1. INTRODUCTION

1.1 Introduction to the Study

In today’s global, complex, complicated, competitive and continuously changing business, political and technological environment, the management need to respond swiftly to market dynamics in order to survive and to stay competitive which in turns demand for taking effective, efficient, timely, speedy and quality decisions.

It is known fact that sustainable practices and decisions lead to profitability, growth and success of the organization. Organizations are getting new set of challenges and they must deliver results with both effectiveness and efficiency in current business environment. The managers spent lot of time to manage and sustain the health and performance of their organization and the decision-making process is further complicated as organizations need to consider information beyond its boundaries with the progression of technology and our ability to engage in more streamlined business, the role of decision-making in today’s organizations became even more critical.

The ability to optimize company performance typically depends on decision-maker’s skills to analyse & measure business performance and to take timely action based on the information. The complexity of today’s business operations, competition and regulations has made the job of the manager increasingly difficult and numerous factors affects the manager’s decision and manager requires the analysed and summarized information in timely manner for effective decision-making (Arsham, n.d.). Due to the improvements in technology, innovations in communication and globalization of workforce, management has to consider numerous alternatives and dimensions when making a decision. The information needs of management have changed and they require new, reliable and quality information at speed to support quality decision-making within organizations.

The decision speed is recognized as a critical factor of organization performance in dynamic and volatile environments (Kownatzki et al., 2013) and the organization performance deteriorates when decision-makers are not able to respond quickly to the business situation due to lack of information and the decisions related to revenue and
profitability, compliance and risk management should be taken faster as the outcome of the same results in competitive edge (Wilson, 2011).

According to Arif et al. (2012) success of any organization depends on its strategic decision and has defined the decision making process as the identification of best plan of action from alternatives and process consists of four steps namely developing premises, identifying alternative, evaluating alternative and decision implementation. According to Rodrigues and Hickson (1995) a decision-making process in which information and means of implementation were readily available most likely result to a successful decision. The decision making process requires accurate, complete information at each step for quality decision. GE and Helfret (2013) highlighted in their study that information accuracy and completeness affect decision quality significantly.

The decision-making in management is an essential skill required at all level and the quality of decision impacts the performance of the organization. The top management has to take strategic and complex decisions which affect the long-term direction of the business based on the organization's vision, goals and values, the middle management have to take tactical and less complex decision to meet the strategic objective and finally the front-line management is responsible for operational and routine decision as depicted below:

![Figure 1. Organizational level and impact of decision adapted from (BBC, n.d.; Taylor, 2009)](image-url)
Operational decisions are high in volume but have relatively low economic impact/value on the organization, tactical decision has middle volume and middle impact on the business and strategic decisions are of high value and low volume in nature (Taylor, 2009).

Over the last decades business data volumes have increased tremendously due to rise of business information systems such as ERP, CRM etc. and is going for further explosive growth. International Data Corporation (IDC) highlighted in sixth annual study that the digital universe comprising of structured and unstructured data will grow 300 times to 40,000 exabytes from 130 exabytes by 2020 and the size of data will double every two years from 2012 onwards. (Gantz & Reinsel, 2012)

![Digital universe growth](image)

Figure 2. Digital universe growth sourced from IDC (Gantz & Reinsel, 2012)

As a result of data explosion organizations will be creating and storing more business data in digital form and will have to process the same into useful information to improve their quality decision-making capabilities. The useful information will need to be provided in right-time, in right formats and on demand that enable business leaders to take decisions for optimizing & improving business performance. Good and quality decision in organization leads to sustainable organization growth and organizations should be better equipped with tools and processes for meeting the short and long term goals.

With such vast amounts of data that are amassed and available, it is imperative to provide the timely & correct information to the decision-maker to ensure business decisions success. A natural dilemma is how businesses can make sense of all the data
Without wasting time and resources as the amount of data captured continues to soar.
With the increased reliance on the e-commerce and mobile-based platforms for business operations, the marketplace conditions will further complicate, accelerate and intensify the need for Business Intelligence (BI) tool-based analysis.

