

**A framework on Data Analysis through Business Intelligence for decision-making: A case for LION Limited.**

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# Introduction/Literature Review

- The key to take a leading position in a competitive environment is to stay ahead of competition. **An organization has to make sound business decisions based on accurate and current information.** (Anandrajan, Anandrajan, Srinivasan, 2004) .
- In today's highly competitive and increasingly uncertain world, the quality and timeliness of an organization's "business intelligence" (BI) can **mean not only the difference between profit and loss**, but also even the **difference between survival and bankruptcy**. (Ranjan, 2008)
- Business Intelligence (BI) is **constructed on the identification and modeling of focused business information**. Asking the right questions is the precursor to making intelligent decisions
- BI is a broad category **of applications and technologies** for gathering, storing, analyzing and providing access to data to help enterprise users make **better business decisions**.(Braams, 2004)

- **Appreciative comments**

Liataud, (2000) states that once the business goals have been defined, it is critical to define a robust data architecture for the purpose of information access and analysis. This is an exercise that must be done as a joint effort between IT and the business users. Since it takes data from the large and complex production databases, it needs to be orchestrated by IT. However the data required needs to be identified by the business users

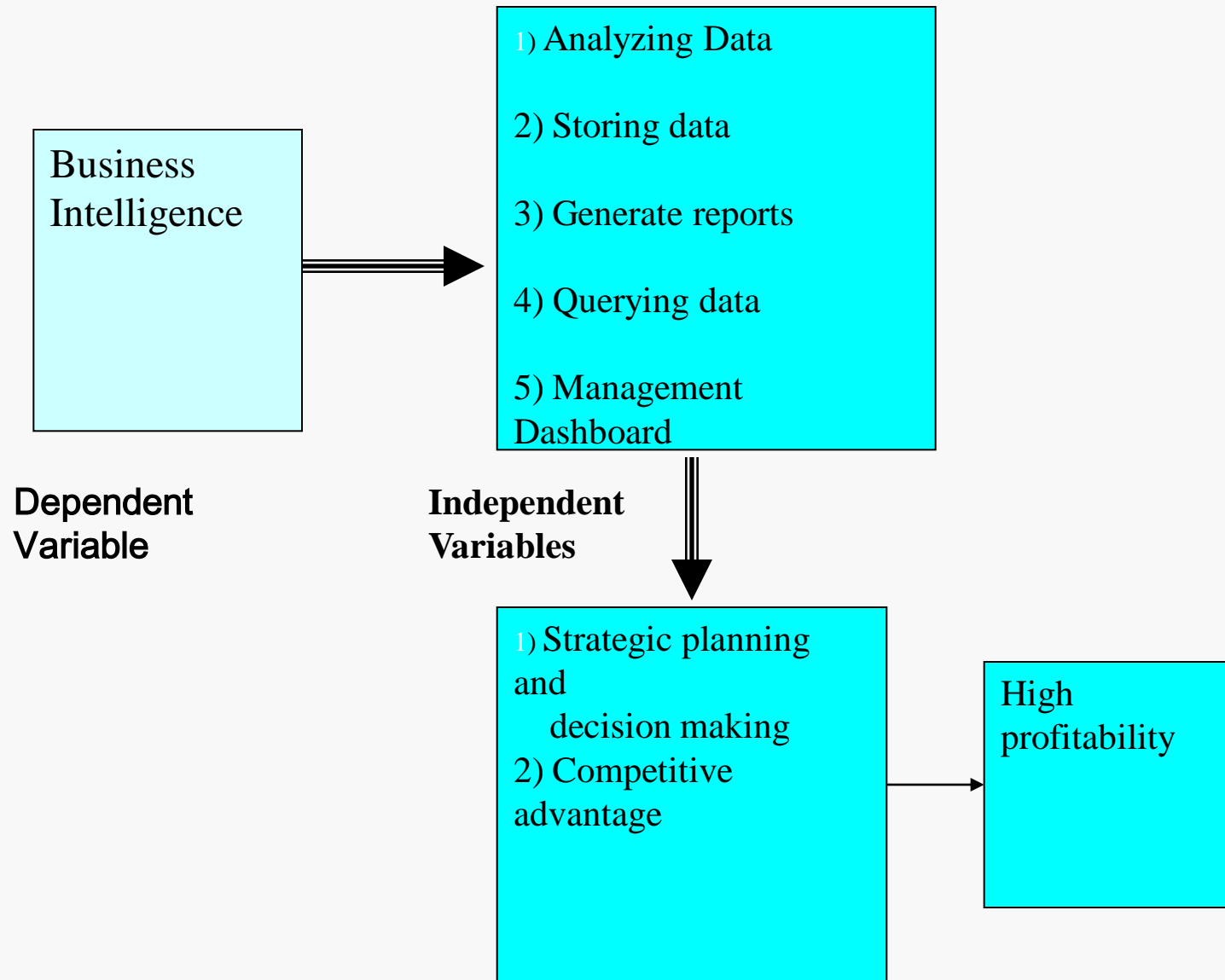
- **Critical Comments**

Off-the-shelf BI solutions seldom meet the particular payer's unique needs, while homegrown and highly customized BI solutions often are expensive, yield disappointing return on investment, and prove difficult to deploy on schedule. Ranjan, (2008) notes that companies face a number of challenges in making business performance management more strategic and driving its application throughout the enterprise (Ruddy, 2006). Whereas most of the authors discuss the benefits and encourage use of BI tools, they fail to mention that the current softwares are quite technical and not so easy for ordinary user.

# Literature Review Continued

- ❖ Anandarajan, Andaranjan and Srinivasan (2004) assert that the dynamics of today's market place make it imperative for an organization to **utilize their data resources effectively.**
- ❖ (Liataud, 2000) states that for business managers who want to ensure that their **company's data assets are turned into intelligence** for competitive advantage need first to understand the enterprise computing landscape of their business
- ❖ The core and major challenges the corporate face in today's competitive environment is management of data, filter the useful data and transform the filtered data into useful knowledge of business decisions.

# Conceptual framework



# PROBLEM STATEMENT

- According to Laudon (2009), the **value of an information** system to a business, as well as the decision to invest in any new information system, is, in large part, determined by the extent to which the system will lead to **better management decisions, more efficient processes** and **higher firm profitability**
