas and helps people to access the formal financial system of the country. The rapid spread of telecommunications even in rural areas facilitated financial inclusion for a better experience of FinTech products (**Siddiqui & Siddiqui**, **2020**).



Fig-1 (SOURCE-<u>https://www.statista.com/statistics/1013812/india-FinTech-startup-</u> numbers-by-segment/)

1.2 Micro, Small, and Medium Enterprises

Micro, Small, And Medium Enterprises (MSMEs) are considered the backbone of every economy. As per the World Bank report titled 'Small Medium Enterprises (SMEs) Finance 2019', globally SMEs/MSMEs contribute 90% of total businesses and employ 50% of the total population of the world. In the countries like India, Micro, Small, and Medium Enterprises (MSME) contribute nearly 22 percent of the country's GDP, 45 percent of the manufacturing output, and 40 percent of the exports. After agriculture, it provides the highest employment (Jaswal, 2014; Singh & Singh, 2014). MSMEs are defined differently in different countries. Some countries define MSMEs on basis of turnover, some define them based on investment, while some define MSMEs on basis of the number of people employed in the unit, etc., but the importance of this sector is similar for every economy in the world (Biswas, 2014). The MSME & informal sector accounts for 55% of GDP and 65% of employment in high-income countries, in low-income countries, it contributes 60% of GDP and 70% of employment, while it accounts for 70% of GDP and 95% of employment in the middle-income group (Singh & Venkata, **2017).** In India, MSMEs are considered the engines of economic growth. This sector plays a significant role in the growth and development of the Indian economy (Syal, 2015). As per the MSMEs Annual Report of 2018-19, there are a total of 63.38 million registered MSME units operating in the country, out of which 55% are in urban areas and 45% in rural areas. This sector accounts for 29% of the total GDP and 48% of the total exports of the country. 110.9 million people (out of which 24% are females) are employed in the registered MSMEs units across the country. This sector accounts for the creation of Wealth, Generation of Employment Opportunities, Balanced Regional Growth, and the Earnings of Foreign Exchange through Exports (Kumar & Sardar, 2011; Kumar & Sardar, 2012; Vibhuti & Barki, 2016).

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1.2.1 Micro, Small and Medium Enterprise Development Act, 2006

The Micro, Small, and Medium Enterprises Development Act was enacted on June 16th, 2006 for the Promotion, Development, and Enhancing the Competitiveness of MSMEs in India. Chapter 3 of the MSMED Act defines MSMEs as follows:

ENTERPRISE	MANUFACTURING SECTOR (Investment in Plant and Machinery) (Rs.)	SERVICE SECTOR (Investment in Equipment) (Rs.)
MICRO	Upto 25 Lakhs	Upto 10 Lakhs
SMALL	More than 25 Lakhs ≤ 5 Crores	More than 10 Lakhs ≤ 2 Crores
MEDIUM	More than 5 Crores ≤ 10 Crores	More than 2 Crores ≤ 5 Crores

On 1st June 2020, an amendment was introduced to MSMED Act, 2006. A composite criterion of Investment and Turnover was introduced which redefines the MSMEs as follows:

MANUFACTURING & SERVICE SECTOR	MICRO (Rs.)	SMALL (Rs.)	MEDIUM (Rs.)
INVESTMENT	Upto 1 Crore	More than 1 Crore ≤ 10 Crores	More than 10 Crore ≤ 20 Crores
ANNUAL TURNOVER	Upto 5 Crore	More than 5 Crore ≤ 50 Crores	More than 50 Crore ≤ 100 Crores

1.2.2. MSMEs in Uttarakhand

Uttarakhand is a state located in the northern part of India with a total area of about 53,483 km² - out of which 34,662 km² is a forest-covered area that accounts for almost 65% of the total land area. Uttarakhand is blessed with rare Biodiversity but lacks the development of Infrastructural Facilities (**Patra & Chaubey, 2014**). Due to its geographical factors, it is quite difficult to set up large industrial units in Uttarakhand. But because of its rich Biodiversity, abundant water resources, Reliable power supplies, and availability of land at competitive prices, Uttarakhand is highly suitable for Micro and Small Businesses (**Jain & Jain, 2012; Virk & Negi, 2019**). As per MSME Annual Report 2018-19, a sum of 12743.57 lakhs was invested among 4.17 lakh MSME units operating in the state, out of which 4.14 lakh are micro-units. The MSMEs sector is employing 6.60 lakh people in the state. Uttarakhand secured 11th position nationwide in the latest ranking for ease of doing business for the year 2020. MSMEs are major contributors to the Economic Growth and Financial Inclusion of Uttarakhand (**Kumar & Gajakosh, 2022**)