1.2 Definition of Business Intelligence Tool

During the literature review, various definitions of the business intelligence tool were found, and a few key definitions by authors and researchers have been summarized below:

Luhn (1958) was the first to define the “business intelligence system” term in 1958 in his research. He has defined business as a combined activity performed by government, science, technology, commerce, industry, law, defense sectors, etc., and intelligence as “the ability to apprehend the interrelationships of presented facts in such a way to guide action towards a desired goal”. The communication facility supporting the execution of a business was introduced as an intelligence system in his research.

Business Intelligence (BI) has its roots in the decision-support technologies first developed in the late 1970s. Gartner analyst (Howard Dresner) coined and popularized the term “business intelligence” in 1989. (Computerworld, 2006)

Gartner (n.d.) has defined “Business intelligence (BI) – as an umbrella term that includes the applications, infrastructure and tools, and best practices that enable access to and analysis of information to improve and optimize decisions and performance”.

According to Almeida et al. (1999) "Business intelligence means using your data assets to make better business decisions. It is about access, analysis, and uncovering new opportunities."

Forrester (n.d.) defines the business intelligence (BI) market as a set of methodologies, processes, architectures, and technologies that leverage the output of
information management processes for analysis, reporting, performance management, and information delivery. Research coverage includes executive dashboards as well as query and reporting tools.

Business intelligence allows people at levels of an organization to access, interact with, and analyse data to manage the business, improve performance, discover opportunities and operate efficiently. (Howson, 2007)

According to Williams and Williams (2007), "BI combines products, technology and methods to organize key information that management needs to improve profit and performance. In particular, it means leveraging information assets within key business processes to achieve improved business performance".

The Data Warehousing Institute (n.d.) defines “Business intelligence (BI) unites data, technology, analytics, and human knowledge to optimize business decisions and ultimately drive an enterprise’s success”.

According to Eckerson (n.d.), "Taking a big picture view, BI is an umbrella term that encompasses a raft of data warehousing, and data integration technologies as well as querying, reporting and analysis tools, required to fulfil the promise of giving business users self-service access to information”.

According to Sabherwal and Becerra-Fernandez (2010), “Business intelligence (BI) means providing decision makers with valuable and information knowledge by leveraging a variety of sources of data as well as structured and unstructured information”.

In general, BI tool generate insightful information by processing the business partners, products, services, customers and suppliers data. BI tools are used for reporting & analysis, performance management, predictive analysis, and for the purpose of decision-making in the business functions (sales & marketing, finance, human resource, manufacturing, supply chain) of the organization as depicted in figure 3.
1.3 Evolution of Business Intelligence Tools

The mainframe computer developed in 1950s led to the evolution of data processing systems which further led to development of decision support system in late 1960 and throughout the mid-1980 (Shollo, 2013). Watson and Marjanovic (2013) have classified decision support system into four generations and have mentioned that the first two generations were used for tactical and strategic decision, but third and fourth generation tools are used for operational decisions as well. Each generation has laid down foundation for building the next generation.

Business Intelligence (BI) has its roots in the decision support technologies and decision-support domain have expanded over the years with the development of various decision-support applications - business information system, on-line analytical processing (OLAP) & predictive analytic. The BI tools started getting popularity both in the business world and the academia around 2000.