- LION implemented SAP which is an ERP in 2006. This implementation was meant to **integrate all the business processes** and help management to **make right decisions that effectively drive strategy**. For example, the production module was meant to drive the production process right from the input of raw materials, through production, packaging and distribution of the end product. The system has however failed to do this effectively.
- **The problem is that as much as LION is collecting so much data through the ERP, there is no adequate reporting tool to enable effective analysis and monitoring for decision making. Therefore this research seeks to propose a framework on the implementation of business intelligence tool.**

## PROJECT OBJECTIVES

- To **investigate the extent to** which business intelligence(BI) **objectives have been met** at LION
- To **identify the factors** that influence the **successful implementation** of BI
- To identify the kind of **challenges/issues experienced in planning, implementation and post implementation** of business intelligence system.
- To identify the **resources needed for successful implementation** and **usage** of business intelligence tools.
- **Propose** a business intelligence implementation framework.

# RESEARCH QUESTIONS

- what **extent is LION** analyzing it's data through business intelligence for decision-making?
- What are the **factors that influence** business intelligence?
- What are the **strengths and weaknesses** of existing BI frameworks
- What are the **challenges in implementing** BI at LION?
- What **additional resources** (financial and skills) are required for successful implementation of business intelligence?



# Hypothesis

Ho = there is no difference in perception between the users and project implementation team as far as achieving business objectives

H1 = There is a difference in perception between the users and project implementation team for BI as far as achieving business objectives

# Design/Methodology

## Design

- The investigation used an exploratory research design to understand why Lion, though recently implemented an ERP does not seem to be getting 100% value out of the implementation.
- This type of research is used where a **problem has not been clearly defined**. Given the level of reliance on secondary data and qualitative approaches such as informal discussions with consumers/users.

## Subjects

- Data was collected from 22 employees and sampling design was **purposive**, since there is a clear purpose in mind. Total population of ERP users is 400 but most of them are responsible for transaction processing. The proportion handling reports that can be used by management for decision making is 40.
- The target group was IT, finance, business performance, production, marketing and sales departments.

## Procedures

- ❖ Data was generated through **questionnaires** which were administered through **drop and pick basis**.
- ❖ **Interview with key decision makers** was undertaken to compliment the questionnaires. Among those interviewed was the head of IT and the business improvement manager.
- ❖ The other people interviewed were the two project managers within the IT and finance departments
- ❖ There was case study approach since it can add strength to what is already known.

