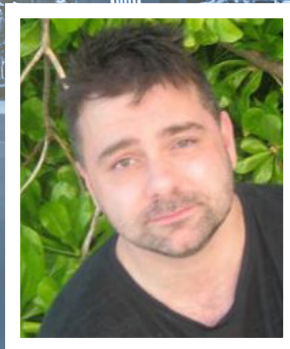




eBook

# Using Traditional BA tools for Business Intelligence

*(Part 2)*



*Jason Dove*

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# Introduction

To conclude this two-part series, we will now look at three more traditional Business Analysis tools that can be amended to assist in Business Intelligence centric analysis.

## Boston Matrix: a Quick Recap

The Boston Matrix is a tool used for product analysis and management which was developed by the Boston Consulting Group. Personally, I have used it myself for a variety of analysis style tasks beyond the validation of product market placement as it is great for anything with two attributes to compare and measure.

In the case of the original Boston Matrix the two attributes are current market share and growth potential. The four boxes of the Matrix then present these two attributes in the four permutations.

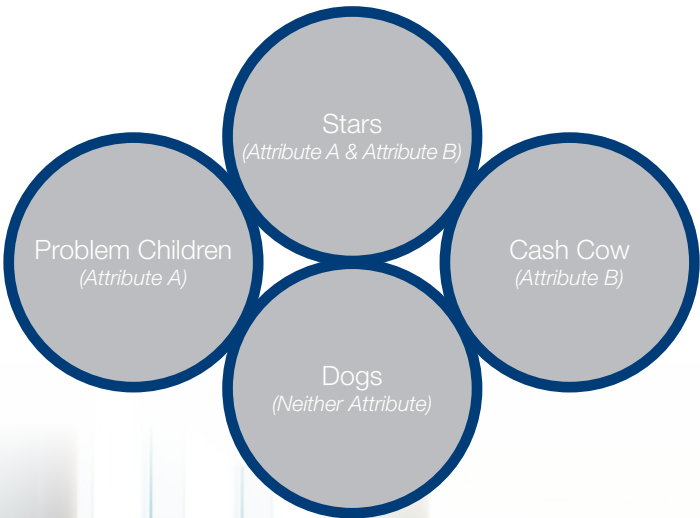


Figure 1. Underlying Boston Matrix logic



When these two attributes are replaced with Market Share and Potential Growth, the traditional Boston Matrix is revealed.

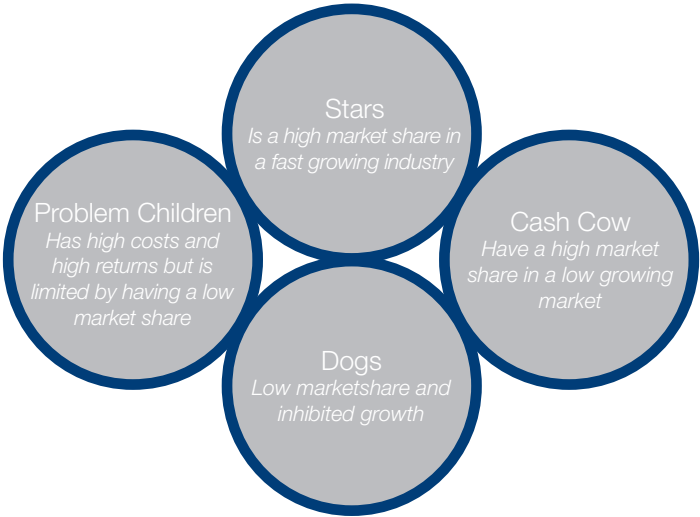


Figure 2. Traditional Boston Matrix

This traditional Boston Matrix describes the impact of market share and market growth as the two attributes.

Each square has a descriptive name, which we'll look at now in relation to the traditional market share application of the Boston Matrix.

### Dogs

Dogs suffer from a lack of either attribute, which in this case means that the product being evaluated generates little in regard to cash and is in a slow growth industry.

### Problem Children

Problem children have little market share in a high growth market. Products in the Problem Children square should be closely monitored as they are the most volatile and likely to either degrade to 'Dog' status or improve to be a 'Star'. Both of which require different considerations and handling.

### Cash Cows

Cash cows have high market shares within slow growth markets. These products are cash rich but are limited by residing in a low growth market.

### Stars

Stars are firing on both attributes by earning a large percentage of a growth industry. This is obviously the ideal combination in its own right but also (usually) indicates opportunities to expand further.