The BI tools functionality has evolved over time and the key functionality developments are provided in table 1.
<table>
<thead>
<tr>
<th>Year</th>
<th>BI tools functionality</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970-1980</td>
<td>Mainframe based reporting tools/4GL</td>
<td>Traditional decision support system</td>
</tr>
<tr>
<td>1980-1990</td>
<td>RDBM's based reporting and analytics</td>
<td>Management/Execution decision support system</td>
</tr>
<tr>
<td>1990-2000</td>
<td>Rise of OLAP/Data warehouse, Business analytics and BI tools</td>
<td>Historical data analysis comparison and decision support</td>
</tr>
<tr>
<td>2000-2010</td>
<td>Enterprise performance management and predictive analytics</td>
<td>Measuring Key performance indicators of the organization and to predict about future</td>
</tr>
<tr>
<td>2010-Now</td>
<td>Big data, social, mobile &amp; cloud based analytics</td>
<td>To unlock the value of structured and unstructured data and to drive innovation, competition, and productivity in the organization</td>
</tr>
</tbody>
</table>

Table 1. Evolution of BI tool functionality adapted from (Eckerson, 2011)

Almeida et al. (1999) have classified BI tools into three generations

- The first generation consists of the host-based query and reporting tools ran in batch mode to provide business users with the information in paper format and management need to go through the papers reports for answers to the business question
- The second generation consisting of data warehousing which was a giant leap in the technology and were designed to satisfy the needs of business user for strategic and tactical purpose and supplied both historical and summarized information to the user
- In the third generation tools, the focus shifted from technology to the business solution and packaged application/analytics were provided to the customer for supporting the business requirements.

White (2006) has classified BI application into strategic, tactical, and operational categories based on business focus, users, timeframe and data. Strategic BI is used for managing long-term objectives, tactical BI is used for measuring & optimizing the
performance of business initiatives and operational BI is used for managing and optimizing day-to-day operations. The characteristics of each type of BI is discussed in table 2.

<table>
<thead>
<tr>
<th>Types of BI</th>
<th>Strategic BI</th>
<th>Tactical BI</th>
<th>Operational BI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business focus</td>
<td>Achieve long-term goals &amp; objectives</td>
<td>Manage tactical initiatives to meet strategic goals</td>
<td>Manage and Enhance day-to-day operations</td>
</tr>
<tr>
<td>Users</td>
<td>Senior management &amp; Business executives</td>
<td>Senior managers</td>
<td>Managers</td>
</tr>
<tr>
<td>Timeframe</td>
<td>months - years</td>
<td>day - months</td>
<td>1 day</td>
</tr>
<tr>
<td>Data</td>
<td>Historical data</td>
<td>Historical data</td>
<td>Intra-day data</td>
</tr>
</tbody>
</table>

Table 2. Types of BI sourced from White (2006)

The BI services and deployment model have also evolved, traditional BI which is designed and built on enterprise data warehouse, the infrastructure was owned by the customer (Watson & Wixom, 2007). The two new BI models (on-demand and open source) of service delivery have been evolved in the recent past. The BI vendor manages and hosts the application in on-demand BI (software as a service; SaaS) service model and customer uses the application on demand and makes payment based on the subscription amount agreed with the vendor. The open source BI products are freely available and the vendor takes an existing product & develops/enhances the product and makes it their own so that they can market and sell the product. Open-source vendors charges to the customer for services support for the add-ons developed by vendor.

Gentile (2010) has simplified the classification of BI tools into two categories past and the present based on business purpose, decision timeline, architecture and data accessibility as described in table 3.
<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Past BI Tools</th>
<th>Now</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Purpose</td>
<td>Individual Decisions</td>
<td>Collaborative Decision</td>
</tr>
<tr>
<td>Decision Timeline</td>
<td>What Happened?</td>
<td>What's Happening?</td>
</tr>
<tr>
<td>Architecture</td>
<td>Closed, Proprietary,</td>
<td>Open Standards-Based, Web 2.0</td>
</tr>
<tr>
<td></td>
<td>Client/Server</td>
<td></td>
</tr>
<tr>
<td>Access Point</td>
<td>Desktop Computer</td>
<td>Thin Client/Browser, Mobile App</td>
</tr>
<tr>
<td>Type of User</td>
<td>Power User</td>
<td>End User</td>
</tr>
<tr>
<td>Users Reached</td>
<td>Few</td>
<td>Many</td>
</tr>
<tr>
<td>Data Access</td>
<td>Structured/Relational</td>
<td>Almost Anything</td>
</tr>
<tr>
<td>Type of deployment</td>
<td>On-Premises: Desktop</td>
<td>On-Premises, Virtualized, SaaS, and Cloud</td>
</tr>
<tr>
<td></td>
<td>and Server</td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Comparison of past and present BI tool characteristics sourced from Gentile (2010)