## Data Analysis

- ❖ Ms excel was used for initial data entry and then the data was imported in spss for analysis.
- ❖ Both **qualitative and quantitative data analysis** was used
  - ❖ The questionnaire was divided into four parts namely general information, **Extent to which BI objectives were met and factors that influence implementation of BI, challenges** to the implementation of BI tools and **resources required** for successful implementation of BI tools.
  - ❖ Objective 1 was met by section B of the questionnaire, objective 2 by section c, objective 3 was met by section a and c of the questionnaire.

# Research instrument

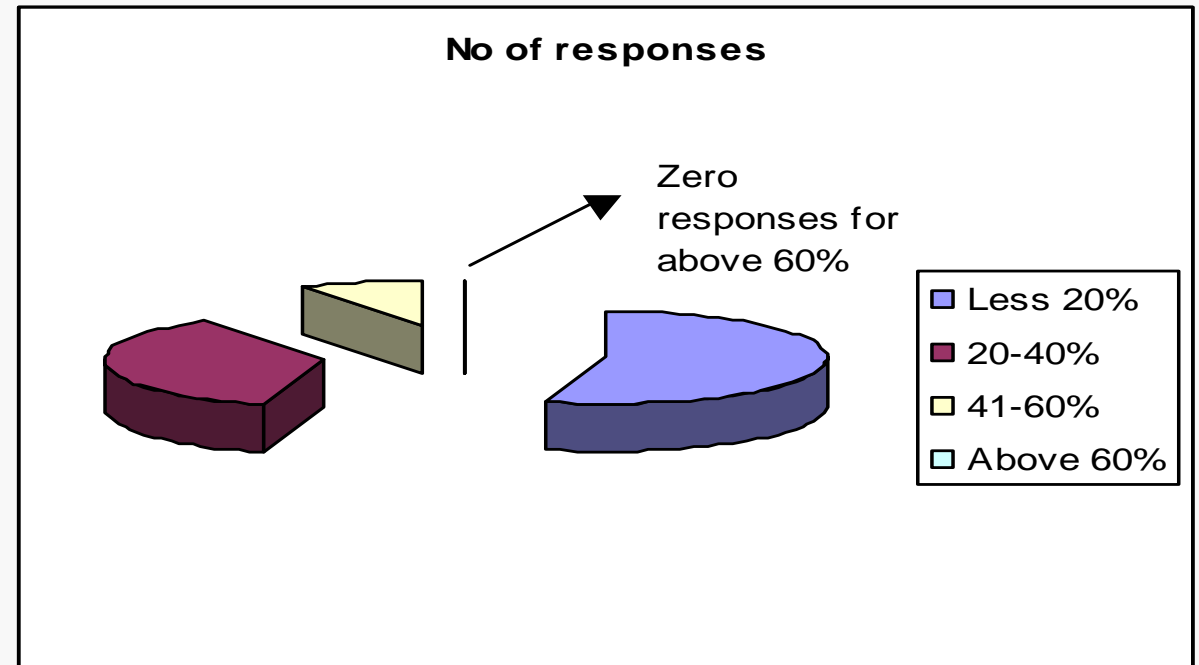
Questionnaires were used mainly to collect primary data. They are structured into four sections with each addressing a specific objective.

