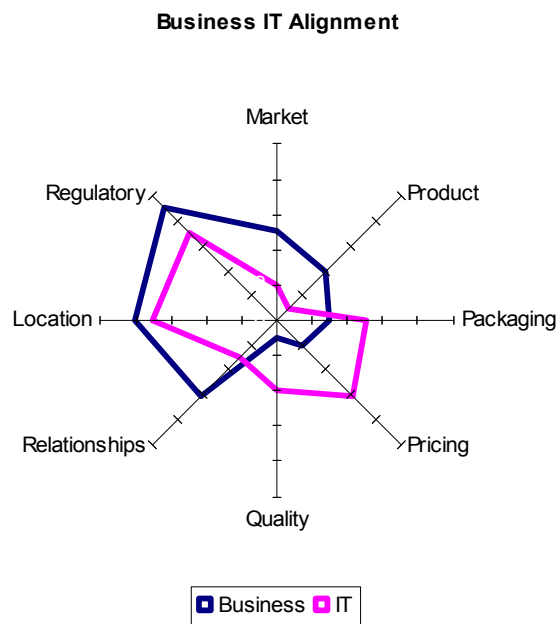


IT VALUE MAPPING

A quantitative approach to maximize returns on IT investments

Sourabh Hajela



Why do some IT organizations create unprecedented shareholder value, while others earn the contempt of their business leaders? It is no secret that aligning IT with business improves IT ROI, what is often in doubt is how to make it happen. Can you say with certainty that your IT is aligned with business? Can you prove it? If improving IT ROI is an imperative for you, read on. This paper will show you how to improve ROI by 10% or more...and we can prove it!

1. Introduction

Over the past four decades, Information Technology (IT) has moved from a research project to an integral component of business capability. Can you imagine a company without a computer?

Although, recently, some have argued that “IT doesn’t matter”, most people will agree that IT is a strategic business weapon essential to shareholder value.

As IT moved to this position of importance, so did IT budgets to a size that attracts attention. In most organizations, IT budgets are the single biggest expenditure. It is but normal to ask: what am I getting for this huge spending?

While most people will not argue with the fact that, overall, IT has created unprecedented value for businesses across industry, there is considerable debate on the value it brings in some organizations.

Why does this apparent dichotomy exist? Or perhaps, we should ask, why do some organizations fail to realize the full potential of IT?

The discussion is not on the value of IT nor the need to invest in it. It is on the returns these investments are generating. In other words, business leaders want to know if they are getting the “biggest bang for their IT buck”!

A recessionary economy and shrinking revenues have put this issue in sharp focus. If the only way to improve margins is to reduce costs then why not start with the biggest expenditure? But cutting IT’s cost is not the objective; it is to do so without affecting performance. Better yet, make IT “do more for less”!

Whether one views IT as a cost or profit center, the imperative is clear: **maximize returns on IT investments.**

2. Is IT ROI being maximized?

To the contrary, our analysis reveals that, on average, 50% of IT ROI is being lost!

In other words, **IT ROI can be doubled!**

In a study done by the Standish Group, only 26% of IT Projects were “successful”, 28% “failed” and the remaining 46% had time or cost overruns averaging 89%!

At a hurdle rate of 17%, we calculated an IT ROI of 8.68% i.e. roughly half of the desired rate. Another way of looking at this result is that IT spends 50% more than it should.

A saving of 50% of IT budget seems high. Maybe it is. However, the fact remains that a substantial percentage of IT budgets is being wasted.

How can we improve IT ROI? How can maximize returns on IT investments? How can we make IT do more for less?

Read on!

3. Why isn’t IT ROI being maximized?

With so much at stake and so much attention, why haven’t we solved this problem?

It is an understatement to say that the issue of IT Performance is very complex. More importantly, it is not very well understood. Before a problem can be solved, it has to be framed properly. In the least, its scope and dimensions should be identified in a meaningful way.

Unfortunately, even with a sea of information and discussion on the topic, we have failed to make this first step. For example, often, the concept of alignment and value are used interchangeably not recognizing the fact that they are related yet different - the former does not guarantee the latter.

The issue of IT Alignment itself is very nebulous. One can describe what it means to be aligned but few, if any, can clearly articulate what that means in operational terms – the former is an academic activity while the latter facilitates decision making.

Sometime alignment is approached top down i.e. from a “business drives technology” perspective,

forgetting the impact disruptive technologies, such as the internet, can have in the other direction. Technology can, and does, drive business agenda.

