

Business Requirements – A New Definition

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Abstract:

Nebulous definitions of exactly what constitutes a Business Requirement are arguably one of *the* central issues in the Business Requirement industry. There are perhaps as many definitions as there are Business Requirement Analysts (BRA's), and most subscribe to definitions which are exceedingly difficult to qualify and quantify, which ultimately results in the creation of potentially "sloppy" or inadequate Business Requirements.

The significant impact of inadequate definitions and the associated industry impact was examined in some depth in a preceding paper entitled, "Business Requirements – An Inconvenient Truth" – Tyler, 2008.

Of course, experienced BRA's may, through relentless perseverance and much experience, perfect the art of Business Requirement elicitation. But alas, an art form is an inadequate foundation for the industry to leverage and is certainly problematic in terms of skill and knowledge transfer.

What is needed is a definition that is more granular, specific and quantifiable. A more robust definition that can be leveraged across the industry. Such a definition must "transform" the art of Business Requirement elicitation to a more stable science with consistent and verifiable output. The definition must also provide a means to improve Business Requirement accuracy, completeness and consistency.

This paper will propose such a definition and attempt to address the shortcomings of preceding Business Requirement definitions. The paper will advocate a definition that has recently been tested by some of the largest corporations and government agencies in the world. The definition does what any good theory should personify, namely; formalize and instantiate the intuitive. Most BRA's will agree that a sound new definition should merely express the *thought process* they undergo when identifying and eliciting "good" Business Requirements.

The Issue:

“Poor Business Requirements yield inadequate results.” – Tyler, 2008. This simple truism was examined in the preceding paper entitled, “Business Requirements – An Inconvenient Truth” – Tyler, 2008 (<http://www.requirementsnetwork.com/node/1353>). This paper further opined that the converse is entirely true, namely, sound Business Requirements are far more likely to yield usable and more than adequate results (by the initiatives that consume them). The paper further proposes that perhaps a significant contributor for the generation of poor Business Requirements is the fact that no industry accepted or sound definition of a Business Requirement is evident, indeed literally dozens of (mostly) vague or nebulous definitions exist.

This presents a significant challenge to the BRA. How can one embark upon a successful career as a BRA, when the very foundational definitions are inadequate or even flawed?

The preceding paper expressed an urgent need for a rethink of the base definition of a Business Requirement and presented the following criteria, for the “evaluation” of Business Requirement definitions:

1. A sound, practical and meaningful framework to define business operations
2. A sound theoretical definition of a Business Requirement (and what constitutes a business, for that matter)
3. A complete set of formal rules, based on mathematics or heuristics, for the BRA to use when extracting and eliciting Business Requirements
4. Is business friendly and ensures easy to understand output
5. Output that is largely diagrammatic (vs. textual) in nature and easy for the business to interpret
6. Output that is verifiable (by applying the same formal rules)
7. Output artifacts (Business Requirement Documents or BRD’s) that are complete, structured, business friendly and consistent
8. Formal techniques to harvest and re-cycle existing business knowledge/information sources that (significantly) reduce the time and cost of typical business interviews and work sessions
9. Automation software to enable and accelerate Business Requirement elicitation methods and techniques.

This paper will propose a new Business Requirement definition - one that attempts to meet some of the criteria above and also provides a foundation or basis for meeting the remaining criteria.

A New Definition:

Based on the abstraction of *elemental components* (or repeating “atomic” patterns) of literally thousands of Business Requirements, over many years, in a diversity of corporate and organizational environments, a definitive and irrefutable pattern was identified. Namely, that (true) Business Requirements appear to contain elements of the following common “*business dimensions*”:

1. Business *tasks* (that are required to be automated)
2. Business *responsibilities* (indicating who is responsible/accountable for business tasks that are required to be automated)
3. Business *Information* (indicating information that is required to perform the business task)
4. *Geography* (indicating where business tasks are required to be performed)
5. *Temporal* triggers (indicating when business tasks need to be performed)
6. Interoperation/*workflow* of the above (indicating how the above business dimensions interrelate).