The BI technology and business models has evolved over the past decades and is driving data driven decision culture in the organization for operational, tactical and strategic decision and customer can select from cloud/on-premise/open source based platform to access and generate insight from structured and un-structured data for individual, predictive & collaborative quality decision making for organizational growth.

1.4 Contribution of Information Technology sector to Indian & State of Maharashtra Economy

The Indian economy (Ministry of Finance, 2014) has GDP growth of over 9 percent from 2005 to 2008 and has recovered speedily from the global financial crisis of 2008-09. The economy has gone through difficult times for the period 2012-2014, i.e. culminated with lower than 5 % growth each year and economy appears to be on track and is expected to touch 7.4% per cent growth in 2014-2015 (Times of India, 2015).

The services sector has emerged as the fastest growing sector of the economy and has contributed substantially to foreign investment flows, exports, and employment. The
services sector comprising of key services such as Information Technology (IT), aviation, transport logistics, and retail trading, contributes to around 57 percent of gross domestic product (GDP). The IT & Business Process Management (BPM) services contributes to 6.4% of GDP and estimated to generate revenue of USD 118 Billion in 2014 and is going to expand to US$ 225 Billion by 2020 with a potential to reach US $300 Billion. (IBEF, 2015)

The industry is again poised to double the size (NASSCOM, 2009; IBEF, 2015) by 2020 by delivering new technology solution in the area of cloud, mobility, social & mobile analytics and providing newer services in healthcare and energy segments to the customers as depicted below:

![Revenue in Billion US $](image)

Figure 4. IT sector revenue growth projection adapted from (NASSCOM, 2009; IBEF, 2015)

The information technology industry has transformed India to a knowledge base economy from a rural & agriculture-based economy. The IT sector is promoting balanced growth across various cities of India by driving employment generation and infrastructure creation. The information technology sector is also building platform for innovation which will yield to growth in the coming years (NASSCOM, 2015). The information technology sector has put India on global map with operations in over 50+ countries and has also carried out cross-border acquisition. Maharashtra is one of the key states contributing in information technology services and accounted for 23.2 per cent of the software exports in 2010-11 of the country (IBEF, 2015). The
prime IT/BPM clusters are Greater Mumbai, Pune, Thane, and Nashik and is contributing to the state of Maharashtra economy in following areas:

- Employment creation
- Infrastructure creation
- Enhancing education system aligned to the business need
- Indirect employment generation in the form of support services

1.5 Importance of Business Intelligence Tools in Information Technology Sector

According to the Gartner (2012) report, BI tools & analytics was the top-ranked technology for 2012 of the Chief Information Officer’s (CIO’s) in organization. According to Gartner (2014), worldwide business intelligence (BI) and analytics software revenue was $14.4 billion in 2013 and is expected to grow at fast pace in the coming years and top 5 vendor holds the 70% market share as depicted below:

![Figure 5. BI tool market share adapted from Gartner (2014)](image)

The analytics (business intelligence), social, mobility & cloud technology will provide long term growth to the information technology industry and IT organizations should give high focus on building the capabilities in the emerging technologies. The Indian IT sector is highly dependent on software exports and organizations operate in volatile and changing global environment. Any adverse political, economic condition of the major consumer countries such as USA, UK and Europe has negative impact on the Indian IT sector as seen in the past recession of 2007/2008. The technology and
The regulatory landscape is very complex and organizations have to continuously take decisions to survive in the global environment.