## Traditional Boston Matrix Summary

To give the Boston Matrix the full justice it deserves is well beyond the scope of this paper but I recommend further reading as it is a great analysis tool.

In short, the Boston Matrix gives companies a clear and simple summary evaluation of which products should be handled in which way and where it is best to invest.

## Matrix for BI New Requirements

Viewing the Boston Matrix as a two attribute valuation technique makes it very easy to adapt and adopt it for various scenerios and uses of which product market placement is just one of many.

As this paper is focused on Business Intelligence we shall look at how the Boston Matrix can be used to prioritise requirements when implementing a new component in a new or existing report library.

In this scenerio a 'component' can be a report, dashboard, reporting pack or even a smaller undertaking such as adding a chart to an existing report.

## Audience vs Resources

The two attributes for application of the Boston Matrix is the audience who will view the report which is comparable to the market share, and the resources required to develop and maintain the component.

The diagram below presents the Boston Matrix with this Business Intelligence focus and illustrates how easily it can be applied to various subjects.

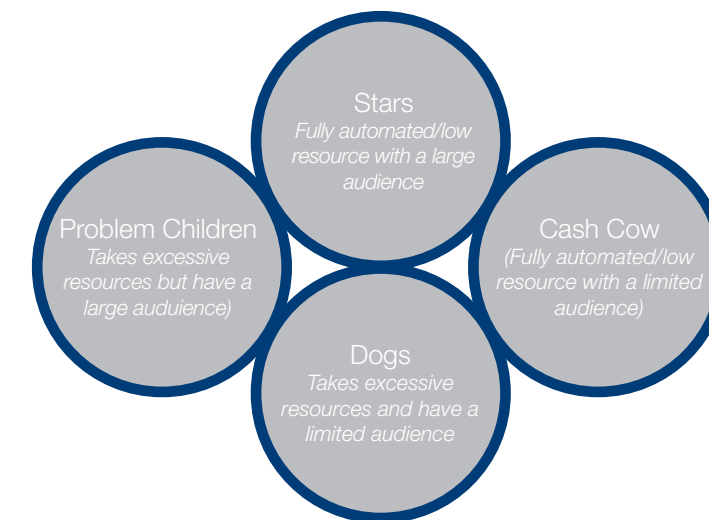


Figure 3. The Boston Matrix applied to BI prioritization

The audience is very comparable to the marketplace in the traditional Boston Matrix. In particular it is worth noting that reference to audience size not only applies to the number of individuals who are likely to view a report but also the position of the viewer in the organizational hierarchy.

Someone higher up in the organization is more likely to use a report for guidance and wider decision making, thus making the report more important than it is for audience members who held positions with less responsibility.

It is also worth keeping in mind that someone in that position may also be able to make the most noise in regard to getting what they want. This should not happen but tends to be a common occurrence with Business Intelligence that some stakeholders 'must have' a dashboard regardless of wider priorities. While far from ideal, it happens and should be factored into the analysis.

In a similar way, the resource attribute includes both - impact to scheduled, automated report generation and the effort of manual processes that can sometimes be required to put certain reports together. This is another case of "it shouldn't happen, but it does" and so it should be covered as part of the analysis.



## Forget Context

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With this analysis technique it is very easy to slip into categorising a component in relation to the general level of quality held by the 'typical' component in the BI solution. This is wrong and degrades the value of a Boston Matrix which is based upon measuring an individual item against two agreed attributes.

For example:

*A Business Intelligence solution consists of ten reports of which nine require an hour each of manual intervention and one requires five hours. In this scenario it is easy to identify the tenth report as a 'Dog'. But the fact is that all ten belong in the Dog category, unless they have a large audience and then may become a Problem Child.*

*With that in mind, here is a detailed look at the categories for a Boston Matrix when applied to Business Intelligence priorities.*

### Dogs

A Dog is a report component that swallows endless resources electronically or requires manual intervention to provide minimal or superfluous information for a limited audience.

Once identified, the Dog report should be evaluated as to the effort required to improve it. When using a Boston Matrix on a mature BI solution, there is probably room for improvement. But there are times when a Dog report is just that and cannot be improved upon enough to make the effort worthwhile.

In this scenario, Dog reports should be carefully evaluated to ascertain whether or not the information can be sourced elsewhere for the audience or if the audience themselves can be persuaded to live without the report.

### Problem Children

These reports normally take the form of dashboards and reporting packs that either require minimal manual intervention (such as manual distribution) or are a drain on electronic resources while not having a large or important audience.

