Business data is growing exponentially – in volume, velocity and variety! Customer requirements, competition and innovation are driving rapid changes in business requirements and supporting business processes.

Decision makers, at all levels of an organization, require accurate, current, cohesive business information to glean actionable Business Intelligence (BI) and associated analytics and insights to make effective tactical and strategic decisions.

BI is essential to agility and competitiveness. Simply stated – organizations that execute on big data and act on the resulting business intelligence thrive.

Most organizations recognize the value of big data. Unfortunately, many organizations are not yet realizing the full potential. The problem, however, is not with the enabling technologies – the technologies are stable and well understood. The problem lives with the business requirements.

Business requirements analysis for BI is different than business requirements analysis for transactional systems – and requires business analysts with a unique, business-oriented (non-technical) set of business analysis skills, techniques and methods.

James Proctor, CEO

The Inteq Group, Inc.
Author, Mastering Business Chaos

Top 10 Business Intelligence (BI) Requirements Analysis Questions

From our Clients and Training Program Participants Worldwide

This In-Depth Eight-Page Whitepaper Includes:

- What is the difference between Big Data and BI?
- What is the difference between a business requirement and a functional requirement?
- What is the difference between a transactional business requirement and a BI business requirement?
- What is the difference between a tactical BI requirement and a strategic BI requirement?
- What is the impact of BI requirements on BPM (Business Process Management)?
- How are conceptual BI Business Requirements different from physical BI Business Requirements?
- What is the difference among a Dimensional Model, Business Data Model and a Star Schema?
- Is ETL a business process or a technical process?
- How do I identify, analyze and define BI business requirements?
- Can I specify BI functional requirements via the use case format?

Top 10 Business Intelligence (BI) Requirements Analysis Questions

From our Clients and Training Program Participants Worldwide

By: James Proctor, CEO, The Inteq Group, Inc.
Author: *Mastering Business Chaos*

Overview

Business data is growing exponentially – in volume, velocity and variety! Customer requirements, competition and innovation are driving rapid changes in business requirements and supporting business processes.

Decision makers, at all levels of an organization, require accurate, current, cohesive business information to glean actionable Business Intelligence (BI) and associated analytics and insights to make effective tactical and strategic decisions.

Business Intelligence is no longer “nice to have” - it’s essential to agility and competitiveness. Simply stated – organizations that execute on big data and act on the resulting business intelligence thrive.

Most organizations recognize the value of big data. Unfortunately, many organizations are not yet realizing the full potential. The problem, however, is not with the enabling technologies – the technologies are stable and well understood. The problem lives with the business requirements.

Business requirements analysis for BI is very different than business requirements analysis for transactional systems – and requires business analysts with a unique, business-oriented (non-technical) set of business analysis skills, techniques and methods.

Traditionally, many organizations looked at BI from a technical rather than a business perspective. However, effective BI solutions require rigorous analysis of BI business requirements to:

- Identify, analyze and validate “what” the business decision makers and other stakeholders need to know (aka, BI business requirements) to make knowledgeable and insightful tactical and strategic business decisions and to improve the efficiency and effectiveness of business processes.
- Analyze and define the underlying data-oriented business rules and relationships that support the tactical and strategic business requirements and on-going improvements in business processes.
- Express the requirements in a clear, concise, unambiguous format that enables developers to design appropriate technical solutions to support BI requirements.

The 10 most frequently asked questions, by our clients and by participants in our business and systems analysis training programs, regarding BI business intelligence requirements analysis are summarized below.

Top 10 Business Intelligence (BI) Requirements Analysis Questions
From our Clients and Training Program Participants Worldwide

These 10 Q&As provide an excellent perspective that your organization can use as guidance to improve the quality, speed, and effectiveness of your organization's BI requirements process.

#1: What is the difference between Big Data and Business Intelligence?

The definition of Big Data and Business Intelligence (BI) vary considerably in the IT industry. However, there are several key distinctions between Big Data and BI that are essential in connection with BI requirements analysis.

There are three terms / concepts that are typically associated with Big Data – Volume, Velocity and Variety.