The discussion on the value of IT has been greatly facilitated by taking a financial view of IT spending. Applying financial frameworks to IT spending is good to a point.

However, the fundamental nature of internal investments, especially those in IT, makes it very difficult, if not counterproductive, to stretch this analogy any further.

- First, a clear quantification and assignment of the results of an internal investment is difficult, if not impossible. How much of a company's revenues can we attribute to marketing or IT or finance? In what proportion?
- Second, the impact of IT decisions is felt only after a substantial investment has been made. Typically, the first 20% of a project's lifecycle consumes 60% of its cost through investments in planning, software and equipment. More importantly, the fact that a system "works" or not is only evident **after** it has been implemented. Hence, course correction does not result in substantial savings.
- Third, IT assets are highly interrelated and not amenable to easy renewal or replacement. How easy is it to "put in" a new application? How easy is it to "sunset" one? Hence, value at risk is much greater than the cost of an initiative

Business and IT are two different worlds that have developed in isolation. Making the connection between things in the business and IT realms is often impeded by the fact that there is no common frame of reference or framework connecting the two.

Also, there are few people who understand both these worlds to help bridge this gap.

Consequently, the sense of heightened awareness has done little, if anything, to solve the problem of IT Performance.

4. Current approaches do not work

The issue of IT Performance is not new. There have been many attempts to address this issue, mostly, "borrowing" approaches and frameworks, from other disciplines. IT ROI and Balanced Scorecard are perhaps the best examples of such approaches.

These approaches have used up valuable resources but failed to address the issue because:

- They are not designed for internal investments nor factor in the unique nature of IT
- Their scope is either too narrow or too broad
- They either do not quantify results or are fixated on value in dollar terms. The latter is not the best approach to quantify some investments especially internal investments
- Data collection to feed these frameworks is a tedious and time consuming process – a lot of companies give up mid stream and others never get the intended benefits
- Keeping these frameworks updated requires investment in interfaces across the organization

To be fair, they have addressed the problem to a certain extent. At a minimum, they have helped highlight its complexity!

However, these approaches and frameworks do not address the key issues related to IT Capability:

- Are we maximizing the value of our IT investments? How do we know for sure?
- Is IT aligned with business? What is the misalignment costing us?
- How do we get in alignment? How much will that cost and make?
- How do we know when we are done?
- How do we stay aligned?

More importantly, various approaches and methodologies fall short on one issue: Can we make better IT decisions based upon the analysis?

5. The need for a different approach

We believe that improving IT Performance and making better IT decisions requires a differentiated approach and framework. This approach should be business focused but specifically designed for IT:

- **Practical:** The analysis should produce results that can be implemented
- **Quantitative:** The results should be quantifiable so progress can be understood, explained and monitored
- **Integrated:** Single framework that connects all components of Business and IT Capability so the complete impact of a decision – from top to bottom and left to right - can be assessed
- **Iterative:** Most things in real life do not happen on the first pass – they require careful calibration over time and take many attempts. If there is a common framework that synthesizes the lessons learnt so they can be carried forward, that immensely facilitates this process and makes it more efficient
- **Ease of Use:** Any tool's complexity is its own worst enemy. Hence, there is a need to simplify the interface, data collection and other things associated with the framework, to facilitate its adoption.

Based upon our experience with IT Alignment and value, we have developed a framework to address these issues. This framework is called “IT Value Mapping”.

By addressing the issues highlighted above, we believe this holistic framework will have a dramatic impact on IT value of businesses across industry.

6. What is IT Value Mapping?

IT Value Mapping is a technique that quantifies and visually depicts IT capability of an organization.

It creates diagrams, or value maps, to depict the state of key business and IT components at any given point in time. More importantly, it also depicts the impact of each component's “state” on business value.

- Current IT Capability – alignment and value – can be assessed by analyzing and comparing these diagrams
- Similarly, an assessment of planned IT decisions can also be made by viewing their impact on IT Capability through these diagrams – without a single dollar being spent on implementation

The technique is based on a unified framework that provides one view of the business:

- Top to bottom: Seamlessly links business and IT capability
- Left to right: links key components of IT capability – from strategy to implementation

It also recognizes the hierarchy of these components and links them - from IT Capability to applications, servers etc.

External events or decisions, all, have an impact on IT value. IT Value Mapping **shows** us the “what”, “where”, “when” and “how” of this impact.

By making this connection between “decisions” and their impact on “value”, it helps us improve IT ROI.