Large data volume reports may also find themselves in this quadrant, though this is usually hard to mitigate and it may be a case of learning to live with the pain if stakeholders can't be furnished with the information in any other way.

### Cash Cows

A Cash Cow report contains important information that requires a large amount of resources in order to run.

This 'important information' can take the form of data feeds to third parties or in house downstream system as well as more traditional Business Intelligence reports required for decision making and performance monitoring.

A good way to identify the importance of a report is to evaluate the impact to the business if it did not run on time (if at all).

Many reports are required to meet their own SLAs and have penalty clauses attached in regard to when and how often they are supplied, which can make their evaluation straightforward.

In the market place of the traditional Boston Matrix, emphasis is often placed on changing a Cash Cow into a Star and can be a huge undertaking. The same can be true for Business Intelligence but often reports can be improved upon with a little forethought, especially when the resource issue is with a manual process that can be automated (and nearly all manual Business Intelligence processes can be!).

### Stars

Stars are components that require no manual intervention and a minimum of electronic resources while catering to a large audience or provide important information for a limited audience.

All components/reports/dashboard/reporting packs should ideally fall into this category, and if not, it should be the goal of the Business Intelligence stakeholders to make it a reality.



## Boston Matrix for BI Summary

Applying a Boston Matrix in this way for Business Intelligence is a great way to prioritise work, whether as part of a green field development or improving an existing BI solution.

One word of warning when using the Boston Matrix for that other than its intended purpose (and this holds true for my usage of it in this paper) - be aware of the two attributes being measured and their synergy.

From the original Boston Matrix, I have replaced the market share with 'audience'. This is not the same thing! In regard to products and market share, a product having an increased market share means more money and is a good thing. Having a larger audience for a Business Intelligence component does not help anything if the component (report etc.) takes a lot of resources.

For this Business Intelligence version of the Boston Matrix, increasing the audience is not really important, instead it is used to validate the importance of the report to the organization rather than being something to improve upon in its own right.

That said, if the goal of this analysis was applied to a subset of BI reports that contained performance information, it may be deemed important to get as large a relevant audience as possible.

The point here is that bastardizing the Boston Matrix for different uses requires forethought and planning before leaping in!

A final point I want to make is that like the market place, the Business Intelligence environment is in constant flux and reporting components will likely inhabit multiple boxes in the Boston Matrix during their life cycle.





# Five Forces: A Quick Recap

The Five Forces model (often referred to as ‘Porter’s Five Forces’ model, after its inventor Michael Porter) highlights five competitive forces that can be applied to any business sector and be used to measure the overall health of the organization’s services or products.

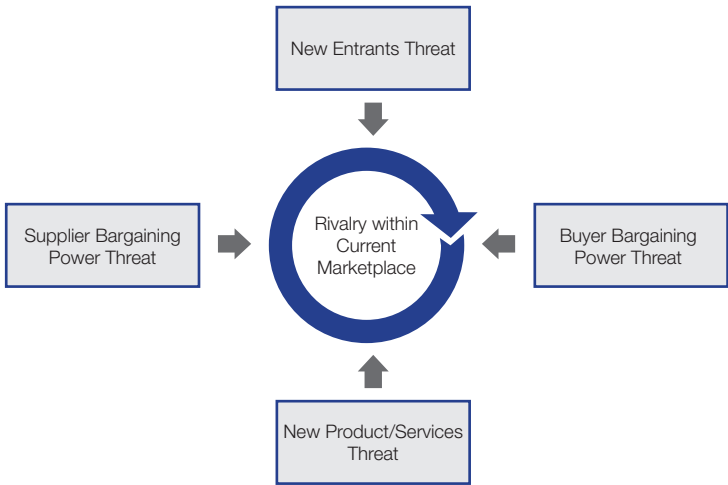


Figure 4. Porter’s Five Forces Diagram

I will briefly summarize the traditional definitions of the Five Forces model before looking at how it can be applied to Business Intelligence, but once again, I recommend further reading to get a full picture of how this tool can be used to its full potential.

- 1

**Rivalry within Current Marketplace**  
The number, size and success of competitors with a similar service or product identifies their threat to the company by providing the same options to suppliers and customers.
- 2

**New Entrants Threat**  
The less money and time it costs for a competitor to enter a company’s market and be an effective competitor, the more likely a company’s position could be significantly weakened.
- 3

**Supplier Bargaining Power Threat**  
When there is a shortage of suppliers, it can be possible for them to demand more for their ‘raw materials’ as well as become lax in their customer service without fear of losing custom.
- 4

**Buyer Bargaining Power Threat**  
This specifically deals with the ability customers have to drive prices down by shopping around. It is affected by how many buyers or customers a company has, how much market share sits with each customer is and how much it would cost a customer to switch from one company to another.  
  