- Volume represents the sheer amount of digital data generated within an organization and generated external to an organization that is of interest / useful to an organization.
- Velocity represents the speed in which data is generated (internally and externally) and an organizations ability to identity, consume, process and make use of the data for decision making.
- Variety is the recognition that digital data comes in many forms such as text (from email, documents, text messages, social media postings, blogs, etc.), images (e.g. pictures posted on social media sites), Geospatial data (e.g. coordinates from mobile phones), etc.

Big Data, very simply defined, is collectively the tools, techniques and technologies to identify, capture and process the volume, velocity and variety of the flow of digital data.

Business Intelligence, very simply defied, is the ability to create value (better-faster decisions, glean insight, etc.) from the volume-velocity-variety of data. Think of BI as a subset of the more overarching concept of Big Data.

#2: What is the difference between a business requirement and a functional requirement?

A business requirement is something a business needs to do or accomplish (a work activity/task) to operate the business on an on-going basis. A business system functional requirement specifies how a business requirement is/could be supported by business system functionally via application software and/or business intelligence software.

For example, suppose that you are identifying and analyzing the business requirements for two restaurants. One is a large restaurant chain with many locations and the other is a small local independent restaurant. Both restaurants are "table cloth" restaurants - meaning that guests are seated at tables by a host and are waited-on by a server - as opposed to a fast-food type restaurant.

Both restaurants have similar business requirements. For example both restaurants want to take customer reservations, assign guests to tables when they arrive, take customer orders, process payments, update status of the tables, etc.

Even though the business requirements for the two restaurants are similar, the business system functional requirements will perhaps be different because each of the two restaurants in all likeliness will implement these business requirements using different tactics.

Business system functional requirements are a subset (more detailed view) of business requirements from a user functionality perspective. Functional requirements are defined in terms of the desired/required interactions between business end users and the target application.

The large restaurant chain, as part of developing or acquiring a new enterprise restaurant management system, may choose to include these business requirements as part of the functional requirements of the new system. In other words, the new system, for example, will enable the host create a reservation in the system while talking with the customer over the phone and also enable customers to create reservations on-line via the restaurants web site.

The small local independent restaurant may, however, choose to support these business requirements via a low-tech/no-tech solution (i.e. manually vs. via a system). For example, when a customer calls to make a reservation, the host writes the reservation party name, desired date/time and number of guest in the party into a manual reservation log book rather than entering the reservation into the a restaurant management system.

#3: What is the difference between a transactional business requirement and a business intelligence (BI) business requirement?

Transactional business requirements represent the business tasks / procedures that a business needs to perform. The example business requirements for the two restaurants in #2 above are transactional business requirements. Transactional business requirements support operational business users and are implemented via business processes and application software.

Business Intelligence (BI) business requirements analysis represent business questions that business decision makers (work activities that require knowledge and judgment) need to answer in order to make effective decisions.

Business intelligence business requirements are implemented via reports (e.g. Aged A/R report), metrics (e.g. Cost per Unit of Production), queries (Sales by product line by region), analytics, etc. that provide insight for decision making.

#4: What is the difference between a tactical BI requirement and a strategic BI requirement?

Tactical BI requirements support decision making in the moment or in the short term. For example: the identification of a spike in discussion of an organization’s product or service in the social media space; the daily product backorder report; a query regarding pending expirations of insurance policies. Tactical BI requirements are typically supported via pre-defined reports and queries.

Strategic BI requirements support longer-term decision making often involving trends. For example: the average turn-over rate by employee classification. This enables functional managers and HR to identify enterprise level retention issues and recruiting strategies.

Strategic BI requirements are driven by enterprise and business functional unit level goals and objectives. Strategic BI requirements are typically defined in terms of business metrics at various levels of aggregation (i.e., drill-up / drill-down) across key business dimensions (i.e., time, product, customer, and geography).

#5: What is the impact of BI requirements on BPM (Business Process Management)?

BI business requirements provide the metrics and key performance indicators necessary to identify potential gaps in business process (cycle times, defects, root causes, etc.) or patterns of behavior (credit card fraud detection) to analyze in connection with business process improvement.