## Results

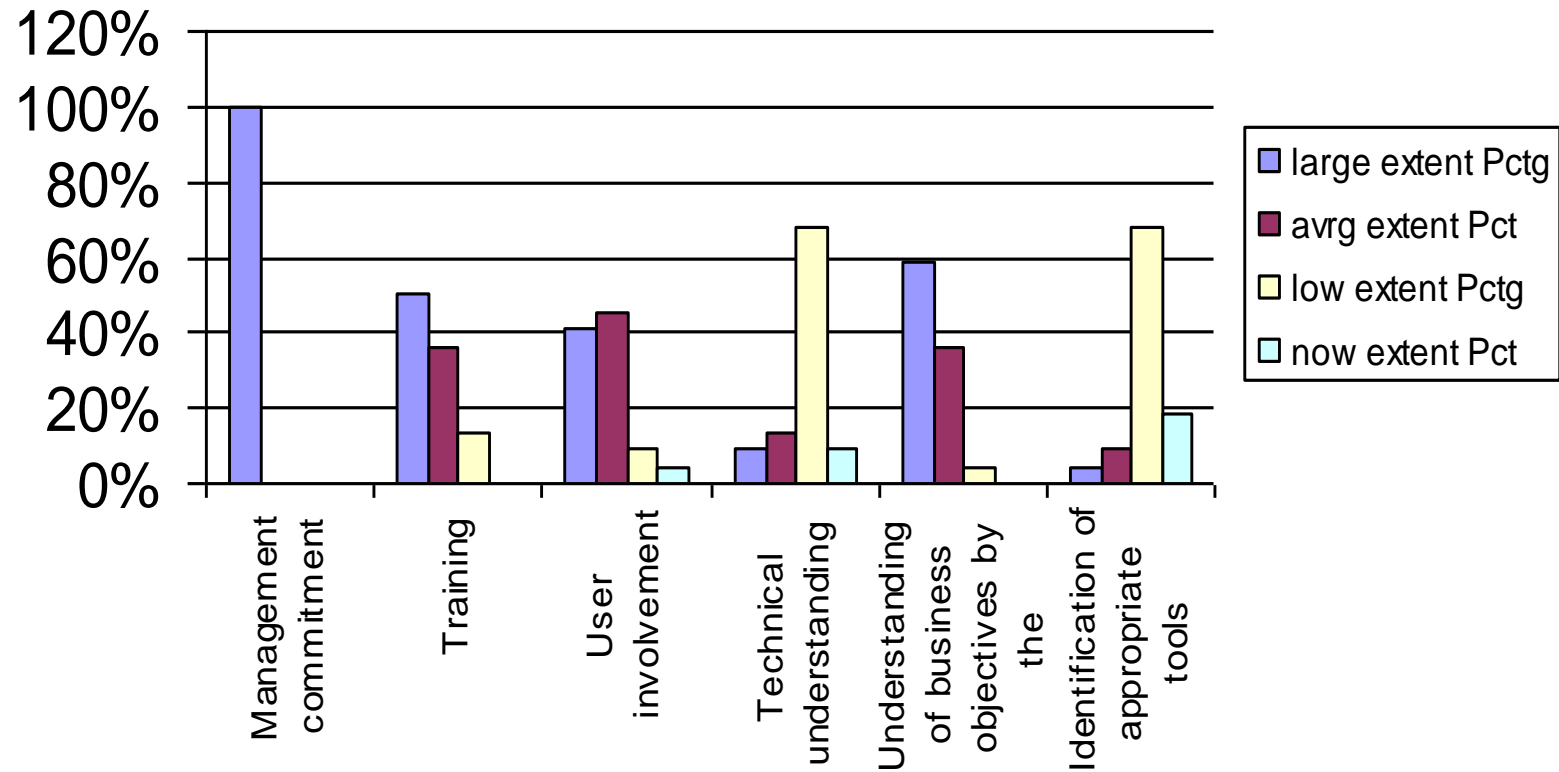
The sample population was selected subjectively and consisted of varying percentage of each category. This included 18% from IT, 22.73 general finance, 9.09 business performance, 13.64 production, 9.09 sales and marketing, 4.55 fro quality, 4.55 for HR, 9.09 procurement and 9.09 from Exec.

