

Connecting IT and Business Value

Connecting IT and Business Value by defining the Intangible Benefits through the Balanced Scorecard

Nicholas Carr's, *Does IT Matter?* asks the question – “isn't it enough for IT to enable companies to operate more efficiently or deliver better services, to reduce costs or heighten customer satisfaction?” [1, p. 7]. This is an IT infrastructure question, not an IT strategy question – the two are both important but they are different. Carr suggests the investments in IT have “gone to waste” after the collapse of the Internet Bubble.

While much has been wasted to what were probably poor business choices, managing an IT investment as a strategic initiative still has merit. This merit needs to be connected to the financial performance of the business and the valuation of these investments must take place in the same way other investment decisions are made. Carr's thesis is IT has become a commodity service and not the basis of a differentiated strategic advantage. As the costs of IT go down and its power increases, the capabilities of IT outstrip the company's needs. This is an infrastructure view of IT. Like the railroads and electric utilities, if it is only a “utility” it will have difficulty describing its differentiated advantage.

Is this really the case in 2007? If IT is a commodity, what strategic advantage can a business do with the commodity? Is IT really a commodity in the same sense as power and transportation? IT has the capacity to provide intelligence about the business, create new and unique user experiences not available through the traditional sales force, and project of these capabilities onto devices and into locations not envisioned when Carr started his thesis. The notion of IT as a strategic enabler depends on the successful implementation of “IT as Infrastructure,” but that is not sufficient to enable IT to become a strategic enabler of business value.

WHAT IS STRATEGY AND WHY SHOULD ANYONE CARE?

Strategy creates fit among a business's activities. The success of a strategy depends on doing many things well – not just a few. The activities that are done well must operate within a close knit system – the strategic framework. If there is not a fit among these activities, then there is no distinctive strategy and there is little to sustain the strategic deployment process. Management of the business reverts to the task of overseeing independent functions. When this occurs, operational effectiveness determines the relative performance of the organization. [19]

Improving operational effectiveness is a necessary part of management, but it is not strategy. In confusing the two, managers will unintentionally adopt a way of thinking about value that drives IT's business enablement processes away from the strategic differentiation and toward the tactical improvement of operational effectiveness.

Managers must be able to distinguish clearly between operational effectiveness from strategy. Both are essential, but the two agendas are different. Operational effectiveness involves the continual improvement of business processes that have no trade-offs associated with them. Operational effectiveness is the place for constant change, flexibility, and relentless efforts to achieve best practices. Strategy is the place for making clear tradeoffs and tightening the fit between participating business components. Strategy involves the continual search for ways to reinforce and extend the company's position in the market place.

- The value of IT is a negotiated process between the consumers of services and the providers of those services.
- The language of this negotiation must be in words and phrases meaningful to the business.
- Getting a seat at the table is the ultimate goal for any CIO
- From these seat the value of IT can be negotiated
- The units of measure of the negotiated value must be in dollars or percentages of dollars

The concept of fit among functional units is one of the oldest ideas in strategy. Gradually, it has been replaced with new concepts of defining goals, critical success factors and key performance indicators and the organization choices and changes around these decisions. [13] In most instances fit is far more critical to the success of IT systems than is realized. [20] Strategic fit among the various systems components and the business processes they support is fundamental to competitive advantage and the sustainability of this advantage. [21]

Fit among a business's activities creates pressures and incentives to improve operational effectiveness. Fit means that poor performance in one activity will degrade the performance in another, with weaknesses exposed drawing management's attention. With increasing fit, improvements of one activity will pay dividends in other areas. This is the means to connect tactical IT processes – infrastructure operations – with the strategic enablement of the business's goals. There are IT positioning questions to be asked to the Business as well as asked by the Business to IT: [3]

- What IT applications should be deployed to yield competitive advantage?
- What technological opportunities should be considered?
- What IT platforms should be deployed and what IT policies are needed to manage these platforms?
- Which IT capabilities should be nurtured and which should be acquired from outside sources?
- How should IT activities be organized and what is the role of the IT function?
- What is management's role in the IT domain and what IT capabilities are required for today's managers?

The answers to these questions determine how the components of an IT Strategy fit together.