BI business requirements enable improvements in business process performance through rapid pattern recognition / matching. Example – Ability to suspend a credit card when unusual activity is detected.

When BI business requirements are defined in the context of business processes, organizations are able to rapidly glean important business insight and have the ability to proactively respond (rather than react) to industry trends, regulatory changes, competition, etc.

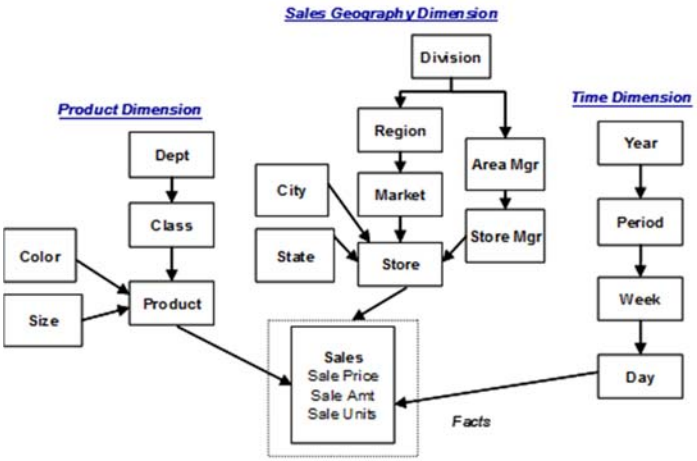
BI solutions typically require investment in software tools / products and in technical infrastructure (band width, database technology, etc.). Accordingly, the business case for the BI is based on improving customer and business value via improving organizational effectiveness and operational efficiency versus the cost of analyzing, designing, developing and implementing BI solutions. The business case for BI is typically compelling.

#6: How are conceptual BI Business Requirements different from physical BI Business Requirements?

Conceptual BI requirements represent the business / business user perspective regarding the requirement. Conceptual BI Requirements are typically defined in terms of business questions and are depicted via logical data models, dimensional models, activity diagrams, data access needs (i.e., response times, structured v. unstructured queries, metric calculations) and ETL process maps.

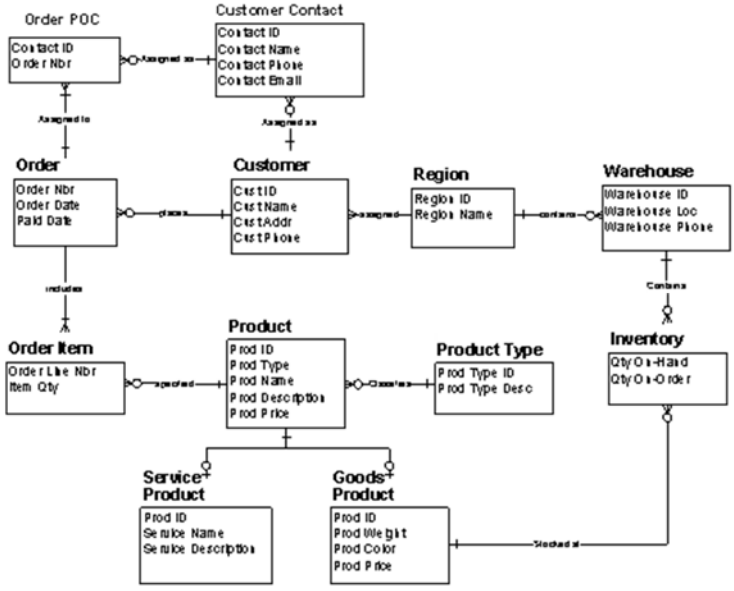
Physical BI requirements represent how the Conceptual BI requirements will be implemented from a business technical perspective. Physical BI requirements are typically depicted via star schemas, physical database designs, source system physical data models and ETL system transformation and interactions.

#7: What is the difference among a Dimensional Model, Business Data Model and a Star Schema?



