

Impact of Digitalization in Finance & Accounting

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Abstract

In this paper I, mainly focused on impact of digitalization in finance and accounting firms. Over the few decades digital financing has increased by avoiding the challenges of the economic development. Businessmen are now able to increase their skill-set by use of technology. Technological revolutions have occurred for markets and industries since the rise of organized communities and societies. In the past few years a technological revolution has been in process with the growth of digitalized markets. This has resulted in a shift of analog business becoming digitalized. Digitization is a structural change for industries and the economy is affected by it. This put a demand on many industries to adapt digitalized techniques, in order to stay competitive and survive this technical shift. Adapting to a technical revolution puts pressure on the business strategies and requires companies to model new ones. With the digitalization, new requirements have arisen for companies to create new business models, value chains and ways of organizing activities, in order to manage the business strategies. Digitalization has been seen to change innovation processes and some experts believe it will change whole markets. The accounting industry is one of the industries that has been seen to have a growth in digitalization and is expected to grow even more. The accounting industry is like many other industries are experiencing the need for a change due to digital technologies. Therefore, this study aims to investigate how digital accounting businesses could set up a general business model, in order to be a successfully digitalized business. The discovery of digitalization has transformed the financial industry and how business deals are transacted. It is possible for accountants to keep large amounts of data, conduct complicated calculations and manage financial transactions all from a computer. Information technology today enables global economic capabilities that were impossible only a few decades ago, and digitalization now influence both business as well as personal financial management. The findings of the research indicate that digitalization had a direct affect on how companies should strategically organize a business. Many of the implications on digitalized finance and accounting will have direct impact on strategies, actions and processes. The digitalization will require company cultures, which are digitalization friendly. Some of the found results are: digitalization will give accounting companies the digital accounting tools, knowledge sharing and communication channels. It will put pressure on employees for having different knowledge than analogue businesses and more expertise skills. Digitalization is estimated to affect the offerings provided to customers. The digitalization is also most likely to have key partners, targeted customer segment, cost structure and revenue streams specific for being digitalized.

Keywords: *Finance, Accounting, Digitalization of Finance & Accounting, Business model tools.*

I. Introduction

Digitalization

Digitalization is a structural change for industries and the main effects of digitalization can be seen as four channels that change: physical goods become digital services; digital platforms are simplified and optimized; local services goes global; and digitalization streamlines traditional production. Research by Breman and Fellander (2014) shows that many jobs are at risk of being digitalized within a period of twenty years. This will change the markets drastically and requires companies to integrate innovational solutions and an entrepreneurial mindset in order to adapt. Many companies are trying to use digitalization in their businesses and it is seen to be more companies to follow these actions, but most industries and their market actors are in general not using digitalization to its full potential.

E-governance initiatives in India took a broader dimension in the mid 1990s for wider sectoral applications with emphasis on citizen-centric services. The major ICT initiatives of the Government included, inter alia, some major projects such as railway computerization, land record computerization, etc. which focused mainly on the development of information systems. Later on, many states started ambitious individual e-governance projects aimed at providing electronic services to citizens.

Though these e-governance projects were citizen-centric, they could make less than the desired impact due to their limited features. The isolated and less interactive systems revealed major gaps that were uncomfortable the successful adoption of e-governance along the entire spectrum of governance. They clearly pointed towards the need for a more comprehensive planning and implementation for the infrastructure required to be put in place, interoperability issues to be addressed, etc. to establish a more connected government.

Approach and Methodology for Digital India Programme are

1. Ministries / Departments / States would fully leverage the Common and Support ICT Infrastructure established by GoI. DeitY would also evolve/ lay down standards and policy guidelines, provide technical and handholding support, undertake capacity building, R&D, etc.
2. The existing/ ongoing e-Governance initiatives would be suitably revamped to align them with the principles of Digital India. Scope enhancement, Process Reengineering, use of integrated & interoperable systems and deployment of emerging technologies like cloud and mobile would be undertaken to enhance the delivery of Government services to citizens.
3. States would be given flexibility to identify for inclusion additional state-specific projects, which are relevant for their socio-economic needs.
4. e- Governance would be promoted through a centralised initiative to the extent necessary, to ensure citizen centric service orientation, interoperability of various e Governance applications and optimal utilisation of ICT infrastructure/ resources, while adopting a decentralised implementation model.
5. Successes would be identified and their replication promoted proactively with the required production and customization wherever needed.
6. Public Private Partnerships would be preferred wherever feasible to implement e-Governance projects with adequate management and strategic control.
7. Adoption of Unique ID would be promoted to facilitate identification, authentication and delivery of benefits.
8. Restructuring of NIC would be undertaken to strengthen the IT support to all government Departments at Centre and State levels.
9. The positions of Chief Information Officers (CIO) would be created in at least 10 key Ministries so that various e-Governance projects could be designed, developed and implemented faster. CIO positions will be at Additional Secretary/Joint Secretary level with over-riding powers on IT in the respective Ministry.