A good example of this is how farmers are often at the mercy of large supermarket chains who are in such a position of power they can set the prices.
- 5

**New Product/Services Threat**  
If a competitor has products or services that can be used in place of a company’s offerings, it poses a threat. This is particularly true in regard to ‘disruptive’ technologies which can unsettle a market by indirect competition.  
Example: taxi firms that are used to competing against each other being impacted by Uber.

# Traditional Five Forces Summary

The Five Forces model is a fantastic tool for evaluating the health of an organization and/or their products within the marketplace as it both singles out individual areas (or ‘forces’, if you prefer) for investigation and encourages them to be considered as one interlocking view of the organization.

A good example of this is how concern over a supplier putting their prices up can be mitigated by buyers not having much market choice. (Not that I recommend this approach to customer care!)

# Five Forces for Business Intelligence

Unlike the Boston Matrix and some of the other analysis tools we’ve looked at, the Five Forces model is not particularly adaptable to numerous uses. It has one job but does it very well.

This rigid specialization restricts the use of the Five Forces model but it can used in a similar manner to the traditional purpose with little amendment to evaluate a Business Intelligence solution within a larger organization which will often have multiple ‘reporting centres’ that can be treated the same as competitors in a free market.

The key difference here is that the organization will not (at least, it should not) have internal rivalries between reporting teams and the purpose of the Five Forces is to ascertain the fitness of a reporting centre/business intelligence team when compared to the wider organization.

To this end, the five categories of the Five Forces have been tweaked to match this new purpose.

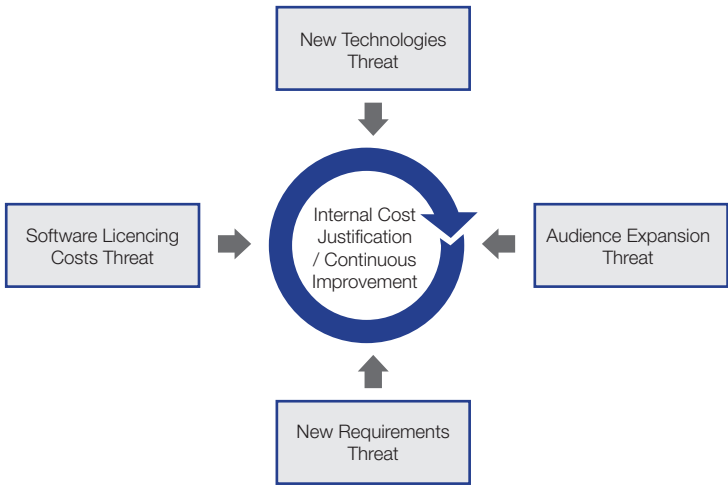


Figure 5. Porter's Five Forces for Business Intelligence



In this scenario it is usual for each reporting centre to have delineated areas of responsibility without any direct conflict or competition in day to business life. However, where more than one department with similar functions exist in an organization there should be on-going evaluation with the aim of identifying:

- Is staff training or upskilling required?
- Can separate reporting teams be merged into one large team?
- Can one reporting team consume the responsibilities of another?
- Is it cost effective for the whole BI solution to be outsourced to a third party?

With these objectives in mind, let’s look at the amended Five Forces categories.



# New Technologies Threat

New technologies take two forms; new versions of existing software and software that is entirely new to the organization.

In theory, new technologies should be a good thing, but the upheaval their release wreaks on an otherwise stable Business Intelligence solution can make them anything but.

In regard to software updates, these will usually be bug fixes with a few new bells and whistles. However, occasionally a software vendor will drastically overhaul the software to a degree that cannot help but impact the Business Intelligence solution.

Here are the key things to look for:

- Change in file extensions
- Functionality changes
- Hardware requirements
- User interface changes

A more subtle problem can be instigated by new software, namely – implementing “the next big thing” software or simply adopting some new functionality by one team can lead to it becoming a more attractive option for report requests.

This can be a threat to the team receiving the work due to the sudden high increase in demand, and a threat to other teams without the shiny new software who will see a drop in their workload.

# Audience Expansion Threat

This force asks the question: Can the Business Intelligence solution cope with the extra demand of an increased audience?

The first step for this evaluation is to recognise what the audience type is, as the impact will vary accordingly.

