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FINTECH – A Promising Paradigm For Financial Decisions

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Abstract - The advent of technology has made human life much more comfortable and easier in all respects. Technology is an inseparable part of our daily life. It plays a vital role in all areas of human life such as education, health, business, industry, research etc. Technology is almost everywhere, say, in food, travelling, shopping, tourism, office, home security, communication, data storage banking and finance. The twenty-first century is the "*era of information technology".* A lot of information explosion and exposure occur day by day. Diverse variety of technology and inventions add to our creativity, curiosity, critical thinking behavior and problem solving capabilities.

In business field, machine learning and artificial intelligence based decision support system, expert system, predictive business intelligence tool and cloud computing are the emerging techniques used to conduct and manage the business. These financial technology tools can be applied in decision making in the financial matters of business. Financial technology helps companies to manage their financial aspects more easily and quickly. For this, they use sophisticated finance software applications and business models. This study helps to analyze what is the role of finance information system and how they apply in finance decisions of a business undertaking.

Keywords: finance software, business models, artificial intelligence, finance information system, finance decision.

INTRODUCTION

Technology has grown exponentially over the past few decades, especially with the development of internet and smart phone. Corporate and government organizations recently give more importance to incorporating a digital culture in their operations and procedures. Fintech is a technology to improve and automate the delivery of financial services. It is the innovative technology in the financial sector to enhance wealth management and investment education. It is computer based technology for financial decisions in personal as well as commercial finance.

According to EY's 2017 Fintech Adoption Index, one-third of consumers utilize at least two or more fintech services and those consumers are also increasingly aware of fintech as a part of their daily lives. According to Accenture (2016), global investment in fintech ventures in the first quarter of 2016 reached $5.3 billion, a 67% increase over the same period the previous year, and the percentage of investments going to fintech companies in Europe and Asia-Pacific nearly doubled to 62%.

Financial technology is concerned with building systems that model, value and process financial products such as bonds, stocks, contracts and money. (Freedman, Roy S, 2006 pg 1). It is concerned with a wide variety of financial activities such as money transfer, digital deposit, loan application through smart phone, managing investments portfolio etc. It is a new type of financial service industry with a combination of information technology and financial services.

STATEMENT OF THE PROBLEM

This research is proposed to study on role of the financial technology in financial decisions. In this study, the researcher analyzes the fintech tools and business models and their practical implications in both personal and commercial financial decision making. The study highlights the changed culture in financial decisions in today's IT enabled business world.

SCOPE OF THE STUDY

The study covers an analytical review on financial technology tools and its implications in the area of both business and personal finance decisions. The growth of investment in fintch has been phenomenal and now it has a major role in electronic finance (e-finance). In business, time and information are more precious resources than any other resources. Information intensive and time sensitive decisions can be taken by the application of fintech tools. In a country like India, the advancement of information technology and the allied sector makes more opportunities in the development and implementation of financial technology.

The study is relevant because, it is a fast changing segment of IT sector and wide range of innovations occurs in this area. Here, this study attempts to bring the relevance of financial technology in business and in personal life. This study sheds more light in to the areas where an investor can apply these tools in his financial decisions.

OBJECIVES OF THE STUDY

- To make a theoretical overview on financial decision making process.
- To examine the major Fintech business models.
- To study the role of Fintech tools in financial decision making.
- To identify the business areas where Fintech tools applied.

DATA USED FOR THE STUDY

The study is mainly concerned with secondary data. Data are collected from research papers, books of references, standard publications, published reports of the reputed institutions, periodicals, internet etc.

CONCEPT OF FINANCIAL DECISION

In general sense, decision making is a mental process, which involves selecting a better option from among the alternatives. In other words, it is the selection of most preferred alternative on a judgment based on the available information. Decision making may be through rationality model or bounded rationality model. In rationality model, all related information should be collected for efficient decision making, but in the case of bounded rationality model, the information available by the decision maker within his reach is considered. The output of the process is always an action or an opinion of choice.

There are primarily two decisions, i.e. human decision making and machine decision making. Human decision making is a part of cognitive behavior and machine decision making is related with artificial intelligence.