Finance

Finance is a field that is concerned with the allocation (investment) of assets and liabilities over space and time, often under conditions of risk or uncertainty. Finance can also be defined as the science of money management. Market participants in the market aim to price assets based on their risk level, fundamental value, and their expected rate of return. Finance can be broken into three sub-categories: public finance, corporate finance and personal finance. If we trace the origin of finance, there is evidence to prove that it is as old as human life on earth. The word finance was originally a French word. In the 18th century, it was adapted by English speaking communities to mean "the management of money." Since then, it has found a permanent place in the English dictionary. Today, finance is not merely a word else has emerged into an academic discipline of greater significance. Finance is now organized as a branch of Economics. Hence, Finance has now become an organic function and always together part of our day-to-day lives. Today, it has become a word which we often run on our daily basis.

Financial Theories

Financial Economics

Financial economics is the branch of economics studying the interrelation of financial variables, such as prices, interest rates and shares, as opposed to goods and services. Financial economics concentrates on influences of real economic variables on financial ones, in difference to pure finance. It centers on managing risk in the context of the financial markets, and the secondary economic and financial models. It essentially explores how rational investors would apply risk and return to the problem of an investment policy. Here, the twin assumptions of rationality and market efficiency lead to modern portfolio theory (the CAPM) for option valuation; it further studies phenomena and models where these assumptions do not hold, or are extended. "Financial Economics", also considers Investment under "certainty" (Fisher Separation Theorem, "theory of Investment Value", Modigliani–Miller Theorem) and also contributes to corporate finance theory. Financial econometrics is the branch of financial economics that uses econometric techniques to parameterize the relationships suggested.

Financial Mathematics

Financial mathematics is a field of applied mathematics, concerned with financial markets. The subject has a close relationship with the discipline of financial economics, which is concerned with much of the underlying theory that is involved in financial mathematics. Generally, mathematical finance will derive, and extend, the mathematical or numerical models suggested by financial economics. In terms of practice, mathematical finance also overlaps heavily with the field of computational finance (also known as Financial Engineering). Arguably, these are largely synonymous, although the latter focuses on application, while the

former focuses on modeling and derivation (see: Quantitative analyst). The field is largely focused on the modeling of derivatives, although other important subfields include insurance mathematics and quantitative portfolio problems.

Experimental Finance

Experimental finance aims to establish different market settings and environments to observe experimentally and provide a lens through which science can analyze agents' behavior and the resulting characteristics of trading flows, information diffusion and aggregation, price setting mechanisms, and returns processes. Researchers in experimental finance can study to what extent existing financial economics theory makes valid predictions and therefore prove them, and attempt to discover new principles on which such theory can be extended and be applied to future financial decisions. Research may proceed by conducting trading simulations or by establishing and studying the behavior, and the way that these people act or react, of people in artificial competitive market-like settings.

Behavioral Finance

Behavioral finance studies how the psychology of investors or managers affects financial decisions and markets when making a decision that can impact either negatively or positively on one of their areas. Behavioral finance has grown over the last few decades to become central and very important to finance.

Behavioral finance includes such topics as:

1. Empirical studies that demonstrate significant deviations from classical theories.
2. Models of how psychology affects and impacts trading and prices
3. Forecasting based on these methods.
4. Studies of experimental asset markets and use of models to forecast experiments.

Areas of Finance

Personal finance
Corporate finance
Public finance

Personal Finance

Personal finance may involve paying for education, financing durable goods such as real estate and cars, buying insurance, e.g. health and property insurance, investing and saving for retirement. Personal finance may also involve paying for a loan, or debt obligations. The six key areas of personal financial planning, as suggested by the Financial Planning Standards Board, are:

1. Financial Position: is concerned with understanding the personal resources available by examining net worth and household cash flows. Net worth is a person's balance sheet, calculated by adding up all assets under that person's control, minus all liabilities of the household, at one point in time. Household cash flows total up all from the expected sources of income within a year, minus all expected expenses within the same year. From this analysis, the financial planner can determine to what degree and in what time the personal goals can be accomplished.

2. Adequate Protection: the analysis of how to protect a household from unforeseen risks. These risks can be divided into the following: liability, property, death, disability, health and long term care. Some of these risks may be self-insurable, while most will require the purchase of an insurance contract. Determining how much insurance to get, at the most cost effective terms requires knowledge of the market for personal insurance. Business owners, professionals, athletes and entertainers require specialized insurance professionals to adequately protect themselves. Since insurance also enjoys some tax benefits, utilizing insurance investment products may be a critical piece of the overall investment planning.