7. Tenets of IT value mapping

IT Value mapping is based upon the following tenets:

1. Any organization can be modeled using a single framework that links all its capabilities – from business to IT
2. Business and IT Capability can be quantified and visually depicted
3. Business model is the focal point of any organization – everything it does must be driven by it and should be to enable it
4. IT is a “service business” internal to the organization it serves
5. IT Capability has two interrelated but distinct dimensions – alignment and value
6. There are three imperatives for value creation, namely, strategic alignment, process coverage and asset productivity
7. IT Value must be measured using metrics specifically tailored for the purpose, with

little emphasis placed on dollar denominated ones

8. IT Capability is built iteratively using multiple “learn and do” cycles
9. All IT decisions are subordinate to IT Alignment and value
10. The need to make better IT decisions must drive any analysis of IT’s capability

8. In search of IT Value

IT Value Mapping takes a portfolio based approach to IT spending. In other words, it views “spending” on IT projects as a portfolio of IT “investments”.

Consequently, improving IT’s performance is seen as improving the returns on these IT investments.

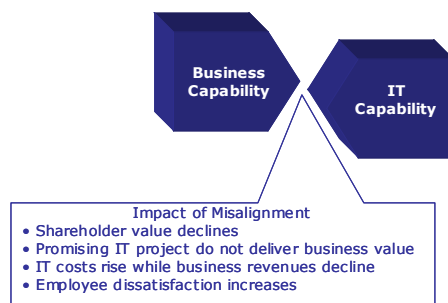
Maximizing returns on IT investments, then, requires meeting two objectives:

1. Eliminate investments – current and planned - that are not in line with business imperatives and,
2. Simultaneously, manage the remaining investments to improve returns

Any attempt to improve IT performance must meet both these objectives.

9. The three imperatives for IT value

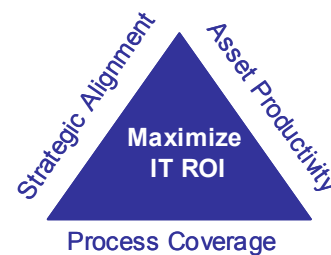
The first objective is the premise behind IT Alignment – an IT capability designed *specifically and only* to enable business requirements. Anything that does not meet this criterion causes misalignment and must be eliminated.



However, alignment does not address the second objective. We may be “doing the right things” but not “doing them right”!

Hence, alignment is necessary, but not sufficient, for value creation. Any investment must also be managed for performance, otherwise, we have a partial solution, or, perhaps, a complete solution but an “expensive” one. In either case, we have not maximized IT’s value.

IT Value Mapping recognizes that IT performance or value is driven by three factors, namely, strategic alignment, process coverage and asset productivity.



While strategic alignment *identifies* IT initiatives that support a business need, process coverage determines if actions match this objective. Process coverage reflects the extent, say in percentage, to which those initiatives are being implemented. In other words, investment in IT processes that are focused on enabling strategic business needs provides *positive* coverage.

Asset productivity determines the degree to which IT assets are being utilized to their maximum capability. Any spare capacity on a server, for example, lowers asset productivity and hence IT value.

Since IT processes use IT Assets, all three dimensions of IT Capability are interrelated.

IT Value Mapping views IT as an internal service “business” catering to its “customers”, the other functions of the organization.

Any business must produce “products and services” that its customers are willing to “pay for”. Its processes are then geared towards making these products and services in the desirable time, cost and quality.

Recognizing that the definition of “desirable” is driven by the business model of an organization, it does not necessarily equate to “lowest” or “shortest” or “best”.

Strategic alignment is about identifying the “right” products and services. Process coverage is about “making, delivering and managing” them. Asset productivity is about doing this at the “desired time, cost and quality”.

10.5 Key Questions for IT Value

In a previous section we discussed the two objectives for value creation.

In order to meet these objectives, we must be able to address the following questions:

1. How to identify investments that are not in line with business imperatives?
2. How to perform root-cause analysis of things affecting investment results at a level where IT decisions are typically made i.e. applications, servers, employee etc.?
3. How to quantify and verify investment results?
4. How to accurately predict returns on new IT investment decisions before any money has been spent on them?
5. How to monitor and track benefits on an ongoing basis to enable mid course corrections?

IT Value mapping maximizes returns on IT investments by answering these critical questions.

Let us see how.