2. Major Problems of MSMEs

MSMEs are one of the major contributors to the economy, but these units are facing several challenges and problems which include:

2.1.1 Finance-Related Problems

Lack of Personal Financial Resources, Unavailability of Suitable Credit Sources (Singh & Singh, 2014). Financial Illiteracy, the Absence of Timely and Adequate Banking Facilities, Low Returns on Investment, and a High Cost of Credit (Nagaria, 2016) is the Major Financial challenges being faced by MSMEs in India.

2.1.2 Market-Related Problems

MSMEs are facing diverse market-related problems such as Ineffective Marketing Strategies, Identification of New Markets, Limited Exposure to the Markets (Khanna & Singh, 2018) High Competition from Big Players in the Market, and Lack of Proper Advertisement and Publicity (Nandeeswaraiah & Ramana, 2019)

2.1.3. Human Resource-Related Problems

Lack of Skilled Human Resources, Lack of Training and Development Programs, High Expectations of Employees, and Complex Labor-Laws Problems are the Major Challenges before the MSMEs in the country (Shiralashetti, 2012).

2.1.4. IT-Related Problems

Non-availability of Suitable Technology, Lack of Information, Technical Backwardness, and Lack of Experience in The Field of IT are Major IT-related problems acting as hurdles to MSMEs (Nadaf & Kadakol, 2017; De, 2017).

2.1.5. Other Problems

Low-Quality Inputs, Lack of Infrastructural Development, Transportation & Warehousing Facilities, Low productivity, Constraints in Modification & Expansion, and Lack of Power Supply are other major problems facing MSMEs (Dash, 2018).

2.2 Research Objectives:

This research focuses on the problem related to Financial Decisions in Micro, Small, and Medium Enterprises and how Financial Technologies are emerging as a game-changer tool for Micro Small, and Medium Enterprises to deal with them for the overall growth of businesses.

- To ensure a smooth flow of funds in the business with a **Digital Credit** Policy.
- To maintain a hassle-free payments system with **Digital Payment** modes.
- To control Finance planning by adopting **Digital Financial Management** tools.

3. Role of FinTech in MSMEs/SMEs

Finance is considered fuel for business, if the business has sufficient financial resources, it will be able to survive the competition and take advantage of business opportunities. Financial Management is one of the most crucial aspects of every business, the quantum of finance may vary from business2business and firm2firm, but the importance of Financial Management is always the same for every business, irrespective of its nature and size.

A major problem facing MSMEs in Uttarakhand is that they do not have the Expertise to Manage their Finances. So MSMES always finds difficulties in Raising Funds, Assessing Credit Scores, Capital Budgeting, Book-Keeping, and Efficient Utilization of Funds. The FinTech industry provides a wide range of services through which MSMEs will get assistance right from acquiring funds to efficient utilization of funds (**Purnamasari et al., 2020**). FinTech provides platforms like Peer-to-Peer Funding, Crowdfunding, and Online Lenders by NBFCs for Credit Accessibility along with this, FinTech also provides alternatives for Credit Scoring. Online Payment Services, E-Wallets, Prepaid Payment Instruments, and Point-of-Sale Payments Help in Smooth Transactions and Save Costs and Time taken for Transactions.

Financial Planning Apps, Capital Budgeting Apps, Bookkeeping Apps, and other such Software Help in the Proper Recording of Transactions and improve the Quality of Forecast and Better Planning for the future as well as a better Control of Financial Resources (Suwandi et al., 2020). Proper recording of books and accounts improves a firm's goodwill vis-a-vis financial institutions and this leads to easy approval of loans to MSMEs. The finTech industry can provide a one-stop solution to MSMEs regarding Finance and its management, which will result in smooth operations and growth of MSMEs in the economy (Darma et al., 2020).