3. Tax Planning: typically the income tax is the single largest expense in a household. Managing taxes is not a question of if you will pay taxes, but when and how much. Government gives many incentives in the

4. Investment and Accumulation Goals

Planning how to accumulate enough money – for large purchases and life events – is what most people consider to be financial planning. Major reasons to accumulate assets include purchasing a house or car, starting a business, paying for education expenses, and saving for retirement. Achieving these goals requires projecting what they will cost, and when you need to withdraw funds that will be necessary to be able to achieve these goals. A major risk to the household in achieving their accumulation goal is the rate of price increases over time, or inflation. Using net present value calculators, the financial planner will suggest a combination of asset allocate and regular savings to be invested in a variety of investments. In order to overcome the rate of inflation, the investment portfolio has to get a higher rate of return, which typically will subject the portfolio to a number

of risks. Managing these portfolio risks is most often accomplished using asset allocation, which seeks to diversify investment risk and opportunity.

This asset allocation will prescribe a percentage allocation to be invested in stocks (either preferred stock or common stock), bonds (for example mutual bonds or government bonds, or corporate bonds), cash and alternative investments. The allocation should also take into consideration the personal risk profile of every investor, since risk attitudes vary from person to person form of tax deductions and credits, which can be used to reduce the lifetime tax burden. Most modern governments use a progressive tax. Typically, as one's income grows, a higher marginal rate of tax must be paid. Understanding how to take advantage of the myriad tax breaks when planning one's personal finances can make a significant impact in which it can later save you money in the long term.

5. Retirement Planning is the process of understanding how much it costs to live at retirement and coming up with a plan to distribute assets to meet any income deficit.

Methods for retirement plans include taking advantage of government allowed structures to manage tax liability including: individual structures, or employer sponsored retirement plans, annuities and life insurance products.

6. Estate Planning involves planning for the disposition of one's assets after death. Typically, there is a tax due to the state or federal government at one's death. Avoiding these taxes means that more of one's assets will be distributed to one's heirs. One can leave one's assets to family, friends or charitable groups.

Corporate Finance

Corporate finance deals with the sources funding and the capital structure of corporations, the actions that managers take to increase the value of the firm to the shareholders, and the tools and analysis used to allocate financial resources. Although it is in principle different from managerial finance which studies the financial management of all firms, rather than corporations alone, the main concepts in the study of corporate finance are applicable to the financial problems of all kinds of firms. Corporate finance generally involves balancing risk and profitability, while attempting to maximize an entity's assets, net incoming cash flow and the value of its stock, and generally entails three primary areas of capital resource allocation. In the first, "capital budgeting", management must choose which "projects" (if any) to undertake. The discipline of capital budgeting may employ standard business valuation techniques or even extend to real options valuation. The second, "sources of capital" relates to how these investments are to be funded: investment capital can be provided through different sources, such as by shareholders, in the form of equity (privately or via an initial public offering), creditors, often in the form of bonds, and the firm's operations (cash flow). Short-term funding or working capital is mostly provided by banks extending a line of credit. The balance between these elements forms the company's capital structure. The third, "the dividend policy", requires management to determine whether any inappropriate profit (excess cash) is to be retained for future investment / operational requirements, or instead to be distributed to shareholders, and if so, in what form. Short term financial management is often termed "working capital management", and relates to cash-, inventory- and debtors management.

Public Finance

Public finance describes finance as related to sovereign states and sub-national entities (states/provinces, counties, municipalities, etc.) and related public entities (*e.g. school districts*) or agencies. It usually encompasses a long-term strategic perspective regarding investment decisions that affect public entities. These long-term strategic periods usually encompass five or more years. Public finance is primarily concerned with:

- Identification of required expenditure of a public sector entity
- Source(s) of that entity's revenue
- The budgeting process
- Debt issuance (municipal bonds) for public works projects

Central banks, such as the Federal Reserve System banks in the United States and Bank of England in the United Kingdom, are strong players in public finance, acting as lenders of last resort as well as strong influences on monetary and credit conditions in the economy.

Digital Finance

The digital transformation that has upended industries from retail and media to transport and business-to-business commerce is now sweeping the financial services industry. This was inevitable, as ubiquitous computing power, pervasive connectivity, mass data storage, and advanced analytical tools can easily and efficiently be applied to financial services. After all, money was already extensively (though not exclusively) created, used, stored, processed, and delivered electronically. Technology has transformed business-to-business and within business interactions, too, enabling reconfiguration of design, production, marketing, delivery, and service functions through distributed supply chains, freelance design, outsourced manufacturing, and contract

warehousing and delivery. These reconfigurations are mediated by online marketplaces and distributors, and assisted by back-end support operations and data analysis that together drive better risk assessment, faster fulfillment and more efficient customer service.