The management has to not only take operational decision for optimizing day to day operations but have to also take difficult tactical and strategic decision in order to build the capabilities for next generation technologies and to drive growth. The success of the decision depends on the quality of decision for which reliable & quality information/data is required.

In informational technology organization a typical management hierarchy starts with project manager who has to take operational decision with respect to day-to-day decision for running of the project, followed by program/delivery manager at middle management who has to take tactical decisions such as improving the margin, cross-sell of the opportunities and followed by program directors/business unit heads at top management who has to take strategic decision related to growth of the business.

The organizations in IT Sector are generating huge amount of business data and the data volume is expected to be doubled by next decade. This data needs to be processed and analyzed and to be made available on-time to the management for efficient and quality decisions. With the help of BI tool, the IT organizations can quickly generate insights enabling them to take quality decision and enabling management to drive operational efficiencies, identify newer opportunities and differentiate them in the competitive market. The decision-making powered by BI tool will become a formidable force for competitive advantage and organizational growth for organizations in the coming years.

The business insight generated by BI tools can help IT organizations in following ways:

- Optimizing the resource utilization for the services
- Optimizing the bench (unutilized employee) cost
- Increasing the revenue per employee
- Improving the quality of service
- Reducing the operational costs such as travel, administration etc.
- Identification of the up-sell and cross-sell opportunities
• Optimizing global risks
• Compliance and regulatory reporting
• Planning for resource hiring and training

Another benefit using BI tool is that it will lead to capability building in the technology and IT organizations can use the capability to service the growing business intelligence market.

1.6 Statement of the Problem

According to Watson & Wixom (2007) BI tool will change how decisions are made and organizations perform but many organizations are not confident about the BI tool impact on quality of decision-making and organizational growth.

The problems to be addressed in the study are:
1. Whether BI tool improve the quality of decision-making in the information technology organization?
2. Whether BI tool based quality decision-making help in improving the organizational growth (business performance) in the information technology organization?

1.7 Research Objectives

The objectives of the study are as follows:

1. To study the relationship between BI tool & quality of decision-making, quality of decision-making & organizational growth and BI tool & organizational growth.
2. To study impact of BI tool on quality of decision-making and organizational growth (business performance) in information technology organizations.
3. To study relationship between BI tool based quality decision-making and decision categories (operational, tactical and strategic)
4. To study impact of BI tool based quality decision-making in decision categories (operational, tactical and strategic) usage.
5. To study relationship between BI tool based quality decision-making and development of leadership traits in managers.
6. To study impact of BI tool based quality decision-making on development of leadership traits in managers.
7. To study the relationship between importance and usage of BI analytics in information technology organization.
8. To study the important BI analytics in information technology organization.
9. To study the areas of usage of BI analytics in information technology organization.

1.8 Research Purpose

The study is conducted to gain insights into
1. Evolution of BI tool.
2. Objectives, Best Practices and challenges of BI tool implementation.
3. Features of BI tool used in IT organization.
4. Usage of BI tool in strategic, tactical and operational decision-making.
5. Benefits achieved after BI tool implementation.
6. Identifying unmet needs and requirements of managers.

1.9 Research Questions

The focus of the study was on finding impact of BI tool on quality of decision-making and organizational growth. The research questions to be answered by the study are:

RQ1: What relationship, if any, exists between BI tool, quality decision-making and organizational growth?

a. Whether business intelligence tool information influence quality of decision-making in organization?
b. Whether quality of decision-making influence organizational growth?
c. Whether business intelligence tool information influence organizational growth?
d. Whether quality of decision-making is mediator between business intelligence tool information and organizational growth?
RQ2: Whether there is difference in the quality of decision making after BI tool implementation?

RQ3: Whether there is improvement in the organizational growth (business performance) after BI tool implementation?