11. Question 1: How to identify

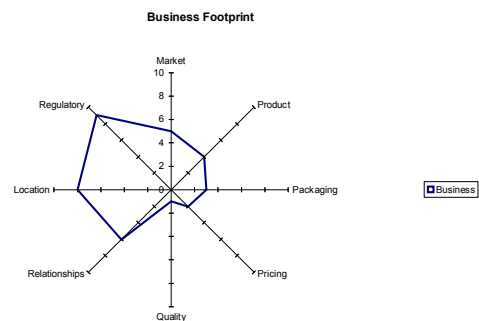
investments that are not in line with business imperatives?

We use two key value maps, namely, the business and IT footprint, to determine if our investments are in line with business imperatives.

The Business Footprint

The “business footprint”, is a value map that depicts the business capability of an organization. It shows the competitive position or the basis of competitive differentiation. Competitive differentiation is what determines the success or failure of an organization.

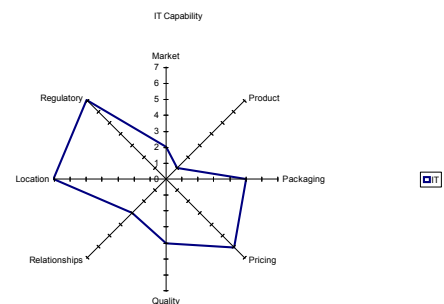
It follows, then, that every organization, whether for profit or not, has a unique footprint that represents its basis of competitive differentiation. This footprint can be derived from the business model of the organization and serves as the basis for all decisions, including those in IT, that follow.



In a perfect world, every function in the business must exactly “match” this footprint. The capability of each function must be designed to enable this footprint. Investment in each function must be commensurate with creating just this capability – anything over is a “waste” and under an “opportunity loss”

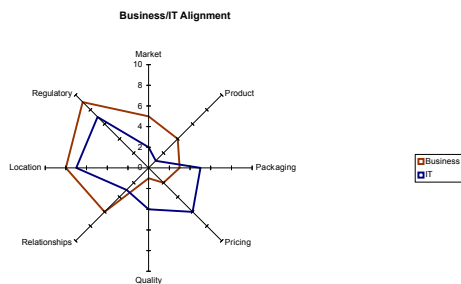
The IT Footprint

An “IT Footprint” is analogous to its business counterpart, except, it shows the IT capability of the organization. Since IT exists to enable business value, the dimensions of an IT Footprint are the same as that of its business counterpart.



It must also be noted that IT Capability has two dimensions, namely, alignment and value. Hence, a footprint exists for both of them.

Comparing the Business and IT footprints, we can identify the current state of alignment as follows:



The value map depicts a lack of alignment between business and IT. However, it does not tell us how much value is being lost as a result. IT Value Mapping provides other analyses to determine the latter. However, for the sake of brevity, we will not discuss them in this paper.

12. Question 2: How to perform root cause analysis at a level where IT decisions are made?

IT Value Mapping recognizes the hierarchy of capability components or elements. At the highest level is “IT Capability” that has key components such as strategy, processes, infrastructure and organization.

Each of these, in turn, has sub-components. Just like we created a footprint or value map for the overall IT Capability, we can create one for each of these sub-components and, if need be, for their sub-components.

This drill down takes us from the high level “IT Capability” down to the point where IT decisions are made i.e. at the application, server, and employee etc. level.

The more we drill down, the better our root cause analysis i.e. the ability to pinpoint the exact component which is causing the misalignment and/or loss in value.

13. Question 3: How to quantify and verify investment results?

IT Value Mapping recognizes that measuring IT’s returns requires an approach that is business focused but tailored specifically for IT.

First, it uses a portfolio based approach to managing IT investments. The focus is on maximizing returns on the entire portfolio not individual initiatives or investments.

Second, it measures returns using three dimensions:

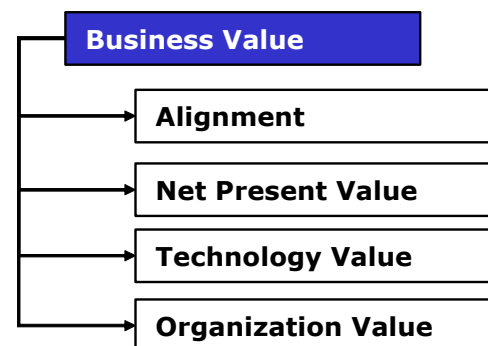
- Business Value
- Cost
- Risk

Risk, which is often ignored in ROI calculations, is perhaps the most important measure of investment returns. This is what makes the difference between a “prayer” and a “well informed decision”.

Third, it recognizes that IT creates business value that is implicit and explicit; incremental and residual.

