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Mobile Business Intelligence Solution for A Chai-Startup Startup: Case Study

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Abstract:

Mobile Business Intelligence (MBI) is defined as "a system including both technical and organizational elements that present historical and/or real-time information to its users for analysis on mobile devices such as smartphones and tablets, to aid effective decision-making and management support, for the overall purpose of increasing firm performance". Lately, Increased use of mobiles or smartphones lately with the advent of high-speed internet via. 4G, 5G has prompted many businesses to use mobile devices as a platform for quick decision-making. It facilitates the online integration of mobile data so that users get real-time data access directly from the device. Over the decades MBI has become a core strategy for the growth of many small, medium and large corporations in India. However, recent growth of startups in India lags behind in the implementation and exploitation of MBI solutions. The Mobile Business Intelligence Market is expected to register a CAGR of 22.43% over the forecast period 2021 to 2026. The growth in the adoption of mobile BI by large enterprises in the Banking, Financial services and Insurance sector (BFSI sector) can be attributed to numerous factors, viz. the growing adoption of data analytics, an increase in mobile data generation, proliferation of mobile devices and apps, and the improved efficiency of BI tools. Chai startups have mushroomed in India lately as it is the most consumed beverage after water, according to the Food and Agricultural Organization of the United Nations, has a very progressive market in India and across the globe. To counter competition, Chai startups must be able to monitor and effectively use all of their resources, in particular information resources, to assist them in making vital strategic business decisions. This paper highlights the challenges for Chai-startup such as lack of strategic planning, technical expertise and limited budget when implementing a Mobile BI solution within its operations in Miraj city. This paper highlights how these challenges can be overcome through applying various BI tools and strategies and their probable paybacks.

Keywords: Mobile Business Intelligence (MBI), Business Intelligence (BI), Chai-startup.

1. Introduction

A part of the Startup India campaign, an initiative of the Government of India, was announced by India's prime minister on 15 August 2015. Its goal was to catalyze India's startup culture and construct a strong and inclusive ecosystem for innovation and entrepreneurship. Startup

India initiative has implemented several programs to support entrepreneurs and turn India into a country of job creators instead of job seekers. Currently, Startups and the entire technology ecosystem being the engines of growth has an positive impact on the Indian innovation and entrepreneurship ecosystem as the total number of documented startups in India rose from 471 in 2016 to 72,993 as on 30th June 2022, helped by proactive government interventions, Minister of State for Commerce and Industry.

During the development phases, these startups generated large quantities of internal and external data. It is essential for business decision-making that large, unrelated, volumes of data to be efficiently managed, accessed, and analyzed, otherwise, important business possibilities may be missed. India is positioned second in the world in terms smartphone usage of with over 647.53 Million over a population of 1.42 billion. With the penetration of 5G spectrum the total number of smartphone shipments in 2023 is expected to reach 175 million. This beneficial climate of smartphone usage has bought in tools, and techniques to manage this unexplored data in startups' business climate and conditions wherein Mobile Business Intelligence (MBI) could have a major stake in tackling businesses strategically. To bring about a competitive advantage Lately, Chai startups have to implement new ways to improve their businesses. One among the several strategies has been the adoption of Data Warehouse (DW) and Business Intelligence (BI) which has become an essential component of contemporary business decision support systems. Due to the advancement of BI tools and also the readiness of Startups to adopt new strategies to stay ahead of their game Business Intelligence has grown significantly some of the technologies such as Decision Support Systems (DSS), Executive Information Systems (EIS), Data Warehouse (DW), Online Analytical Processing (OLAP) and Data Mining have had a significant impact on the increase in popularity of BI. Key benefits of implementing BI successfully within an enterprise, include

1. Ability to convert raw data into usable information
2. Enable managers to make intelligent business decisions by identifying important trends and patterns in the business transaction
3. Drive business performance and revenue
4. Improve operational efficiency.
5. Improvement in business decisions through predictive analysis.
6. Reporting in a smarter and faster way. However, amongst Chai startups, there is a lack of

technical expertise required to convert data into information to facilitate an informed business decision-making process. Furthermore, the lack of understanding of the benefits of MBI and budget also make Chai startups unwilling to invest in adopting any BI solutions.

1.1 Mobile Business Intelligence Framework:

Mobile business intelligence (MBI) is the ability of persons to access BI-related data such as dashboards, key performance indicators, business metrics, and on mobile devices. MBI solutions are presented as "all-inclusive support for analytics on smartphones and tablet devices so that today's mobile workforce can access the information they need, wherever they are, with no compromise in functionality" Alexe et al. (2014). MBI applications are extensions of BI functionalities on mobile devices used by the decision-makers in companies. This type of applications are classified as in three categories: "standalone applications (they run on mobile devices independently of external resources and connections), network applications (they use distributed components on mobile devices as well as on external systems), and web applications (they run only the interface of the mobile device, while the application uses external application servers)". Trif and Visoiu (2011). From the standpoint of the interaction of mobile devices with the BI solution system of a company, Panian (2012) opine two types of MBI: "passive MBI" - developed as "push technique", comprising sets of error-alerts and reports sent to the mobile devices of the MBI user, and "active MBI" - developed based on "push and pull technique" offering user interaction facilities through analysis and supplementary requests related to the system data.