INFLUENCES ON THE CONVERSATION ABOUT IT STRATEGY

Establishing the influences on IT Strategy is the next step in starting the conversation about IT value. Earl's approach [3] is an effective view of the strategic decision-making processes in four domains:

Domain of IT Strategy	Components	Attributes
Organization Strategy		
Why The Wherefore and the Rationale for the strategy	Organization components The organizational structure, control systems and formal policies Business components Corporate is concerned with mission. The strategic business unit strategy is concerned with competitive positioning.	Intent Forces a crystallization of purpose, an operational orientation, in making choices. Content The context of the strategy. The influences of the organizational strategy on the other three elements
Information Systems Strategy		
What The components of the strategy	Alignment Identifying the applications required to support the business strategy Opportunity Searching for innovative uses of technology which can be exploited to enable business to be performed better	Strategic business unit The individual business unit Corporate or group The highest level of the business organization in which the individual business units operate
Information Technology Strategy		
How The mechanisms of the strategy	Scope Which technologies are to be formally included in the information strategy Architecture The technology framework which drives, shapes, and controls the Information Technology Strategy	Capability The set of skills, knowledge assets and activities needed to be competent in the market place Powers Powers required to implement and monitor the architecture. Powers are used to exercise technology stewardship
Information Management Strategy		
Who The participants in the strategy	Roles Who has responsibility for information resource policies and actions Relationships How are relationships built between the CIO and others to assure success over time	Formal The intent of roles and relationships Informal The context of roles and relationships

Table 1 – The influences on IT strategy differentiate the aspects technical of IT services, the management of these services, the consumption of the information needed for business operations and the organizational aspects of these services. These four distinct domains close the gap between the operational view and the strategic view of IT. The resulting value is now shared by IT and the Business in the same units of measure.

CHOOSING BETWEEN OPERATIONAL EFFECTIVENESS AND STRATEGY

As IT searches for its *seat at the table*, negotiating provided value and the business's need for this value creates a visible gap in many organizations. The quest to connect the value of IT to the needs of the business should be the primary role of the CIO. Many times this is not the case. Instead, the CIO acts like a CTO, providing the technologies needed for the business but not "engaging" in a conversation about the strategic needs for these technologies. The strategic discussion is many times missing for good reasons – the business simply does not want to have that conversation or the business does not see IT as a participant in the strategic aspects of its operations. IT then continues to provide services and focus its efforts on operational excellence. If the operations continue to function as the business expects this reinforces the notion that IT is providing all the needed service – the "dial tone" – so why should they change their approach?

The challenge is how to create fit among the IT components and their matching business components to enable both infrastructure advantages and business enablement advantages. The next step is how to move beyond Carr's thesis that "IT Doesn't Matter," to "Making IT Matter." [7] Getting to the discussion about negotiated value starts with identifying the *win themes* for this negotiation. [3]

- Business improvements are enabled by Information Technology that is integrated not disintegrated. This integration must be horizontal versus vertical. Horizontal systems remove islands of information and build bridges between the business units. In an integrated system, multiple data sources are made transparent to the end users as well as the applications that utilize them.
- Information Technology requirements are always growing, changing, and being extended. The Information Technology is no longer static, but dynamically adapting to the changing business requirements.
- Information Technology is about abstractions. If hardware, software, and data were the only foundations of a system, then Information Technology would not be able to keep pace with the business requirements. Instead, business processes, objects, and services are the foundation of the system, which drive the business processes in their adaptation of the changing market forces.

"The fine art of executive decision making consists in not deciding those things that are not now pertinent, not deciding prematurely, not deciding those things that cannot be made effective and not deciding those things that others should decide." – Chester Barnard in *Functions of an Executive*, 1938 ¹

A CORE CONVERSATION THAT MUST TAKE PLACE BETWEEN THE BUSINESS AND THE CIO

There are another set of questions to be asked of IT by the Business and of Business to IT. These questions are the basis of the Balanced Scorecard approach described here, but the answers do not depend on a specific strategy-making method. They are at the root of the business value of IT.

- Is IT a strategic enabler of the business or simply an operational expense?
- Should IT focus on developing new services that support business operations and customers or should it focus on improving the infrastructure so that the business units can stay focused on the customer?
- How much responsibility should IT have in meeting the business objectives?
- What does IT need to do to ensure its place in the business's strategy?
- Why is there a disconnect between what corporate strategists want and what IT is actually doing?

A source of disconnect in answering these questions is the failure to recognize that the "value" IT brings to the answers is a negotiated entity. Negotiating the "value" of IT must be completed before any discussion of IT Strategy can take place. The consumers of ITs services have a need to understand how their funding investment is returning value in some unit of measure meaningful to the business. Any disconnect between ITs perception of its own value and the business's perception of the value of IT creates a gap between Strategy, Governance, and the delivery of the needed IT services. [23] Establishing a compelling and well communicated framework for IT investment and the return of business value can be provided through a shared Balanced Scorecard, with IT and the Business as full participation in its construction.