The connectivity of these common elements or business dimensions to the information/application systems domain is fairly obvious. In other words, BRA’s are communicating to IT counterparts that *they require business tasks to be automated, when certain temporal triggers occur, at a particular geography and that the business tasks (or responsible parties) need access to certain business information.*

This of course neatly mirrors what IT developers *require to know* in order to build or select appropriate application systems to meet the required business need. The aspects of application systems development/selection that IT developers require to know in order to present an appropriate automated solution consist of:

1. Program instructions/code (that automate business tasks)
2. Information (databases)
3. Application system and data access (for the responsible parties)

4. Network topography
5. Execution triggers/events
6. Workflow.

Synthesizing and combining the needs of the BRA and the IT developer, results in a common interrogative framework¹ which embodies the following dimensions:

1. What? (business tasks)
2. Who? (business responsibility)
3. Which? (business information)
4. Where? (geography)
5. When? (temporal governance)
6. How? (do the above dimensions interrelate/flow)

This presents a very convenient framework for understanding business operations and what is required to be automated by the business. In addition, it addresses what IT application developers require to know, in order to implement an automated solution.

The above five interrogatives and the interrelationship thereof, appear to be “intuitively obvious”. Additionally, this “view” of business and application systems is very encouraging as it appears to provide a more concrete and robust understanding of the foundational dimensions of business operations. If one accepts these dimensions as “stable” and “logically relevant”, it is a simple matter to elaborate on the base question from a Business Requirements perspective.

In other words, by adding a “requirement” bias to the framework we are able to move closer to a solid definition of what exactly constitutes a Business Requirement. Namely;

1. *What* business tasks are *required* to be automated?
2. *Who* is *required* to perform these business tasks?
3. *Which* business *information* is *required* to perform these business tasks?
4. *Where* are these business tasks *required* to be performed?
5. *When* are these business tasks *required* to be performed?
6. *How* do we *require* the above to be performed / sequenced?

¹ This framework was first published by BusinessGenetics©, Inc.

By answering the above interrogatives and applying this framework, the BRA is provided with something far more concrete and tangible than many other high level Business Requirement definitions (in contrast to; “A requirement that specifies a function that a system or system component must perform” - *IEEE Std 729-198*).

It is a simple matter to translate the above questions into a “formal definition”- one that can be leveraged to provide a concrete and discrete foundation for Business Requirement elicitation.

This new definition of a Business requirement is:

“The *work* and associated *information* performed *within a time frame, at a location, by a business group or role* that the business *requires to be automated in a particular sequence.*”

This definition, whilst being relatively intuitive, provides a level of clarity and specific granularity that is often missing from traditional Business Requirement definitions. It enables the BRA to elicit something very concrete, yet meaningful, from business Subject Matter Experts (SMEs).

Testing the Definition:

Let us by way of example, test to see whether this new definition is usable, by “dissecting” a “typical” Business Requirement in accordance with the new definition.

Let us say that the following Business Requirement has been communicated to a BRA:

“The business requires the system to make payments to existing suppliers with current contracts.”

Using our new definition we can distill this textual requirement statement into:

What: Make Payments

Who: Existing Suppliers

Which Information: Current contract

This appears to embody every element of the textual requirement statement. However, we can plainly see that our new definition implies that there are additional “dimensions” to a Business Requirement - a fact that our traditional definitions would certainly not account for.

The missing “dimensions” are:

Where (are payments made) and When (are payments) made?

This is an easy task for the BRA to elicit. Perhaps the additional input might be:

Where: Tampa Service Center

When: Payments must be 30 days net

We have thereby completed the Business Requirement, *by providing concrete and tangible “dimensions” and ensuring a further degree of completeness*, which we may not typically have elicited.

Completing the Definition:

The example outlined above appears to be relatively comprehensive. However, there is something missing. An aspect that is often essential for business and application system operation. This aspect pertains to requirements related to how the business and corresponding application system are required to *perform*. It is often critical that application systems are able to accommodate certain levels of business volumes (transactions), data growth, etc., namely the *how much* aspect of the business. This special type of requirement is called a *Business Performance Requirement*.