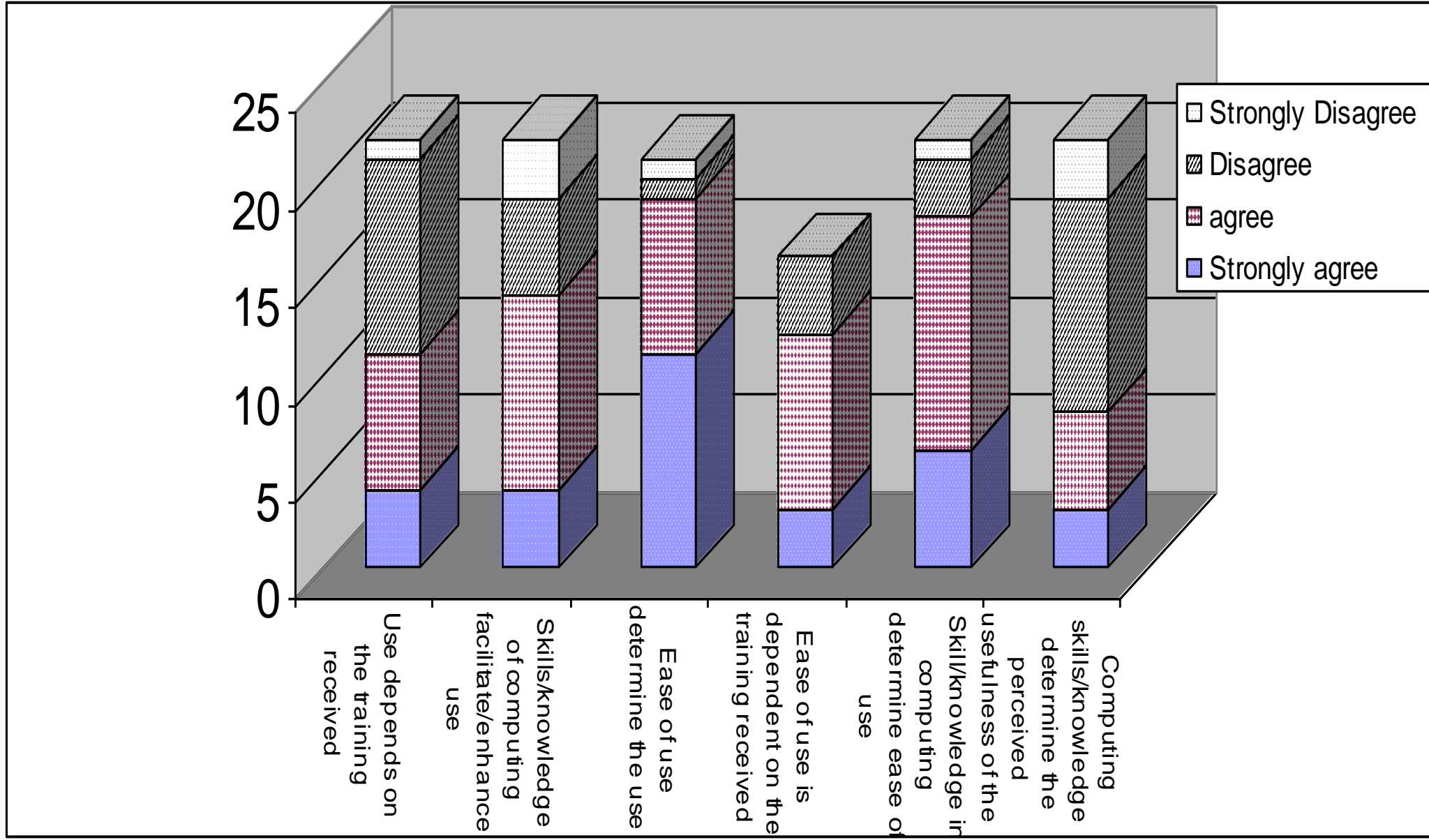
# Mgt BI awareness

Current level of BI knowledge of Managers	No of responses
Less 20%	12
20-40%	8
41-60%	2
Above 60%	0