1.2 Mobile Business Intelligence and Sukoon Herbal Chai:

Sukoon Herbal Chai was initiated by young Chai-preneur Ms. Anabia Sharif in Miraj city with a seed funding of Rs. 10 lakhs. Born and brought up in a family specialized in dealing with Herbal medicines for treatment of Chronic cases of Physical, Mental, Heart related issues. Ms. Anabia having completed her Bachelors in Business Administration in 2020 from a prestigious Institute in Sangli happened to venture into her dream venture as Chai-Cafes begun to mushroom in Miraj city with brands viz. Harman's Chai, Shetji's Chai, Amrut Chai, Tandoori Chai etc. to name a few. According to market statistics the chai market turnover in Miraj alone is approximately over 25 Cr. with many unbranded players majority a male dominated profession, venturing into same with their own form of chai such as Kulhad chai, Malai chai, Gulkand chai etc. to name a few. The idea of Sukoon Herbal Chai by Ms. Sharif came to light as majority of the Chai-preneurs dealing with their business in its traditional form. The Chai was made and served out of popular readymade brands of Tea available in the market. Further the business has a traditional form of manufacturing, marketing, Book keeping. Further none of the Chai business had incorporation of digitization into their business. Having learnt practical aspects of digital marketing in her under graduation program and having equipped with sound knowledge of GST (Goods, Services Tax) as added value addition during her three year program, Ms. Sharif chanced upon the Sukoon Herbal Chai business venture as majority of Chai-preneur's have loyal customers but do not keep a track of their consumption, flavour, visit timings, payment mode etc. Secondly, since the business involves a lot of mechanical

work of men, material, markets significant investment was forayed down in skilled manpower, raw materials, location.

Due to the recent pandemic, and uneven weather conditions people lately are aware of Herbal flavorful chai and its health benefits, replacing their regular tea with them. She initiated her dream venture with specific variants of Sukoon Herbal Chai viz. Ginger Chai, Peppermint Chai, Hibiscus Chai, Lemon Balm Chai. as these are commonly available and have enormous health boost properties. Her idea of Sukoon Herbal Chai gained momentum among the youth chai lovers as she developed a mobile power business intelligence (BI) app through android platform which had a sturdy connect with Sukoon Herbal Chai consumers as the app not only hinted on consumption but even highlighted them on numbers of sips to consume, its health benefits, varieties to consume seasonably. Due to her techno savvy connect with her customers Sukoon Herbal Chai consumption increased and it became difficult for maintaining data of customers as she was the sole person handling the app. Her employees though literate in this field had multiple reports generated, plus there was no single source of contact for keeping a track on the quality, content, flavour consumed. This is where she banked on mobile business intelligence system through which her issues could be solved.

1.3 Success Mantra of Microsoft Power BI in Sukoon Herbal Chai start up.

Ms. Sharif conducted a market research in Miraj city and based on her findings in the survey carried out framed a SWOC analysis of the current ‘Tea-Market Scenario’.

Strengths	Weakness
<ul style="list-style-type: none"> a. Tea consumption is approx.82%. b. Loyal customers tea consumption is avg.2-times in a day. c. Tea preneurs growth is 76% in the current market. d. Milk tea constitutes 78% consumption than other forms of tea e. 77% prefer Tea quality in terms of taste, availability, locality, hygiene maintained is mostly preferred 	<ul style="list-style-type: none"> a. Tea market is highly fragmented, Traditional form of tea is consumed, consumer’s taste, preferences, health concerns sacrificed. b. 92% Labour intensive business, 95% traditional form of book keeping, constant Owner vigilance required. c. 80% opined Availability, location in prime area preferred than quality d. 92% More dependency on raw milk and its base price e. 85% High investment on prime location for franchise outlet approx. investment 15-20 lacs.

Opportunities	Challenges
<ul style="list-style-type: none"> a. Herbal tea has higher growth due to its health properties and flavour variety b. It can be served in various formats (Syrups, Premixes, Powdered ready to drink, Liquid ready to drink). c. 100 % natural, organic, No Chemicals, additives, preservatives, rich in antioxidants, rich sources of polyphenols, minerals, vitamins. Immunity booster. d. Made from indigenous herbs, plants thereby providing secondary source of income for farmers, nurseries. e. Generate a good source of employment in rural areas due to limited awareness in the market. 	<ul style="list-style-type: none"> a. Herbal market still in infancy stage. b. Rigid preferences of tea consumption in rural areas. c. Stiff competition from established brands who might foray into similar markets due to its growth potential. d. Price war, Product duplication to be more rampant once having established. e. Bringing in automation in this primitive labour intensive sector through Business Intelligence, Artificial intelligence, Machine learning.