The study also focused on finding impact of BI tool based quality decision-making on decision categories (operational, tactical and strategic) and development of leadership traits in managers. The research questions to be answered by the study are:

RQ4: Does BI tool based quality decision-making influence decision categories in the organization?

RQ5: Whether IT firms attach importance to the usage for BI tool with reference to decision-making categories in the organization?

RQ6: What relationship, if any, exists between BI tool based quality decision-making and development of leadership traits in managers?

RQ7: What is the extent of leadership traits development in managers due to BI tool based quality decision-making?

The study also focused on finding important BI analytics & areas of usage of BI analytics. The research questions to be answered by the study are:

RQ8: What relationship, if any, exists between BI analytics importance and BI analytics usage?

RQ9: Whether IT managers have preference for areas of usage for BI analytics?

RQ10: Whether BI analytics have importance in IT organization for quality decision-making?

1.10 Research Hypotheses

The following hypotheses are derived from the research questions (RQ1-RQ3)

H1a: Business intelligence tool information has significant influence on quality of decision-making.

H1b: Quality of decision-making has significant influence on organizational growth.
H1c₁: Business intelligence tool information has significant influence on organizational growth

H2₁: There is significant difference in the quality of decision-making before and after BI tool implementation. (µ₁ ≠ µ₂)

H3₁: There is significant improvement in the organizational growth (business performance) after BI tool implementation compared to before BI tool implementation. (µ₁ ≠ µ₂)

The following hypotheses are derived from the research questions (RQ4-RQ7):

H4₁: BI tool based quality decision-making does influence decision categories in the organization.

H5₁: There is significant difference in the preference of IT firms for BI tool usage with reference to decision-making categories in the organization.

H6₁: There is significant relationship between BI tool based quality decision-making and development of leadership traits in managers.

H7₁: There is significant difference in the extent of leadership traits development in managers due to BI tool based quality decision-making.

The following hypotheses are derived from the research questions (RQ8-RQ10):

H8₁: There is significant relationship between BI analytics importance and BI analytics usage.

H9₁: There is significant difference in the preference for areas of usage for BI analytics.

H10₁: There is significant difference in the BI analytics importance in IT organizations for quality decision-making.
1.11 Scope of the study

The research study is limited to the IT organizations providing services and software in the field of information technology and does not include organization providing only BPO, BPM, ITeS, Hardware, Data Center, Engineering Design, Education & Training services.

The research study is limited to the IT organizations using BI tool for reporting, analytics and decision-making at Pune. The research study is limited to the employees (manager and above) of the IT organizations using BI tool for decision-making.

1.12 Assumptions & Limitations of the Study

The impact of BI tool on quality of decision-making and organizational growth is determined using before and after study method. It is assumed that respondents have joined the company before the implementation of BI tool or have taken inputs from the employees who were present in the organization before the implementation of BI tool. Another assumption is that response to the survey by employees (manager & above) of sample companies is accurate and complete and they have understood that their participation in the study is voluntary.

Due to business sensitivity of the study obtaining data from larger sample comprising of managers, CIO & CEO is a challenge.

1.13 Definition of Terms

The below are some of the key words used throughout the study

BI tool: BI tool enable systematic acquisition, consolidation, analysis and interpretation of information of organizations internal and external environment. (Ștefănescu et al., 2009). SAP, Microsoft, Micro strategy, Oracle, IBM, and SAS & QlikTech are the key product vendor (Gartner, 2014) for BI software & tool and the key vendor products are used in the study for capturing technical information of the BI tool used in the IT organization.

Quality of decision-making: The decision-making in management is an essential skill and quality of decision-making affects the business outcome. The parameters used for measuring BI tool based quality of decision-making in this study are on-time decision,
faster decision, appropriate decision, effective decision, and right amount of effort for making decision, making informed decision & providing inputs for multiple problems at the same time.