Audience Type	Impact
Proportionate increase across the base audience	Should not impact human resource, but the extra load on networks and data warehouses should be evaluated.
New audience type/group/team	New audiences tend to mean new reporting requirements but can often be based on the organizations existing reports. Depending on the new audience size, the electronic impact may be minimal.
New external audience type/group/team	An external audience has all the impact of a new internal audience plus the added pain of external distribution of reports, dealing with conflicting technologies. Additionally, there is usually a requirement for new reports that are unlike anything already in existence due to contractual obligations.
Management level audience increase	Management level audience tend to have a disproportionate (to the rank and file) interest in reporting and often have preferred reporting approaches and requirements from previous engagements that cannot be easily sourced from existing reports.

*Note: the Business Intelligence version of the Boston Matrix is ideal for refining this analysis!*





# New Requirements Threat

New requirements can take several forms that can manifest as a threat if resources are not available to manage them.

New Requirements are often a result of audience changes however this is not always the case and can be a result of the organization working in different ways.

New Relationship Type	Impact
Metric creation/alteration	This should be part of an embedded support process and not constitute anything that can be considered a threat or impact.*
Existing report amendments	This should be part of an embedded support process and not constitute anything that can be considered a threat or impact.*
New versions of existing reports	This should be part of an embedded support process and not constitute anything that can be considered a threat or impact.*
New report format	This should be part of an embedded support process and not constitute anything that can be considered a threat or impact.*
New dashboard or reporting pack	If the dashboard (or reporting pack) is a collection of standalone report, new work can be as simple as a drag and drop with a bit of drill down functionality. However, if the request is for original content and cross-chart functionality in one report instance it can be a large undertaking and a large drain on both human and electronic resources.
Data warehouse amendments	A change to a data warehouse can have a huge impact or none at all. Smaller, typical updates to ETL logic etc. should be consumed by day to day support. Larger or complex changes can have a knock on affect and impact all reports and components that it feeds data to.
New distribution method	Changing, or expanding the distribution of reports can be a huge mission in itself and raise a plethora of issues such as security, licensing, network traffic and so on. In depth feasibility studies are required for this innocuous looking change!

*\* If this is considered a threat by the organization there are serious resourcing questions that need to be answered!*

The above table provides an idea of how new requirements can be quantified and illustrates that they should be evaluated on a case by case basis.

# Software Licensing Costs Threat

Software licensing is seldom static and vendors can implement drastic changes to licensing rules with little forewarning. This coupled with older software versions being dropped from support can force an organization into a degree of upheaval that is most definitely a threat.

Listing any specifics is difficult as there are no generalities to refer to with different software licenses being so varied. But suffice to say that changes to software licensing require detailed analysis and any changes need to be carefully evaluated.

## Internal Cost Justification/Continuous Improvement

In this scenario it is usual for each reporting centre to have delineated areas of responsibility without any direct conflict or competition in day to business life. That said, where more than one department with similar functions exist in an organization there is a constant need to justify their existence.

Because we are now talking about reporting teams within one organization, constant review should not be the same as the fight for market share against competitors. Rather, it is an ongoing review of how best to assign resources for the betterment of the organization.

## Five Forces for Business Intelligence Summary

Unlike the other examples of appropriated business analysis tools which can be used for various purposes beyond their initial intent, Porter's Five Forces is quite restricted in its breadth of application.

The good news is that it does its one job very well! Each of the five forces provides a great framework from which to evaluate individual aspects of a Business Intelligence solution. When taken together this tweaked version of the Five Forces model introduces a method for holistic appraisal and review.



# Summary

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This is the end of this two part whitepaper, but hopefully only the beginning of your journey using traditional Business Analysis tools for all manner of reporting.

These analytical tools are very helpful and focus the mind on key factors which require consideration as part of a Business Intelligence implementation.

And from a personal development point of view, they can act as a pivot for established Business Analysts looking to branch into Business Intelligence, or for Business Intelligence Analysts/Developers/DBAs/etc. looking to extend their repertoire to include more traditional Business Analyst activities.

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## About Jason Dove

Jason Dove is an ISEB accredited Business Analyst, Developer and Professional Writer.

He consults for multiple leading businesses across various industries – from marketing to counter-terrorism.

Jason specialises in Business Intelligence related disciplines, with a strong emphasis on ITIL systems - a commonly overlooked opportunity for organizations to get the most from their IT investment.

With over 15 years of experience in the industry, Jason has leveraged his knowledge into that of author, blogger and is a contributor to print and online publications.



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