The definition of a Business Performance Requirement is simply:

*“The **measurable business performance metrics** associated with a Business Requirement.”*

In our example above, perhaps the business SMEs are prompted to add the following Business Performance Requirements:

- *An average of 1,000 payments per financial period are expected*
- *Currently 100 suppliers have contracts and we expect growth of 10%/year.*

An important point here is that Business Performance Requirements almost *always* pertain to one or more of the foundational dimensions discussed (What, Who, Which, Where, When or How). Consequently, it is a simple matter to elicit Business Performance Requirements simply by asking questions such as; how many, how much, etc, once the base Business Requirements have been identified. It is relatively mechanical to elicit these Business Performance Requirements, *provided that the six foundational questions have been used to elicit the base Business Requirements.*

So, in essence there are essential only two types of Business Requirements;

- the actual *Business Requirement* (elicited using the foundational dimensions)
- the *Business Performance Requirements* that augment the Business Requirement.

Leveraging the Definition:

Now that we have a far more usable and indeed explicit definition of a Business Requirement, we are able to introduce a number of scientific and heuristic methods to specifically hone in on each of the business dimensions identified in our definition.

This is a significant point. We are now able to *apply science and heuristics* in a very *focused* manner, to specifically elicit Business Requirements for each of the foundational business dimensions. We now know *exactly what we are looking for* when we interact with the business SMEs, namely; Who, does What, with Which Information, Where, When and How. This is crystal clear, specific and very complete. In fact, there is not much else a business does other than these foundational aspects. No longer are we reliant on experience (or art!) to aid us, but we can truly make a quantum leap forward by leveraging a number of formal methods for answering these questions.

Indeed, six core methods, each with a formal set of rules have been successfully applied to the foundational interrogatives and produce, dare we say, relatively bullet proof Business Requirements².

There are many formal and heuristic methods available to extract, structure, organize and even validate the Business Requirements gathered with this approach. (De)Composition theory and Network theory are two examples. BusinessGenetics®, Inc., has assembled a very powerful and comprehensive set of theory to answer the six interrogatives. They have refined classical theory with the addition of approximately 55 “rules” that govern the output created, thereby ensuring a very high degree of consistency, as well as enabling (for perhaps the 1st time) independent validation of output (and associated Business Requirements). And of course, allowing true scalability and vastly accelerated Business Requirements skill proliferation, as well as the auto-generation of Business Requirements using inference software.

A subsequent paper will provide more detail and examples of the types of formal knowledge extraction methods and techniques that can be used to elicit Business Requirements that are rooted in our new definition.

Additionally, subsequent papers will also argue and demonstrate the similarities, differences and surrounding so called *Business Rules*.

What’s Next?

The state of the Business Requirement industry leaves a lot to be desired³. However this is not surprising, as extensive research has revealed that most Business Requirements consist of little more than “random snippets of consciousness” – Understanding 21st Century Corporations, Tyler & Baker, 2007.

It is believed that the underlying cause of this condition is the fact that there is no industry accepted or adequate definition of exactly what constitutes a Business Requirement. Indeed most definitions merely fuel and confuse the issue, as are generally vague, nebulous and of little practical use by the BRA.

² A major off-shore system developer is quoted as saying; “These are the most robust, detailed and complete business requirements we have ever seen.”

³ Validated by industry studies (Standish Group) and the many examples of failed application development initiatives.

It can be forcefully argued that *one simply cannot describe what one cannot define*. This would be akin to attempting to create chemical compounds with absolutely no theoretical and formal definition of the atomic elements. It is simply not possible. Yet for decades we have attempted to elicit Business Requirements unaided by an adequate and explicit foundational definition.

Well, now we have a far more usable and explicit definition of a Business Requirement, one that explicitly identifies the key components to any business or organization and provides a solid and complete understanding of the business elements/dimensions we need in order to capture Business Requirements. The explicit elements of the definition (and associated framework) further allow, perhaps for the very first time, for more formal methods to be deployed in the elicitation of Business Requirements. Thereby ensuring greater accuracy, completeness, detail, skill transfer and, above all, consistency.

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