Fintech

Fintech, the abbreviation for financial technology, is a broad category that refers to the innovative use of technology in the design and delivery of financial services and products. The application of fintech cuts across multiple business segments, including lending, advice, investment management and payments. Many fintech companies harness mobile technologies, big data and superior analytics to tailor products for various customer segments. Banks are of course major users of technology; however, fintech puts technology at the heart of the financial services offering, fundamentally changing the way in which companies interact with their customers. This proliferation of fintech has had a number of positive impacts for society, including increased competition, a reduction in prices paid by customers and wider access to financial services among the traditionally underserved. And the evolution of fintech has only just begun.

Who is Active in Fintech?

Both start-ups and traditional finance companies are active in fintech. These start-ups don't look like a traditional bank or insurance company: they typically offer targeted solutions, as opposed to being one-stop-shops for customer financial service needs.

Many of these companies are based in tech hubs such as San Francisco, London, New York, Tel Aviv, Singapore and Berlin, and draw on a workforce comprised of traditionally "non-financial" specializations, such as computer science, engineering or IT.

Examples of fintech companies include Transfer wise, an international money transfer provider; Lend do, an alternative credit scoring service that leverages social media; and Ripple, an emerging payments network that leverages distributed ledger technology.

Digital Ecosystem

Enablers of the Ecosystem

- Number of mobile consumers: 1.15 Billion (December 2016)
- Number of Aadhaar cards: 1.12 Billion
- Numbers linked to Aadhaar: 399 Million (35% of those with Aadhaar cards)
- Number of bank accounts under PMJDY: 29.04 Crore

Digital Public Financing

- National Financial Switch: 101 member banks and 2.3 Lakh ATMs
- Immediate Payment Service: 160 Member banks
- National Unified USSD Platform: 51 live banks
- Aadhaar Payment Bridge System: 925 banks
- Aadhaar Enabled Payment System: 131 Banks
- E-KYC Live entities: 101

Accounting

Accounting is a service activity and its function is to provide quantitative information, primarily financial in nature, about economic entities, that is intended to be useful in making economic decisions, in making reasoned choices among alternative courses of action. It means that accounting collects financial information for various users for making decisions and tackling business issues. Accounting in itself cannot create wealth though, if it produces information which is useful to others, it may assist in wealth creation and maintenance. Accounting is referred the "language of business". It means of reporting and communicating information about a business. As one has to learn a new language to converse and communicate, so also accounting is to be learned and practiced to communicate business events. A language and accounting have common features as regards rules and symbols. Both are based and propounded on fundamental rules and symbols. The expression, exhibition and presentation of accounting data such as a numerals and words and debit and credit are accepted as symbols which are unique to the discipline of accounting.

Digital Accounting

Digital Accounting refers to digits or numbers; however, in the computer science lexicon this term refers to the representation of information in 0s and 1s, which can be read, written and stored using machines.

The prefix “e” refers to electronic, meaning use of electricity in powering machines such as computers. Digital accounting, or e-accounting, as a corresponding analog, refers to the representation of accounting information in the digital format, which then can be electronically manipulated and transmitted.

Digital accounting does not have a standard definition but merely refers to the changes in accounting due to computing and networking technologies. Accounting, the art and science of measuring business performance, has evolved with business, more so with information technology. Punch cards and mainframes, databases and data warehouses, personal computers and productivity software, specialized accounting software and Enterprise Resource Planning (ERP) systems, Local Area Networks (LANs) and Wide Area Networks (WANs), among other things, have left their mark on accounting theory and practice. For example, data-entry mechanisms, data storage and processing mechanisms, end reports, internal controls, audit trails and skill sets for accountants have been in continual flux for the past several decades.

II. Conclusion

The purpose of this study was to investigate how business models for digitalized accounting firms’ look like and present how a business model generally could be set up, in order to be successfully digital. The goal has been to provide an understanding to how digital accounting businesses make business decisions in order to survive the market changes.

One main conclusion is that digitalization had a direct affect on how the company should strategically set up and works in their business. In general, the following conclusions may be drawn. To conclude, digitalization is most likely to affect a business whole business model and their business structure. Digitalization means for the accounting business affects on al of the aspects of the businesses e.g. the key activities, value proposition, customer relationship, key partners, distribution channels, revenue streams, cost structure, key resources and customer relationship.

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