4. Research Model and Hypotheses Development

4.1 Fin-Tech in Credit

Funds are considered the lifeblood of the business. A firm with sufficient funds has a far more competitive advantage over its competitors as compared to those which lack sufficient funds. MSMEs depend on Credit Availability in the economy for the funds to start and operate efficiently, but the availability of credit is one of the most crucial problems for MSMEs. (Temelkov & GogovaSamonikov, 2018; Temelkov et al., 2018). FinTech has emerged as one of the most important sources of credit for small businesses (Khanh & Loc, 2019). The FinTech industry developed a variety of products and services which help MSMEs in getting credit with innovative methods like Bitcoin, P2P lending, Crowdfunding, NBFC online lenders, and online credit scoring (Lu, 2018). The FinTech industry is directly contributing toward filling the financial gap of MSMEs globally.

4.1.1 P2P Lending

P2P lending stands for 'peer-to-peer' lending. It is an alternative method for engaging credit without any help from any traditional intermediaries like Banks and other Financial

Institutions. Under P2P lending as the name suggests, the borrower will prefer to take the loan directly from the lender through an online platform. Peer-to-peer lending platforms develop a direct and hassle-free link between the parties (Borrowers & Lenders), which helps them in understanding the needs of each other and they can get into an agreement with mutual understanding. In India, P2P lending companies are regulated by RBI (The Reserve Bank of India) and P2P companies are characterized as Non-Banking-Financial-Companies (NBFCs) (Adriana & Dhewantoa, 2018). Peer-to-Peer lending can help MSMEs in getting financial assistance in the form of credit for starting a new business unit as well as for Working Capital Requirements for smooth operations of already established businesses (Rusadi & Benuf, 2020). Peer-to-Peer lending drives away the mediators (Banks & Other Financial Institutions) from the process of credit exchange, so this helps MSMEs to get credit at a cheaper cost and with lucrative gains.

4.1.2 Crowdfunding: Crowdfunding is another alternative for credit that is provided by the FinTech industry. Crowdfunding works on the principle of more hands leading to more resources. Under crowdfunding, the borrower can take small amounts of money from many people each and through this, the borrower can raise the required amount of money. It is network-based funding, the more people you can approach the more amount you can raise as credit. There are five types of crowdfunding namely: Donation-based crowdfunding, Reward-based crowdfunding, Equity-based crowdfunding, Debt-based crowdfunding, and Human Capital-based crowdfunding. Crowdfunding emerged as one of the best available options for credit for MSMEs in China (Huang et al., 2018). FinTech crowdfunding platforms help MSMEs to raise Fixed & Working Capital and help in overcoming the financial problems in Indonesia (Lestari et al., 2020). During the last decade, India also witnessed the extraordinary growth & development of crowdfunding. These platforms can help entrepreneurs in getting credit for setting up new MSMEs units as well as in smooth operations of already established businesses through regular Working Capital supply (Baber, 2019).

4.1.3 Credit Scoring Platforms

Credit scoring platforms are the institutions and organizations which access the creditworthiness of individuals or firms. A 'credit score' represents the creditworthiness of individuals or firms which gives a clear idea to the lender about the quantum of risk the lender must bear if he/she lends funds to the individuals or firms. A credit score is a number between 300-900, more closely to 900 means a higher credit score and better creditworthiness. There are various benefits of higher credit scores like credit as an easy term, low-interest rate, higher negotiation power, and easy approval of loans, etc.

MSMEs in Uttarakhand generally fail to access their credit score due to improper recording of the transaction & other related factors like 'No' or 'Poor Credit History' etc. So, the FinTech industry can prove itself as an alternative for credit scoring of MSMEs as the credit scoring process through FinTech is far better as compared to the traditional approach (**Huang et al., 2020**).