Decision making involves certain steps such as

- Identification of decision problem
- Collection and verification of related information
- Identification of decision alternatives
- Anticipation of decision consequences
- Selection of better alternative (making decision)
- Communication of decision to the concerned parties
- Implementing the selected alternative
- Evaluation of the consequences of the decision

FINANCIAL INFORMATION SYSTEM

Financial Information System (FIS) is an information system for generating information for financial decision making. Financial statements such as profit and loss account, balance sheet are the major inputs for FIS to make information as output. Debt to equity, current asset to current liability, sales, inventory, receivables, payables and the like are the inputs used to predict future profitability, dividend and overall the financial performance of business.

Financial management function has two objectives. The first one is to meet the financial needs of the business for short term and long term and the second is to meet the statutory or legal compliance in connection with financial declarations to Government and Tax authorities. An Accounting and Financial Information System is packaged software to manage the various tools and techniques of accounting such as Break Even Analysis, Cost Analysis, Capital Budgeting, Financial Modeling, Ratio Analysis, Fund Flow Projections and Expense Analysis. Application of fintech software in these areas helps a manager to make better decision in financial management.

Application of FIS in Financial Decision

- To know the position of the firm by applying different ratio analysis such as liquidity ratio, profitability ratio, turnover ratio etc.
- To make investment decisions by comparing different project alternatives at different risk level by applying financial tools like NPV, IRR, Payback period calculation etc.
- To make clear understanding about the time value of money. Schedule for repayment of loan, acquisition of new machinery and technology, comparison of different investment options, leasing decision are the implications for the time value analysis of money.
- To calculate manufacturing cost through costing methods and techniques
- To prepare financial budgets
- To make decision on investment of surplus funds
- To maintain a good supplier relation and customer relation
- To ensure an overall control on financial resources in an efficient and effective manner.

Classification of financial decisions

On the basis of nature of decision, it is classified as:

- **Structured decisions:** here, all the financial inputs, procedures and processes are well defined and thus can be programmed with sophisticated software language. The phases of decision making process have standardized procedures. Specified inputs and clear objectives are also there. Day to day business transactions like sale bill preparation, discount calculation, automatic setting of reorder level etc are examples for structured financial decisions. There is no need of application of high level cognition so it can be left to a clerk or a computer system.

- **Semi structured decisions:** it is the decision with a combination of standardized procedures with personal judgment. Here the decision has some structured element but cannot be completely structured. Majority of decisions are in this type and the decision maker uses his cognitive power with structured software package to make an effective financial decision.
- **Unstructured decisions:** here, all the decision phases are unstructured, so the human intuition has the vital role in this area of financial decisions. This is because the decision may be new, rare or complex in nature and cannot study completely. A low level indirect support can only be avail by the computer software to the decision maker.

On the basis of level of management, decisions can be classified as:

- **Strategic financial decisions:** it is the organizational decision for long period of time and it is done by top level management authority. Majority of strategic decisions are one time in nature. It involves the element of high risk and uncertainty. Decision about introducing new product, entering in to new market, decision about long term capital expenditure and capital mix, decision in connection with financial reconstruction, amalgamation, long term tie up with a value chain, forecasting of long range fund requirements, calculation of IRR and NPV of a proposed project etc are the examples for strategic decisions.
- **Tactical finance decisions:** it is made by the department level finance manager for a limited period of time on the context of strategic decisions. It involves the efficient acquisition and use of financial resources to fulfill the departmental goal. Departmental budgeting, decision on working capital requirements, decisions on product life cycle and pricing strategy, framing the rules and regulations on tenders and quotations are the examples for tactical decisions.
- **Operational finance decisions:** these are the decisions for very short period of time and recurring in nature. These decisions can be taken by lower level personnel. Most of the decisions are programmed with computer software. Decision on debt collection and track of accounts, inflow and out flow of funds, cash/trade discount, approval of orders and decision on liquidity positions are the examples for operational decisions.

COMPUTATIONAL SUPPORT FOR FINANCIAL PLANNING AND DECISION MAKING

Computational support can be applied in financial decisions in the following manner

- Statistical analysis of past data to obtain future projections by using time series analysis, auto correlation analysis, data description and dispersion analysis
- Financial analysis such as depreciation computation, rate of return analysis etc to measuring and evaluating the financial performance and profitability
- Break Even Analysis helps to decide cost and price of a product
- Return on Investment Analysis for selecting a better investment from among alternative choice
- Trend Analysis helps for making buying and selling decisions on a particular stock or commodity
- Analysis on current and fixed asset for deciding alternate use of available resources
- Receivable overdue analysis for commercial and legal actions.