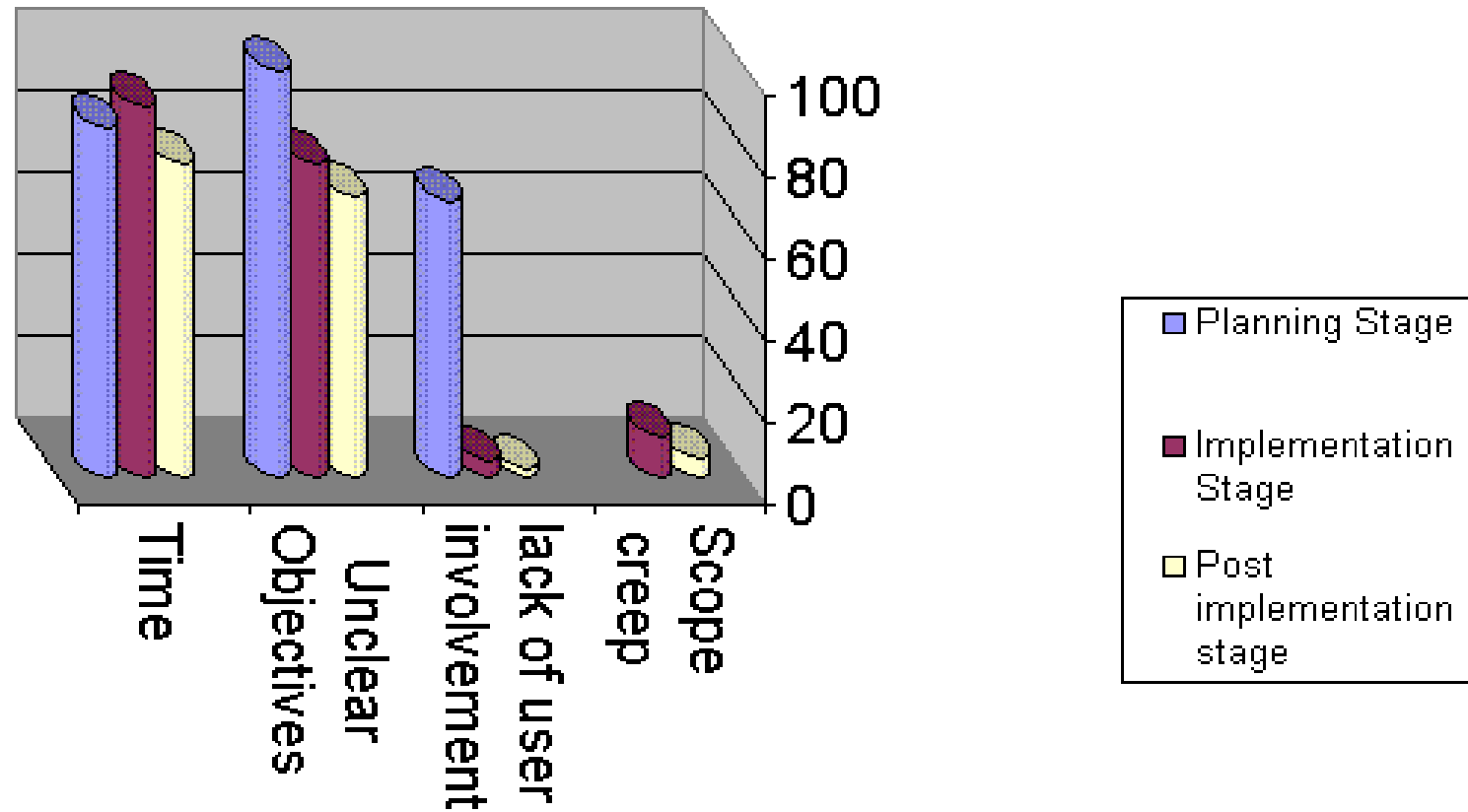
## Factors that contribute to success of BI tools







## Challenges during implementation



❖ On the resources required, 60% felt that there is adequate resources to cater for BI implementation. With right training being provided, the current human resources can handle the implementation. Most of the hardware is already in place and therefore no need to procure more.

❖ A response of 80% indicated that they have confidence in the skills set within the organization and therefore no need to hire new employees.

❖ From the hypothesis table, the critical value at 0.05 level with  $df(n_1+n_2-2)=20$  is 1.725. The calculated value of 2.29 is greater than the critical or table value of 1.725 at 0.05 level of probability; hence the Null hypothesis is therefore rejected. The alternative hypothesis is accepted and stated as follows:-

❖ **H<sub>0</sub>:** There is a significant difference in the perception between the users and project implementation team. Therefore the objectives need to be very clearly defined from the onset.

## Analysis/discussion

- ❖ The level of awareness of BI is **quite low (20%)**. This is because most of the managers in the top layer have learnt/gained their IT knowledge from experience. BI is a fairly technical field that requires **an integration of systems and business knowledge**.
- ❖ Time is a challenge when it comes to system implementation and it affects all the stages. There is a general tendency for people to get 'busy'.
- ❖ Ease of use determines the use. This is mainly because most people do **not like to fail** and would rather stay away. Systems that are easy to use tend to be adopted easily. This requires BI systems to be user friendly.
- ❖ On post implementation review, **the challenges are more linked to lack of management support**. This, according to the responses, is due to the fact that once a system has been implemented, the tendency is more towards passing on the responsibility to the staff involved or the users of the system.