H1= Digitalization (FinTech) of the Credit System is stimulating the growth of MSMEs

4.2 Payments:The payment system is one of the most crucial elements of any business. In simple words, the payment system is the actual gateway for earning revenue. The payment system is equally important to all businesses, irrespective of the size, nature, and location of **Journal of Data Acquisition and Processing** Vol. 38 (1) 2023 1511

the business. There is no meaning in selling goods or providing services without receiving something in return. So, to get value in return, business needs to depend on a payment system. Traditional payment systems through Cash and Cheques are still the most used payment system. The digital payment system is easier and more compatible to use (**Tiong, 2020**).

The FinTech industry has provided innovative and convenient payment systems across the globe. The wide range of FinTech products and services are focusing on developing more hassle-free payment systems like PPIs, E-wallets, Mobile Banking, POS, etc (Coffie et al., 2020). The technology-based payment system proved very useful to MSMEs in India as through online stores MSMEs can sell their goods and services across the globe and with the help of FinTech-based payment systems they can get the money for their goods and services.

4.2.1 PPIs

PPIs stand for Prepaid Payment Instruments. These instruments provide a facility for purchasing or rendering services in exchange for the value stored on the instrument. The PPIs work like the fuel tank of a motor vehicle, once one fills the tank, they can drive the vehicle and if the fuel gets exhausted, then it can be refilled similarly PPIs can be filled with monetary value through cash, debit card, credit card, or bank account and then the instruments can be used to purchase goods or services and if the value stored in instruments get exhausted it can be got recharged.

There is a wide range of PPIs provided by the FinTech industry like Smart Card, Internet Account, Online Wallet, Mobile Amount Paper Vouchers, etc. These prepaid instruments can improve the operations of MSMEs by providing customers the alternative ways of making payments for their goods and services, and at the same time, entrepreneurs can also use these instruments for making payments to suppliers and vendors thereby making the payment process faster and more convenient (AAYOG, 2018).

4.2.2 E-Wallet

E-Wallets are commonly known as Digital Wallets. It is a kind of software program or a mobile application which provides services for monetary transactions between two or more parties. An E-wallet is like a bank account but more convenient and easier to operate as compared to traditional methods (Muciimi & Ngumo, 2014). The users need to transfer the money from their bank account, credit card, or debit card to the e-wallets and then these e-wallets can be used for making payments for the purchase of goods and services. E-wallet has brought about a revolution in the payments system. With E-wallet, there is no need to carry hard money nor is there a requirement of visiting mortar-based financial institutions. All one requires is a smart mobile phone and internet connection (Kang, 2018). This revolution has been helping MSMEs in getting instant payment from the customer and with help of an e-wallet, the records of the transactions can be maintained more effectively. E-wallets will help MSMEs in timely receipts of payments from customers, which will directly contribute toward Working Capital Management and other requirements of the business units.

4.2.3 POS

POS stands for Point-of-Sale. It is a software system used for payment processes, storing data, and managing business functions. POS system helps in the smoothening of business as it improves the payment process by making it more convenient and faster. Along with this, the POS system also records the data of customers like what are the buying habits of customers, **Journal of Data Acquisition and Processing** Vol. 38 (1) 2023 1512

which brand is preferred by individual customers, etc. All this information helps the business in understanding the needs of the customer and catering to their needs accordingly. POS enhances financial inclusion (**Baiju & Radhakumari, 2017**). POS systems help MSMEs in different ways by making payment processes convenient. POS will help MSMEs in getting the value of their goods & services at the same time. POS systems will help them in collecting valuable information about the customer which will prove useful for future transactions with them.

H2= Digitalization (FinTech) of Payment Methods is positively affecting the growth of MSME.

4.3 Digital Finance Management

Personal Finance Management is a broad term that covers different aspects of financial management like Income Generation, Expenditure, and Investment Decisions. Personal Finance Management can be defined as the series of steps that an individual, family, or business unit follows to know their current financial position and make various financial decisions to reach a desired financial position. Personal Financial Management includes financial planning, income generation, spending, saving, investment, and protection of financial resources (Schuchardt et. al., 2007). The FinTech industry has developed various innovative methods for personal management which include various software and mobile applications for financial planning, tax filing and processing, Bookkeeping, Insurance Services, and robot advice. All these software and mobile applications help MSMEs in better financial Management. FinTech makes the Personal Finance Management process simpler and more convenient for MSMEs.