The Chief Information Officer must responsibly govern all aspects of business's "information," the facilities that produce, manage, consume, and protect this "information," and the staff that leads and operates these facilities. Like any "goods for sale," the "Value" provided to the business through these

actions must be negotiated between the provider and the consumer. The value negotiation process persuades all participants that IT offers the best available option for the business by aligning the capabilities of IT with the needs of the business. By defining the role of the Chief Information Officer, the beginnings of a conversation of “how to connect IT and Business Value” can take place.

WHEN IT BECOMES JUST AN INFRASTRUCTURE PROVIDER

When IT provides infrastructure services, a measure of operational excellence is the means of negotiating a shared definition of value. Infrastructure provides the operational services for delivering business value. Defining the needed business value first is a starting point for defining this infrastructure. What capabilities are needed to support the business operations? This operational excellence approach must connect the provided services with some form of a business case, business strategy, or business outcome measures. These measures must be in units of dollars.

Measuring the business value of these services requires an understanding of what the business sees as valuable. The units of measure of business value are defined by the business, not by IT. ITs contribution to the business value is a negotiation process. Agreeing on the units of measure, what these units of measure are attached to, and when the units of measure will be recognized must be negotiated. Connecting infrastructure performance with strategy means finding the link between the technology and business processes. The infrastructure provided by IT must be seen as not only useful but needed by the business. The business must acknowledge the value of this infrastructure through its continued funding. Additionally business must be able to connect the measure this value in ways meaningful to their own performance measures. The operational aspects of the infrastructure are not very interesting to the business. It’s the capabilities created by these operational aspects that are the basis of the value conversation.

WHEN IT PERFORMANCE BECOMES PART OF THE CORPORATE PERFORMANCE

When corporate performance depends on IT, is enabled by IT or is actually an IT function, the measurement of ITs contribution starts by connecting IT strategy with the delivery of business value – traceable to the balance sheet. Finding the Goals, CSF’s and KPI’s for ITs activities is the starting point in connecting IT performance to Business performance. The corporate focus starts with connecting any activity IT performs with a business element in the business and a line on the balance sheet. The units of measure of this connection must be in dollars or percentages of dollars. This connection is rudimentary at first, but when the connection between IT strategy and business strategy is made – through the Balanced Scorecard – the conversation involving dollars of value lays the foundation for getting a “seat at the table,” where discussions of business strategies take place.

Asking and answering, “why are we doing this?” is the next step. The motivation for any IT project has two choices – it’s required (non-discretionary spending) or it supports some business strategy (discretionary spending). Increasing discretionary and decreasing non-discretionary should be the goal of any credible IT strategy built around supporting corporate growth. Discovering these connections is also a negotiation process initiated by the CIO with her peers. One based on providing value to the business, not just technology in support of business operations.

Separating discretionary from non-discretionary projects is the next step. Defining how to make this separation requires the agreement of the recipients of both the infrastructure and the business processes. Engaging the participants starts with a “conversation” about the value of each approach to IT operations. The difficulty is starting this conversation. This is the primary role of the CIO. As the “Chief Information Officer,” she is responsible for governing all aspects of the businesses “information” and the facilities that produce, manage, consume and protect this “information.”

BOTH INFRASTRUCTURE AND BUSINESS ENABLEMENT ARE NEEDED FOR SUSTAINABLE VALUE

Whether IT provides strategic or tactical services, connecting the actions of IT with needs of the corporation is the first step in negotiating the value of IT to the business strategy. The connection to corporate strategy must be made in units of measure meaningful to the business. When IT starts conveying its value in technical terms the business has a hard time “connecting the dots.” The currency of the business is usually dollars or percentages of dollars. IT needs to speak to the business in this currency as a starting point. Once the currencies have been established, the conversation about the quantities of this currency can turn to how this monetary value can be connected to the specific activities of IT.

These measures are then negotiated with the business. This conversation is really a business negotiation. “I’ll give you X Dollars and you’ll return Y value.” “I’ll give you X dollars and you’ll be responsible for providing Y services that I can measure the value of in dollars.” The critical success factor of this approach is to not measure the technical performance of the IT services – as is the common approach of the “IT as Infrastructure” paradigm – but instead measure the IT performance in monetary value to the business.

The Balanced Scorecard can be used to communicate as well as control the performance of IT. Can’t get to the monetary value for IT? Can’t measure the value of the services provided to business in dollars? This is actually an unacceptable answer. The missing piece is a map that describes why IT exists. This map is the IT Balanced Scorecard and the associated IT Strategy Map. With this map, IT can answer the question – “why are we here?” “What is our value?” “What contribution are we making to the financial performance goals of this business?”