“Dollar denominated” measures such as NPV or estimated revenues or cost savings provide an important indicator of business value. However, they are often hard to predict accurately. Also, they present only part of the picture and cannot be used to measure implicit or residual value in a meaningful way.

Hence, IT Value Mapping uses other, more accurate, dimensions of business value of IT:

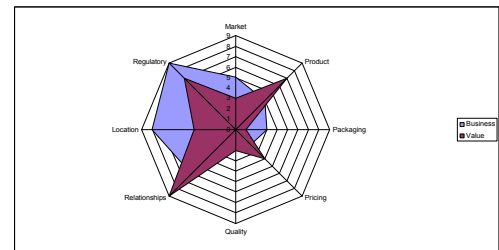


Technology and Organization value are especially good at capturing the residual business value of IT.

...and the resulting value loss...

A portfolio's returns can be maximized by keeping the high business value and low cost and risk investments. Getting rid of the remaining investments or tweaking them till they turn a corner further improves returns.

The framework's ability to perform root cause analysis to pinpoint the exact component that is causing the loss of value helps turn around high business value but high cost or risk initiatives.



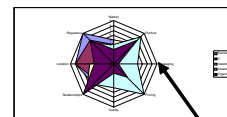
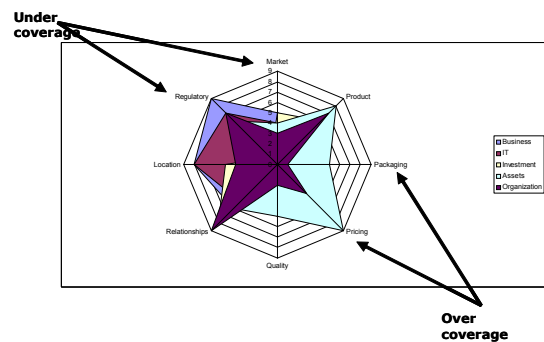
...IT Component Map helps identify the root cause of misalignment...

14. Question 4: How to accurately predict returns on new IT investment decisions before any money has been spent on them?

IT Value Mapping improves decision making in key areas across the organization:

- IT budgeting
- Application lifecycle such as ERP selection or system sun-setting
- Project or Asset Portfolio Rationalization
- Enterprise Architecture Planning
- Outsourcing
- Staff Hiring and Reduction

Value Maps depict, for all components of IT Capability, both their state and its impact on value. They also help make the connection between a decision and its impact on value, again, at a component level. By viewing the impact of a decision on value, one can either tweak the decision to improve value or not implement it altogether.



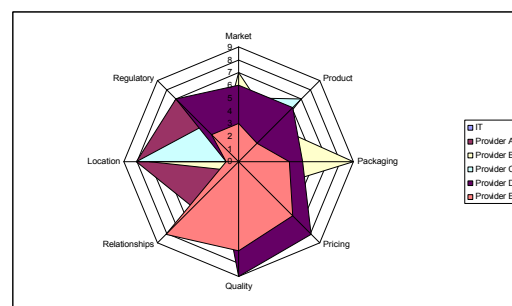
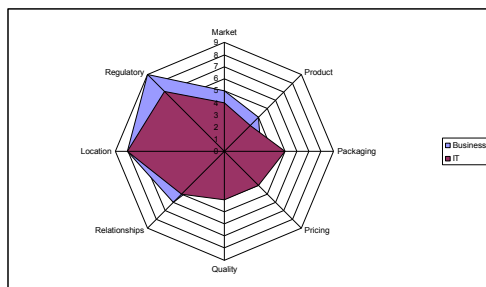
Incremental Investment Analysis

Dimension: Alignment
Business Area: Packaging
Component: Asset
Category: Application
Member: Application xyz
Resource: People
Cause: Cost, Risk
Root Cause: Low Resource Utilization
 ...

Estimated value loss: \$xyz

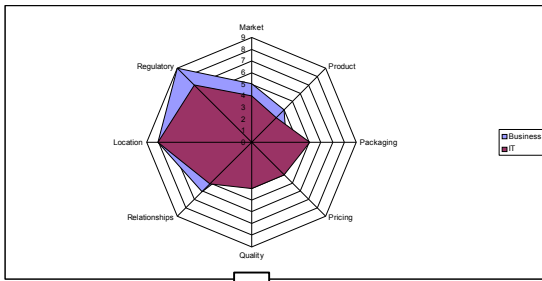
...assess outsourcing decision...