4.3.1 Financial Planning

Financial Planning refers to the process of knowing the current financial position and desired financial position of the financial resources and designing a blueprint to move from the current financial situation to the desired situation. Finance-related decisions are generally irreversible in nature as a huge amount of funds are involved, so proper financial planning is a necessity in every financial decision. FinTech has developed various projection software and other simulation techniques which help in the proper financial planning of firms or individuals.

Financial planning is one of the most important aspects of any business, irrespective of the nature and size of the business. MSMEs also require proper financial planning as the MSME units generally face a shortage of funds so they need to do proper planning before investing & raising the funds (Lestari et al., 2020). FinTech will surely help MSMEs in proper financial planning so that they can get the best out of their limited financial resources.

4.3.2 Tax Filing and Processing

Taxes are one of the most important financial liabilities of any individual or firm operating in any country. Every firm or individual needs to pay a certain amount of their net earnings to the government. In India, there are two types of taxes prevailing - namely Direct Taxes and Indirect Taxes. Before the use of technology, it was very difficult to assess the exact tax liability of an individual or firm. But with the introduction of technology in the taxation system, it has become easy to assess the tax liability of individuals or firms. MSMEs also face a lot of problems in assessing their tax liability and filing Income Tax returns, but with help of FinTech software and mobile applications, MSMEs can easily assess their tax liability and easily get assistance in filling the income tax return. **4.3.3 Book-Keeping:** Bookkeeping refers to the creation and maintenance of all business transactions. In other words, it is a recording of all the monetary transactions of a business which helps in knowing the current financial position and measuring the performance of the business. Proper and efficient Book-keeping is a very crucial work requiring specialized skill and time. The FinTech industry has developed different software which can record business transactions more efficiently and conveniently like the Tally, Dhani App, etc. FinTech has changed the world of Book-keeping with its innovative discoveries. With the help of technology, one can easily maintain their accounts without incurring much expenditure on them.

Book-keeping is also a major challenge for MSMEs, due to improper recording and the nonavailability of proper Book-keeping systems. MSMEs face various problems while raising funds and assessing their tax liability (Atkinson, 2017). FinTech will surely improve the conditions of MSMEs with technology-based bookkeeping systems, which will support MSMEs in properly recording their financial transactions.

4.3.4 Insurance Services

Insurance provides a sense of security to the individual as well as to the business. In today's world of uncertainties, insurance plays a vital role in both personal and business life. The FinTech industry is redefining insurance services globally. From taking the policy to paying premiums to claim compensation everything is changed through FinTech (Lee et al., 2007). Insurance services are now termed *Insurtech* which means insurance through technology. Insurance plays a vital role in the development and smooth operations of MSMEs. With the help of FinTech, the MSMEs can easily take an insurance policy according to the need and financial position of the unit. FinTech makes the whole process simpler and hassle-free.

H3= Digitalization (FinTech) of the Financial Management system is positively affecting the growth of MSMEs

5: Materials and Methods:

5.1 The study emphasizes the role of Financial Technology (FinTech) to expedite the growth of MSMEs in Uttarakhand. The study has been conducted in Uttarakhand. The study samples consist of MSME Business Owners or Senior Executives involved in decision-making related to usage or in the Adoption of Financial Technology in their business models. The Data has been collected through an online questionnaire method which contained question types of Dichotomous, Categorical, and Likert scales.

5.2 Sample

In all, 120 responses were collected, out of which 105 were valid as others were biased or from unengaged respondents. The sample size of the study has also been tested on G*Power with three predictors sample size suggested by G*Power was 119 (Faul et al., 2007).