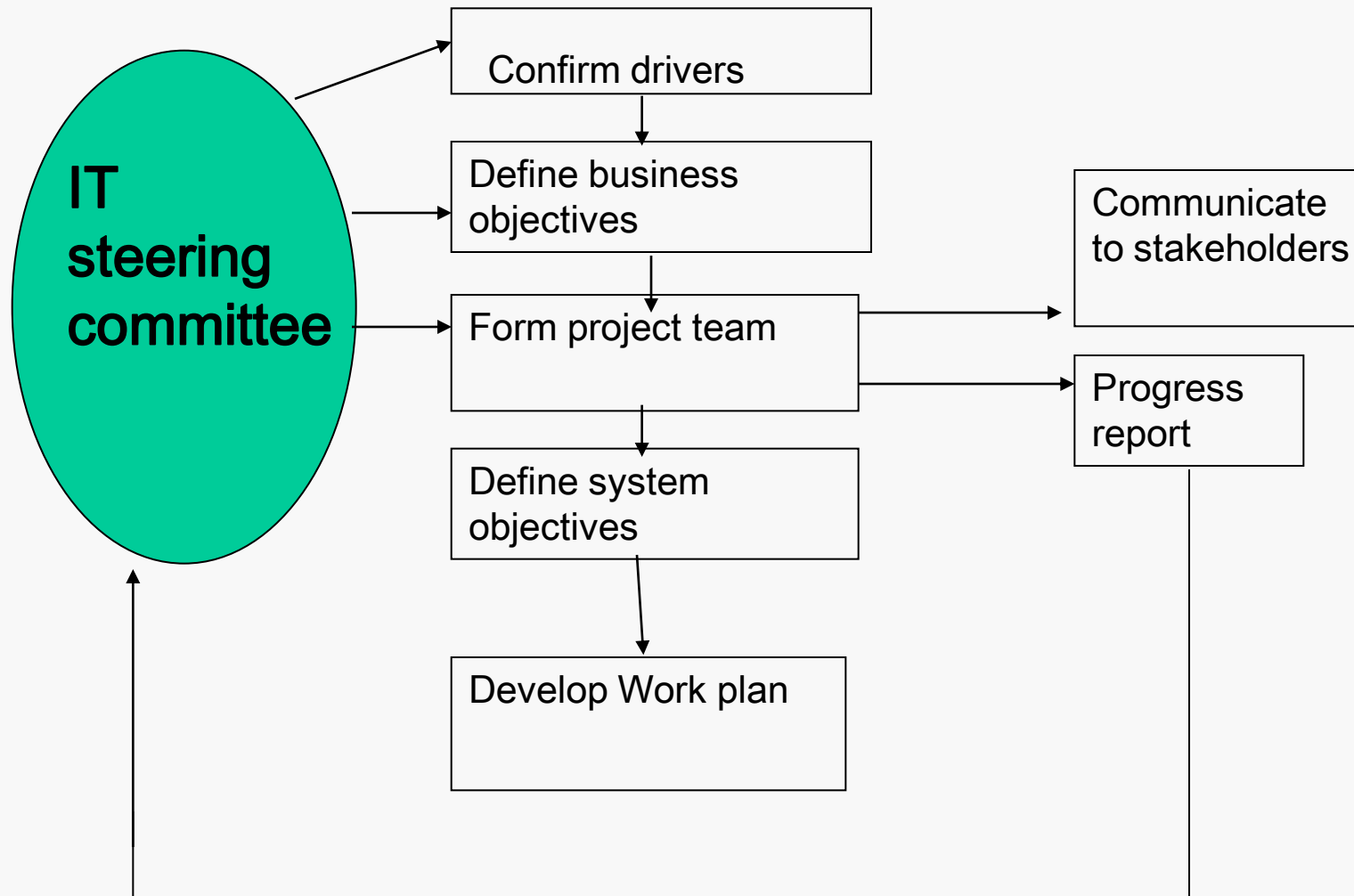
# Proposed Framework

Based on the results of data analysis, the author proposes a BI framework as captured in and discussed in the main document. The importance of **objectives being defined** came very strongly. An organization ought to define it's goals in implementing BI tools. [Elsie Research Final - EABL22th Jun2009.doc](#)