Based on market research and feedback generated from her salesmen, customers she initiated the novel idea of installing Automated Tea Vending Machines (A-TVM) at strategic locations in the city. The advantages of A-TVM being time saving, easy to install, advertisement tool, payment option, less money. She also introduced herbal flavour according to the tastes, preferences of customers commuting in those areas. Ms. Sharif could successfully operate in the male dominated Chai-market with the help of Microsoft Power BI as the advantage was manifold as she could Connect to data, Transform and model the data, create charts and graphs, reports and dashboards that are collections of visuals, share reports with other departments using the Power BI service for further improvements in taste, preference, quality, variety, ingredients etc.

1.6 Microsoft Power BI into Action:

1. **Excel Spread Sheets:** Ms. Sharif initially uploaded her vital data in terms of Men, Materials, Machines, Methods, Markets in 'Microsoft Excel Spreadsheets' in the format of Sales, Raw materials, Products, Machines, Chai Flavours, Markets.
2. **Strategic Power BI:** The data uploaded was then transfigured into 'Strategic Power BI' data with area wise sales, key performing areas (KPA's), running Flavors, Return on Investment, Star Performers for the month, Customers feedback etc.
3. **Data Model:** This transformed strategic power BI data was further processed into 'Data model' to further analyse which herbal tea flavour is non- performing and how to substitute it with a better substitute. Further the sales of herbal tea 'flavour wise' its market area,

consumption pattern, consumption choice, Avg. daily sales was also considered and sorted area wise.

4. **Infographics:** The data model was further replenished with a '**visual data presentation**' in accordance to '**Sukoon Herbal Chai Performance Report**' which highlighted the Key Performing Indicators (KPI's) in terms of Area wise sales, Flavours consumed, Format of consumption (Syrups, Premixes, Powdered ready to drink, Liquid ready to drink), Consumers preferences, tastes, buying behaviour etc.
5. **Dashboards:** The Startup also created Dashboards highlighting metrics and measurement in the format of Area wise Sales, Star Sales Performers of the month, Flavours having steady return on investment, Consumer wise consumption, their payment mode and feedback.
6. **Reports:** The reports related to Area wise sales, Return on investment, Salesmen performance, consumption pattern, customer preferences, return on investment was generated, tabulated and presented in dashboard format and was shared across for further analysis and improvement.

Ms. Sharif worked on these available dashboards by interacting with her sales persons, customers through the online App available and made sure that the salesperson were competitive by arranging regular meets, and contests online in which the star performer was rewarded instantly through online transfer of rewards received which was further highlighted to sales team to keep them on track. Further, queries of sales team were segregated according to the intensity of the problem and discussed online through video conferencing after business hours. An artificial robot was designed to handle day-to-day basic queries which could deliver solutions on spot. While important queries were routed directly to the owner for further analysis and solutions. The Start-up also highlighted contests, rewards programs, and scratch card coupons for its loyal customers where in their tips, suggestions for improvement, and queries if any were resolved.

2. Conclusion:

The benefit of MBI is its ability for end users to access information in their mobile BI system at any time and from any location. This enables data and analytics in 'real time', which improves daily operations and react more quickly to a wider range of events. Secondly, one can integrate mobile BI functions into operational business processes thereby increasing the penetration of BI within organizations that often brings benefits in the form of additional information. These speeds up the decision-making process by extending information and reducing the time spent searching for relevant information. Ms. Sharifs conclusion is with this real-time access to data, operational efficiency is improved and organizational collaboration is enforced. Thereby in her opinion mobile BI brings about greater availability of information, faster reaction speed

and more efficient working, as well as improving internal communication and shortening workflows. Even a layman can use access, view and retrieve messages, images, reports through simple software's, applications and respond in real time which can enhance the productivity of the business. The advantages of MBI being manifold in terms of Simple access, Competitive Advantage, Simple decision making, increased productivity prompted Ms. Sharif to incorporate MBI into her Sukoon Herbal Chai venture which readily increased her productivity, customers, flavors in the current market. Her acquaintance with Microsoft Power BI Pro easy-to-use tool that can be readily used with basic understanding of Excel and other Microsoft tools enabled her employees and self to use Microsoft Power BI as a self-service tool. The usage of Microsoft Power BI being available in local language made it more simple and efficient handling to the company employees and its customers.

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