5.3 Measures

5.3.1 Tools of Analysis:

The data has been collected based on confirmatory factors of Financial Technology i. e. Digital Credit, Digital Financial Management, and Digital Payment to test their impact on the growth of MSMEs. Then, the analysis has been done by developing the Reflective Measurement Model of Partial Least Squares-Structural Equation Modelling under which Measurement and Journal of Data Acquisition and Processing Vol. 38 (1) 2023 1514

Structural Equation have been constructed through SMART PLZ 3.3.3. The techniques of Bootstrapping have been performed to test the accuracy of the Hypotheses. For testing the Predictive Ability of the model Blindfolding and PLS Predict techniques have also been performed. To study the importance of an Exogenous Construct in influencing an Endogenous Construct, IMPA analysis has also been done.

5.4 Demographic Data Analysis.

The Demographic Data shows some general information about the MSMEs and the type of FinTech services they are using. The percentage of Service Industry type is 80%, which is very higher than Manufacturing 20% using FinTech (Financial Technology). As the data have been collected from various types of businesses in this study, in which Health Care sector was leading with 24%, followed by Tour and Travels 20%, Information Technology 17%, General Store 15%, Education and Training 14%. Production 10%. As per the year of establishment of the business, the Less than 5 years old businesses had the highest participation with 36% followed by (5 to 10 Years) 34 %, (10 to 15 Years) 24 %, and (15 and above) 6%. This shows that new starts up are faster in the adoption of Financial Technology in their Business Models.

5.5 Measurement Model Assessment

The first step that comes under the Reflective Measurement Model of Partial Least Squares-Structural Equation modeling is to check the indicators loading. The value of loading above 0.708 (Hair et al., 2013) is considered as recommended value. It indicates that the construct has more than 50 percent explanation power of the indicator's variance, thus it gives acceptable item reliability. The outcomes present in factor loadings in this model are above 0.722 The Second Step is to check the values of the Composite Reliability (CR) (Werts et al., 1978). Higher values indicate a higher level of reliability. The Composite Reliability (CR) values between 0.70 to 0.90 range from 'Satisfactory to Good', however, values above 0.95 create a problem as they indicate items becoming redundant which reduces construct validity (Diamantopoulos et al., 2012). In this model, the highest value of Composite Reliability is 0.938 which comes under the threshold values. Cronbach Alpha values should also be higher than 0.70; however, they should be less than 0.95, which also qualifies in this model. The third step of the Reflective Measurement Model is Convergent validity, which has been verified with an AVE value above 0.50 (Sarstedt et al., 2017) says that constructs explain at least 50 percent of the variance of the items which is above the threshold in case of all the constructs, hence we can prove the convergent validity of this model.

Constructs	Items	Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
	DC-1	0.851			
Digital Credit	DC-2	0.816	0.885	0.916	0.685
	DC-3	0.859			

 Table-1 Convergent Validity Results

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	DC-4	0.784				
	DC-5	0.825				
	DFM-1	0.788			0.562	
	DFM-2	0.731		0.885		
Digital	DFM-3	0.754				
Financial Management	DFM-4	0.722	0.845			
Intitudgement	DFM-5	0.758	1			
	DFM-6	0.744	1			
	DP-1	0.794		0.891	0.621	
	DP-2	0.791				
Digital	DP-3	0.841	0.847			
1 ayment	DP-4	0.752				
	DP-5	0.76				
FinTech for MSMEs Growth	FT-1	0.903			0.834	
	FT-2	0.914	0.901	0.938		
	FT-3	0.923				

The fourth step is in continuation to the Reflective Measurement Model of Partial Least Squares-Structural Equation modeling is Discriminant Validity of the model which has been checked with, **(Henseler et al., 2015)** HTMT (Heterotrait-Monotrait) ratio Table -2 presents the threshold values below 0.85, however it can be acceptable till 0.90.

i usic 2 Discriminant , analty results.								
Heterotrait-Monotrait Ratio (HTMT)								
DigitalDigitalDigitalFinTech forDigitalFinancialDigitalMSMECredit_ManagementPaymentGrowth								
Digital Credit								
Digital Financial Management	0.846							
Digital Payment	0.786	0.817						
FinTech for MSME Growth	0.891	0.815	0.831					

Table-2 Discriminant Validity Results.