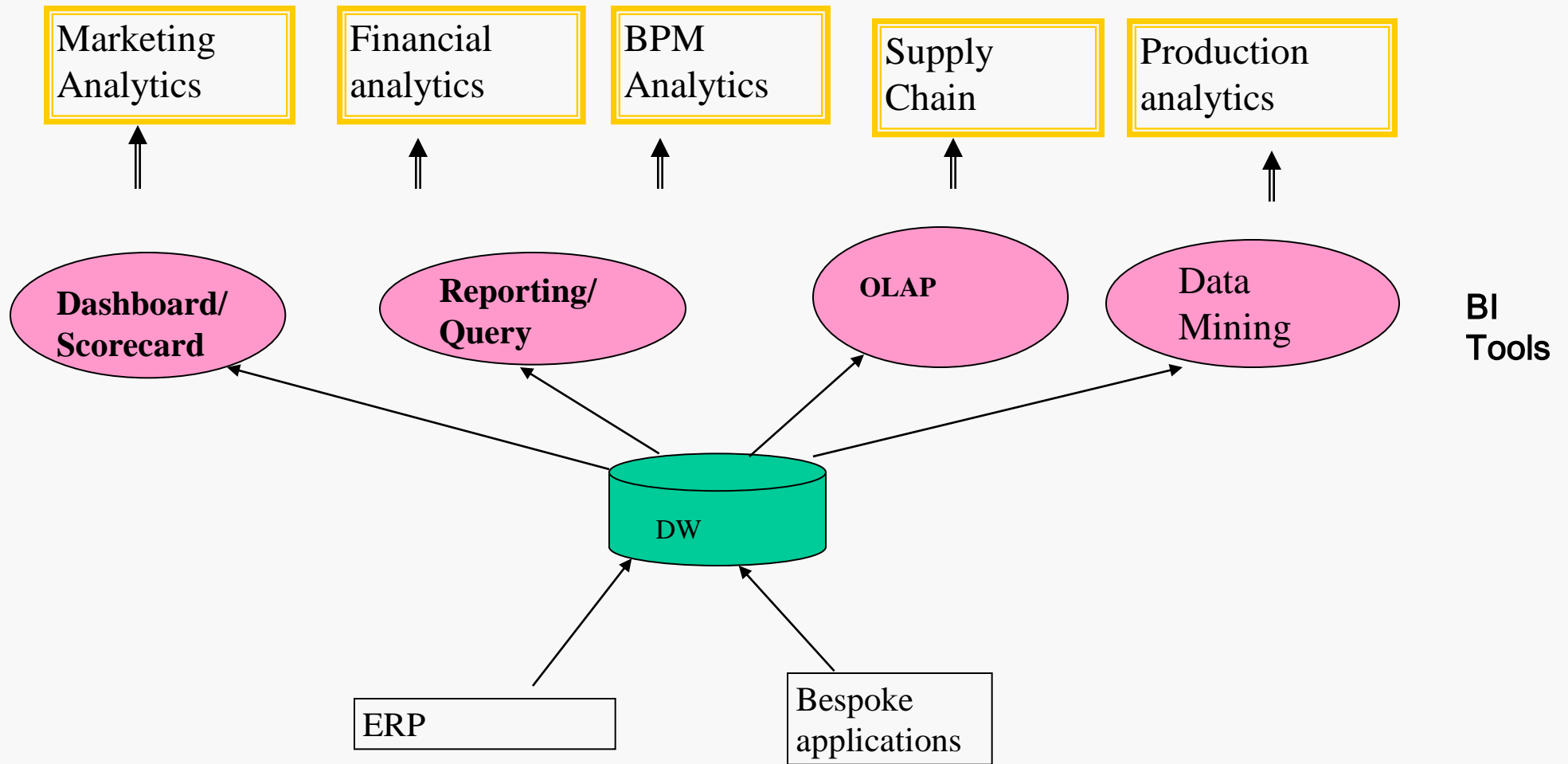


BI Planning - Step 1

## BI implementation steps



# Business intelligence framework



# Conclusion

- ❖ Whereas Lion has partially implemented business warehouse, **the objectives were not known**. This is coupled up with the **low awareness** level whereby there is very little understanding of what BI entails and its benefits. Most of the respondents 90% did not have the complete understanding of what the business expected .
- ❖ Lion faced **challenges that are commonly experienced** in system implementation projects, such as time and lack of adequate management support.
- ❖ An organization does not need to acquire extra resources if implementing BI, apart from the cost of the software.
- ❖ The existence of differences in perception between user and implementation team indicate an issue of missing goal congruence

## Recommendations/future research

- ❖ Having **support for the BI project from senior management** as well as **user involvement** in the configuration of the application(s) is essential to its success. Without the necessary support and involvement, the ROI calculation for the BI project is meaningless. With **100% of the respondents** emphasizing on the importance on management support in projects, then the same support should be lobbied for in BI projects.
- ❖ **Management should drive the BI projects** since they are geared more towards **driving the business strategy**. There should be a formally appointed project team with that report on progress to the steering committee. A project team should be set and assigned no other assignment until the project is completed
- ❖ The framework is recommended for **further study and testing to understand ways of simplifying business intelligence tools** due to the important part it plays in the decision making process in an organization. Current BI tools are quite technical so research into ways of simplifying them will help greatly.



# Acknowledgement

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*QUESTIONS*