Dimensional models are utilized for BI business requirements analysis. Each dimensional model depicts / defines a single BI business requirement. Dimensional models are business intuitive / friendly and accordingly are an excellent vehicle for engaging business decision makers and subject matter experts in analysis.

Dimensional models depicted business concepts and attributes based on business functional area / department definitions - not based on the inherent (logical) nature of the data. Dimensional models depict the relationships among / between business concepts within a dimension and the relationships between dimensions and metrics to represent drill-up and drill down across dimensions.

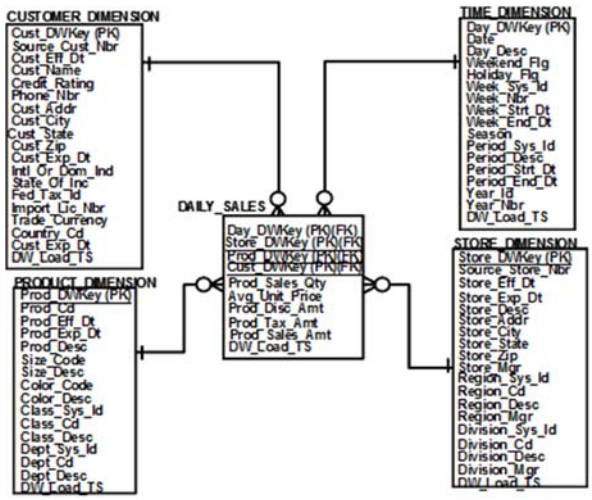


An organizations enterprise business data model (conceptual model and logical model) represents transactional and business intelligence data oriented business rules from a business (non-technical) perspective. Business data models are developed by business analysts, data modelers and/or data architects working with business subject matter experts.

The business data model integrates all of the BI business requirements into a cohesive set of logical requirements. The business data model is utilized to validate business requirements with subject matter users via scenarios and translates and represents business concepts as business entity types, dimensions normalized into relationships between business entity types and attributes into appropriate business entity types.

A star schema model represents a type of option for the physical design of a BI delivery solution. A star schema model is typically implemented via a data mart – an independent data mart or as part of a cohesive architected data warehouse solution.

A star schema model consists of business dimension tables hierarchy represented from the conceptual dimensional models, central fact tables - metrics implemented at a specific level or granularity and summary level star schemas - requirements driven by navigation, performance, and ease of use.

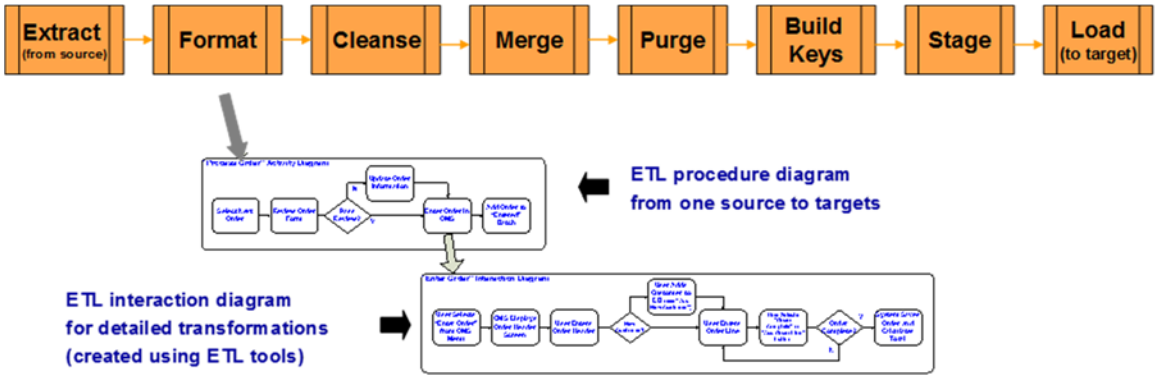


#8: Is ETL a business process or a technical process?

Both! There is both a business process analysis component to ETL (Extraction, Transformation and Load) performed by a business analyst and a technical design component performed by a technical designer / developer.