5.6 Structure Model Assessment

The assessment of the Structure Model starts by examining the collinearity between the construct values above 5 points toward the multi-collinearity of the construct (Mason &

Perreault, 1991 ; Becker et al., 2015). In the case of this model, all the VIF values are less than 5, which makes the model-free from multi-collinearity which is shown in **Table 3(i)** Outer VIF Values and Table -3(ii) Inner VIF Values. This model has also been tested for explanation power (\mathbb{R}^2) and predictive relevance (\mathbb{Q}^2). The rule of thumb says \mathbb{R}^2 value of 0.25 Weak, 0.50 Moderate, and 0.70 holds Strong explanation power of the model and the threshold values of \mathbb{Q}^2 are 0 Small, 0.25 Medium, and 0.50 large predictive relevance of the PLS-Path Model Hair, J.F (Hair et al., 2019). In this model \mathbb{R}^2 value is 0.719 and \mathbb{Q}^2 is 0.581 which means the model has strong explanation power and large predictive relevance.

Outer VIF Values	VIF
DC-1	2.250
DC-2	2.082
DC-3	2.467
DC-4	1.985
DC-5	2.193
DFM-1	2.150
DFM-2	1.973
DFM-3	2.252
DFM-4	2.052
DFM-5	2.559
DFM-6	2.458
DP-1	1.852
DP-2	1.873
DP-3	2.281
DP-4	1.753
DP-5	1.910
FT-1	2.687
FT-2	2.704
FT-3	3.221

Table-3	(i)Collin	earitv Sta	tistics	(VIF)

Table 3	3(ii)
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Inner VIF Values	Digital Credit	Digital Financial Management	Digital Payment	FinTech for MSME's Growth			
Digital Credit				2.517			
Digital Financial Management				2.569			

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Digital Payment		2.277
FinTech for MSME Growth		

Fig-2 Structural Model



In the context of Structural Path Analysis table-4 shows the values of Beta Coefficient and p-values. Digital Credit ($\beta = 0.501 \text{ p-Value}=0.000^*$) and Digital Payment ($\beta = 0.2740 \text{ p-Value}=.006^*$) have a significant impact on Fintech for MSME'S Growth which means the use of the Digital Credit Digital Payment method is contributing to the overall growth of Micro, Small, and Medium Enterprises. Whereas the Digital Financial Management ($\beta = 0.166$, p-Value =0.079) has an insignificant impact on FinTech for MSME's Growth which means Digital Financial Management is not significantly contributing to the overall growth of MSMEs.

Hypothesis	Relationship	β	P-Value	f2	LLCI (2.5%)	ULCI (97.50%)
H1	Digital Credit -> FinTech forMSME's Growth	0.501	0.000**	0.377	0.292	0.682
H2	Digital Financial Management -> FinTech forMSME's Growth	0.166	0.079	0.045	-0.018	0.356
Н3	Digital Payment -> FinTech forMSME's Growth	0.274	0.006**	0.121	0.074	0.465

Table-4 Hypothesis Testing Results

**Is significant at a 5% level of significance (Two-tail test)

The Blindfolding technique has been applied to examine the predictive power of the model the results show (Q2=0.581) the strong predictive relevance in FinTech for MSMEs' Growth (Shmueli et al., 2016).

Predictive relevance has also been analyzed by using the PLS predict with 10 folds and seven repetitions, this process helps in analyzing the predictive power of the Endogenous Construct with the support of indicators in the reflective measurement model **Table 5** shows the difference of RMSE values of PLS-SEM and naive benchmark, i.e., the LM model. As all the Q^2 values have been higher than zero and RMSE of the PLS-SEM model has been less, i.e., It means this model generates lower errors for all the indications; hence this model has predictive relevance. Thus, this model can be applied to predict FinTech for MSME's growth adequately well (Shmueli et al., 2019).