APPLICATION OF FINTECH TOOLS

Advent of mobile phone technology, big data management, cloud computing, complicated and accurate analytics and increased information makes more opportunities to financial technology. At the same time, artificial intelligence (AI) plays a vital role and makes a significant impact in the development of financial sector. Financial software use artificial intelligence for better decision making without much human errors. AI based software also create a platform for better user interaction. IoT (Internet of Things) is an advanced automation and analytics system composing of networking, sensing, big data, and artificial intelligence technology. IoT makes greater transparency, control, and performance in data collection, automation, operations, and much more through smart devices and powerful enabling technology. IoT assist a decision maker to make his finance decision more efficiently and effectively. The various types of fintech business models are briefly explained below

Asset Management/Retail Investment Management

It is the management of financial instruments and other commodities on behalf of the client by a financial institution. Here the institution act as an agent/broker or serve as an intermediary. Scientific revision and evaluation is provided by the institution to the investor. This financial service can be effectively done by applying financial technology. The financial adviser can help the investor to construct and manage his optimal investment portfolio with sophisticated software. The investor can communicate with his financial advisor by using the digital platform. It makes the buying and selling of financial instruments more efficient. Robo services automate the wealth management of the investor.

Money Management and Payments

Money management is vital both in the personal and business context. This software can be installed in small digital devices which will be helpful to the employees and managers to reimburse their expenses from the business. Money management software is helpful to individual to prepare his personal and family budgets. There are lot of software programs developed by multinational software companies and startup firms to manage and control money. These are adopted and popularized by banks and other financial institutions to build a good relation with their customers. It is not only a tool for Customer Relationship Management, but also it reduces the complexity and heavy burden of the daily work. On the side of customer, it is an effective tool for managing their cash (Pay Pal, M Pesa). They can avail these services through mobile phones, laptops, ATM counters and even through social media.

Crowd Funding

It is one of the promising and innovative software platform for raising capital, finance or money for a project from the mass through internet technology. It is a web based open platform for raising fund and making interaction among the fund raiser and the crowd.

There are different types of crowd funding models

- Crowd Funding – debt or equity based instruments
- Crowd Lending – an individual or company seek fund in the form of loan agreement
- Invoice Trading Crowd Funding - enable companies or individuals to sell their unpaid invoices or receivables to the investors.
- Reward Based Crowd Funding - investors may receive returns for their investments as goods or services.
- Donation Based Crowd Funding – Receiving donation from public without receiving any return

Crypto currency and Digital Cash

Crypto currency is the encrypted digital currency like Bitcoin. It is a peer to peer payment network based on complex cryptographic codes. Blockchain is the underlying distributed ledger technology which facilitates a value-exchange protocol allowing computer networks to communicate with each other and can be visualized as a single database running on millions of computers simultaneously in a peer-to-peer network. Bitcoin software is the free software application working under the platform of P2P protocol. Software is available and it can be installed in Windows, Linux, Blackberry and Android platforms. Now days, the central bank has no control over crypto currency, because it is not issued by bank, but it is issued by the digital network itself.

Robo Advisor and Capital Market

There are various computer trading programs for providing information on stock and stock market movements. There is an online platform among the investors for buying and selling the financial instruments and sharing market information. It often makes easy and ready market to financial instruments. These programs are very much helpful to investors and trading firms to analyze the market data. Robo advisor is an algorithm based online automated portfolio management tool for choosing the better investment alternatives by considering risk tolerance and time horizon. It helps an investor to optimize his investment with low cost. Betterment, wealth simple, Ellevest, SoFI Wealth etc are the best examples for robo advisor software.

CONCLUSION

Fintech tools are guiding and evaluating the financial performance and operational efficiency. By applying these tools, an investor can makes more revenue, growth, profitability and return on investment. This computer based interactive software program is used in financial decision models for solving the financial problems in the organization. Fintech tools provides relevant information to the decision maker to improve the decision making process. The next decade of business relies on artificial intelligence, big data, cloud computing, robotics and block chain technology.

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