Organizational Growth (Business Performance): The organizational growth is measured for financial and non-financial parameters. The parameters used for measuring organization growth in this study are: increase in revenue, reduction in cost, identifying new business opportunities, improved customer satisfaction & increased efficiency.

BI Analytics: The analytics developed using BI tool. The BI analytics used in IT organizations are sales/revenue analytics, utilization analytics, profitability analytics, bench analytics, sales & general administrative expense analytics, quality (project delivery) analytics, training analytics, hiring analytics & attrition analytics. These analytics were measured for the usage and importance in this study.

Features of BI tool: The BI tool has various features such as standardized reporting, ad-hoc analysis, KPI, predictive analytics & Scorecard/dashboard.

- Standardized Reporting: This is a feature of BI tool through which standard reports and analytics is build.
- Ad-hoc Analysis: This is a feature of BI tool through which users can build ad-hoc queries and reports on need basis.
- KPI (Key Performance Indicator): KPIs are financial and non-financial metrics used to quantify objectives to reflect strategic performance of an organization. KPIs are used in BI tool to measure the current state of the business and to determine a course of action. (Markarian et al.,2007)
- Scorecard/Dashboard: Dashboards and scorecards provide a rapid and convenient way of quickly assessing the key business metrics performance critical in the organization. (Dagan, 2007)
- Predictive Analytics: This is a feature of BI tool through which prediction about the future of business event is made based on past data.

The study has measured the usage of the BI features in the analytics in the IT organizations.
Leadership traits development in managers: The study has also measured the impact of BI tool based quality decision-making on manager's leadership skills (motivated, confident, charismatic & influential leader) development.

Decision categories: White (2006) has classified BI into three categories - strategic, tactical, and operational based on business focus, users, timeframe and data. This study measured the usage of the BI tool in the operational, tactical and strategic decision in organization.

1.14 Significance of the Study

Neo (2011) has stated that organizations need to innovate, rejuvenate and renew their strategies and business models to create and tap new ideas and undertake quick action in order to gain competitive advantage in uncertain and changing business environment.

“It is rightly said it is survival of fittest and fastest”. In today’s world it is not the bigger entity which beats the smaller entity; but the faster entity beats the slower entity. It is also said “well-planned is half done”. In today’s economic situation decisions have to be taken in a timely and informed manner.

The quality decision-making holds the key to survival and growth in this modern era of cutthroat and ever increasing competition in fast changing environment. The quality decision-making requires accurate information so as to take result oriented decisions in a fast manner to ensure results in organizational growth and survival in competitive environment.

The study highlights the impact of BI tool on quality decision-making in information technology organizations. The study highlights importance of BI tool in quality decision-making and the benefits achieved by organizations after implementing the BI tool. The study results will help BI tool based organization to further increase the usage of the tool for improving quality of decision-making and organizational growth. The study will help non-BI tool based organization to develop business case of BI tool implementation
The study highlights the best practices & challenges of BI tool implementation which can be leveraged by organizations which have started or have plans to implement BI tool. The study highlights emerging technologies of BI tool in the areas of social, mobility, cloud and big data analytics which can be further researched.

1.15 Organization of the remainder of the Study

The remainder of this study is organized in four chapters as described below:

Chapter 2 This chapter presents a review of BI tool literature to gain a deep insight into the developments which have already taken place in the field. This chapter summarizes the existence of the gap and uniqueness of the study.

Chapter 3 This chapter covers methodology aspect of the research and includes population and sampling method, survey design, data collection methods, data analysis methods and validity & reliability for the study.

Chapter 4 This chapter contains the data collection and analysis on the impact of BI tool on quality of decision-making and organizational growth. The data analysis includes descriptive statistics of the survey responses such as mean, standard deviation, frequency distribution. The chapter also presents hypotheses testing.

Chapter 5 This chapter contains results of survey response and hypotheses testing, conclusions, recommendations for IT organizations, limitations and scope for further research of the study.