For example, IT Alignment Map depicts the current state of business and IT alignment...

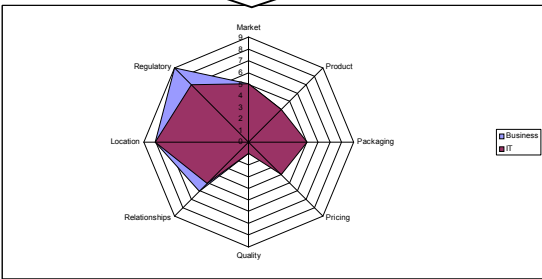


...and its impact on alignment...

Before

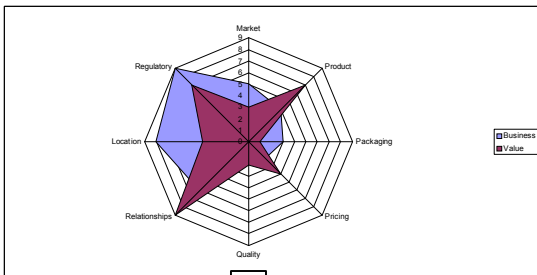


After

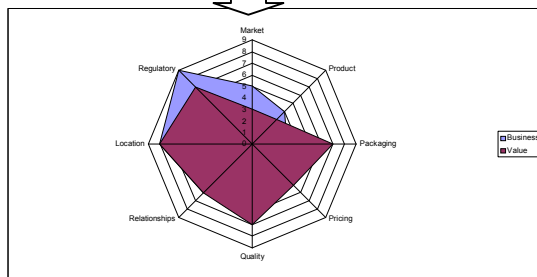


...and value creation...

Before



After



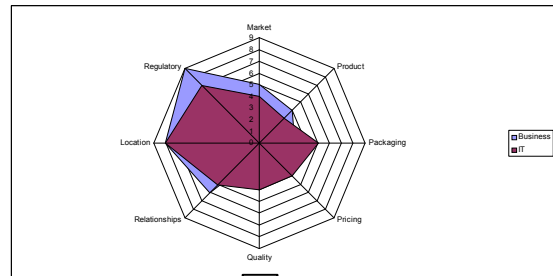
15. Question 5: How to monitor and track benefits on an ongoing basis to enable mid course corrections?

The framework provides an easy mechanism to continuously monitor and manage IT Alignment and value creation.

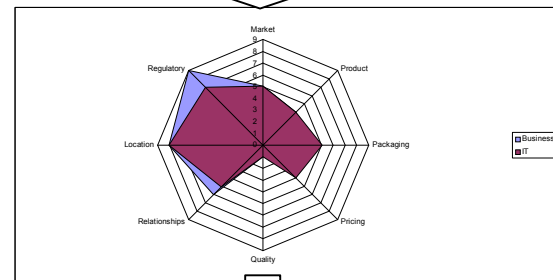
At any given point in time, one can, not only, see IT's state and value, but also, model its transition through key milestones in the future.

Additionally, one can calibrate the framework to better predict these future states. For example, the exact relationship between a state and value varies from organization to organization. Over time, comparing real data to the predictions can help refine the model and improve its forecasts.

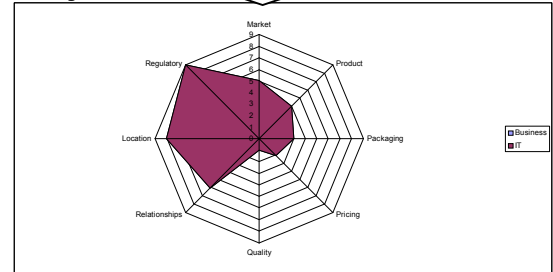
Current



Tactical



Strategic



16. Conclusion: IT Value Mapping improves ROI

IT Value mapping results in substantial benefits to the business:

Better ROI

- Reduce Costs: Our analysis and experience lead us to believe that over 10% of IT investments are not in alignment with business imperatives. By eliminating these one can shave 10% off IT budgets
- Improve returns: The remaining 90% are not in perfect alignment or not delivering the desired value. Hence, fine tuning IT decisions, can result in greater returns on these investments

Better IT decisions:

- Assessing their impact, across all interrelated dimensions, prior to any investment being made
- Measuring results against plan throughout initiative lifecycle thereby making timely mid course corrections

Watch a presentation on IT Value Mapping at:
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Contact:

Sourabh Hajela

Sourabh.Hajela@StartSmartS.com

(845) 492 1309