The role of the business analyst is to define the data necessary to support the BI business requirements, map the data to the appropriate source or sources, analyze the underlying rules of the source data, and define the scrubbing, standardization and transformation of the source data to support the BI business requirement.

The role of the technical designer is to define the technical solution to extract that data from the source databases, scrub, transform and stage the data, and load the data into the BI solution environment (architected data warehouse, data mart, etc.).



The ETL process map (notional example) above depicts work activities and dependencies from sources to targets.

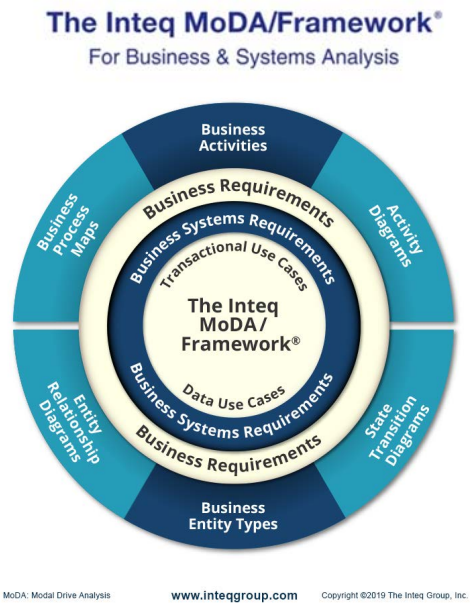
#9: How do I identify, analyze and define BI business requirements?

It's essential to utilize model driven analysis techniques to identify, analyze and define BI business requirements. Traditional text based analysis artifacts such as narratives, bullet lists and indented outlines are not effective in engaging business decision makers and subject matter experts in analysis and result in incomplete and ambiguous requirements.

Model driven artifacts such as process maps, activity diagrams, business data models, dimensional models, state transition diagrams, ETL maps, etc. are highly engaging and enable analysts to filter the noise and ambiguity of the requirements and visually represent requirements clearly, concisely and unambiguously.

Models/diagrams (see Inteq's MoDA/Framework™) result in a common understanding of the requirements across the stakeholders and enables business end users to validate and extend the models/diagrams via business scenarios that are run against the models.

When the models/diagrams are stable the business requirements can be further distilled / refined into functional requirements.



#10: Can I specify BI functional requirements via the use case format?

A use case is an excellent way to specify BI functional requirements – for both transactional systems / applications and for BI systems / applications. However, many organizations struggle with the use case concept.

A few key concepts to keep in mind in connection with use cases:

- A use case is a documentation approach for specifying a functional requirement! More specifically, a use case is a standard for documenting a functional requirement.
- A use case is not an analysis tool! Functional requirements are first identified and analyzed via models (process maps, activity diagrams, business data models, dimension models, state diagrams, ETL maps, etc.) using business and system analysis techniques.
- After the BI business requirements are identified, analyzed and validated via the models / diagrams, the BI business requirements can then be distilled and organized into the BI use case format.
- Each BI functional requirement is specified via a separate use case.

A BI use case is not a technical document, it's a business document that clearly defines / specifies the functional requirements for a BI business requirement. Accordingly, development of BI use cases is a business analyst role.

The Next Step

It's a very complex, globally competitive, rapidly changing business environment. Ask yourself some critical questions. Are the business processes and supporting applications in your organization really keeping pace with ever increasing demands for organizational effectiveness and operational efficiency?

Do your team and your organization have the critical thinking skills and analysis techniques to rapidly identify, analyze and articulate essential business requirements? Are you able to rapidly define and specify your business requirements at the level of detail of functional requirements?

If you can, what are the benefits? If you can't, what are the risks?

Successful business analysis requires business knowledge, adept judgment and seasoned experience. Inteq's elite business analysis training programs and professional consulting services enable you, your team and you organization to achieve high-impact high-value results quickly.

Contact Us Today!

Inteq's BPR360/Framework™, MoDA/Framework™ and Agile/Framework™ were developed and refined from numerous business analysis initiatives over many years - and are the foundation of our elite business analysis training programs and professional consulting services.

Contact us and let's discuss business analysis in your organization in more detail:

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