PLS SEM				
	RMSE	MAE	MAPE	Q ² _predict
FT-2	1.213	0.923	29.086	0.534
FT-3	0.958	0.722	19.999	0.641
FT-1	1.345	0.978	37.021	0.509
		LMS	SEM	
	RMSE	MAE	MAPE	Q ² _predict
FT-2	1.343	0.987	32.215	0.428
FT-3	1.027	0.808	20.9	0.588
FT-1	1.451	1.08	40.722	0.429

Table-5 I	PLS Predict
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5.7 IPMA ANALYSIS

The IPMA acronym stands for Importance-Performance map analysis which integrates the PLS-SEM estimates, it shows the importance of an exogenous Construct in influencing endogenous construct (**Streukens et al., 2017**). IPMA comprises the Exogenous Construct's performance along with an additional dimension in a two-dimensional map. The IPMA map has four quadrants, 1st, 2nd, 3rd, and 4th. IPMA results astutely define the problem and assist in Management Decision-Making. In this model, IPMA results in our Exogenous Construct come in (Digital Credit) Ist Quadrant, (Digital Financial Management) IInd Quadrant, and (Digital Payment) also in <u>IInd Quadrant</u>.

According to **Fig-2**, Ist Quadrant is the best as the importance and its performance both are high and indicative of "**Keep up the Good Work**", so Digital Credit Construct has been considered as the best Exogenous Construct in our research, and another two Exogenous Constructs -Digital Financial Management and Digital Payment come under IInd Quadrant says High Importance but Low Performance which indicate "**Concentrate here**" which means MSMEs should emphasize upon these two Constructs for the better performance because it is highly important for the growth of MSMEs. We don't have any Exogenous Construct in the 3rd and 4thquadrant which indicate "Low Priority" and "Possible Overkill", which pleads for more efforts in terms of improvement.



Fig -3 IPMA Analysis Results

FIG-4 IMPORTANCE VS. PERFORMANCE MATRIX

6. Findings:

This research examines and shows the significant role of key confirmatory factors of FinancialTechnology i.e. Digital Credit, Digital Payment, and Digital Financial Management identified through the study of literature which contributes to the overall growth of Micro, Small, and Medium Enterprises from the hill state of India, Uttarakhand. The elaborative study Journal of Data Acquisition and Processing Vol. 38 (1) 2023 1520

of sub-factors of Fin-Tech i.e., 'Digital Credit', 'Digital Payment', and 'Digital Financial Management' have not yet been focused on in the previous studies.

The First factor of FinTech, **'Digital Credit'** covers the role of Credit in Micro, Small, and Medium Enterprises, it seems that FinTech has made it easy through digital Peer-to-Peer lending, Crowdfunding, and Financial Credit Rating methods for Micro, Small, and Medium Enterprises for faster access of funds to meeting business obligations and better financial decision-making related to businesses.

The second-factor **Digital Payment'** shows its higher usage of various payment modes like PPI Prepaid Payment Instruments, E-Wallet, and Point-of-Sale in Micro, Small, and Medium Enterprises which are becoming the most preferred mode of payment and avoiding delays in payment to handle issues related to payment in businesses.

Although the third factor of FinTech, **'Digital Financial Management'** fails to prove its significance in the growth of Micro, Small, and Medium Enterprises in hypothesis testing, However, the results of IPMA analysis shows that Micro, Small, and Medium Enterprises have to "Concentrate here" and they have to focus on this factor. They needed more training through expert assistance for the adoption of Digital Financial Management i.e. (Financial Planning, Tax Filing and Processing, Bookkeeping, and Insurance Services) as these financial activities are not easy enough to understand or can be operated with simple directors like digital financial activities involved in other two factors. It also observed that these services needed more training from the experts in the case of Micro, Small, and Medium Enterprises to use them on the digital platform.

7: Conclusion:

The advancement of technology is giving a boost to Financial Technology (FinTech) which has a greater impact on the growth of not only Large Businesses but Micro Small and Medium Enterprises that are also witnessing it. Digital Credit like Peer-to-Peer funding, Crowdfunding, or Credit Scoring platforms makes it easy for businesses to avail of better Credit facilities for the smooth functioning of businesses. Digitalization of Payment systems PPI (Prepaid Payment Instruments), E-wallet, and POS (Point of Sale) has also made it easy for businesses to avail of a better Business Payment System. Digital Financial Management assists in managing Tax Filing, Book Keeping, and Insurance more efficiently in comparison to the Traditional ways of doing it. The proposed conceptual model shows that technology is going to be a huge support system for the growth of small businesses as well.

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