Negotiating IT value with the business and the governance of the delivery of this value is the basis of an IT strategy. This relationship can be top-down or bottom-up. Either way this relationship can be guided by the Balanced Scorecard. In the end, IT must make a case for the value by connecting their activities with the consumption of their budget and the financial performance delivered to that balance sheet. Using the Balanced Scorecard strategy map, a visual representation of the “cause and effect” between ITs activities and financial performance can be made visible.

Once Goals, Critical Success Factors, and Key Performance Indicators are visible, their measures can be negotiated and the resulting description of “performance success” agreed to between IT and the business. With this map, IT can now combine infrastructure and business contribution in a single negotiated value process, with both sides – IT and the Business – sharing in the vision and mission of IT.

CONNECTING INFRASTRUCTURE AND BUSINESS VALUE WITH BALANCED SCORECARD

If the connection between IT and Business is to be made, it needs to be made with a way of measuring both the value of the connection and the performance of the efforts that deliver this value. Balanced Scorecard is one way to identify the value, state the benefits and guide the work efforts in delivery of this value.

Balanced Scorecard is a strategy-making and strategy-execution method developed by Harvard professors Robert S. Kaplan and David P. Norton. [1, 9, 10] It is in its third generation with the work of Paul Niven. [15] The Balanced Scorecard is based on four perspectives. [5]

- Financial – how are finances connected to customer, internal, and learnings and growth?
- Customer – how do the customers see us while we are providing our services or products?
- Internal Processes – what processes are used to deliver value?
- Learnings and Growth – what skills, experience, training and management practices are needed?

It is beyond the scope of this paper to present the Balanced Scorecard. The resources available as text books, papers and web sites listed in the Bibliography. ¹ **Table 2** shows a notional example of a business strategy. Making the connections to the IT strategy is the next step.

¹ There are several formats for Balanced Scorecards, not all are appropriate for IT strategies. There are currently three generations of Balanced Scorecard. The 1st generation is the classic four box description of Financial, Customer, Process, and Learning and Growth. This format provides performance management focused on metrics and targets. The 2nd generation identifies the strategic linkages between goals of the strategy and the metrics associated with these goals. The 3rd generation – best suited for connecting IT with the Business – inverts the strategy design process by starting with the destination statement, followed by the objectives, measures and targets. This destination statement describes how IT provides business enablement.

	Strategies	Key Performance Indicators
User Orientation	Be the supplier of choice for IT products and services	<ul style="list-style-type: none"> Customer satisfaction User survey score Percentage of projects delivered on time
Business Value	Focus resources on attaining business strategies through effective IT services delivery	<ul style="list-style-type: none"> Total business impact IT budget as a percentage of revenue Cost impact for each release Percentage of budget allocated to new development
Operational Excellence	Deliver timely and effective services at or under budget that meet the Value Stream goals	<ul style="list-style-type: none"> IT budget versus actual Staff utilization Staff turnover Historical availability
Future Orientation	Develop internal capabilities to learn and innovate to exploit future opportunities using IT	<ul style="list-style-type: none"> Number of documented best practices Existence of Product Line Architecture Total cost of ownership

Table 2 - a notional description of an IT strategy that includes both Infrastructure and Business value delivery. This approach combines the two choices into a synergistic outcome to avoid the black or white decision asked in the introduction of this paper. This scorecard is “internally focused on IT, with a single connection to the user community.

The next step of making a joint IT and Business scorecard is not always well developed. The result is a less than acceptable for connection between IT Value with Business Value. One approach starts with a top level IT strategy. A Strategy that states the value from both an Infrastructure point of view and from a Business point of view. One that states both strategic initiatives and operational excellence, that when combined provide the “negotiated” value to the business. **Table 2** shows four notional Balanced Scorecard perspectives for an IT strategy. The User Orientation replaces the financial perspective, Business Value replaces the Customer perspective, Operational Excellence replaces Internal Process and Future Orientation replaces Learning’s & Growth.

CREATING THE STRATEGY MAP FOR CONNECTING ITS VALUE WITH THE BUSINESS

Connecting infrastructure and business enablement into a coherent strategy is defined through the contents of the four Balanced Scorecard perspectives. **Figure 1** is a notional example of such a map in a different arrangement than the traditional Balanced Scorecard, one focused on IT instead of the general business functions. The stakeholder perspective provides a statement about the value of IT in terms meaningful to the business. The Internal Processes perspective describes the operational and infrastructure elements needed to deliver this value to the stakeholder. Learning and Growth lay the groundwork for staffing, training, organizing, and managing the needed resources. The Budget Perspective states how compliance with the externally defined budget will enable the delivery of IT value to the stakeholders.

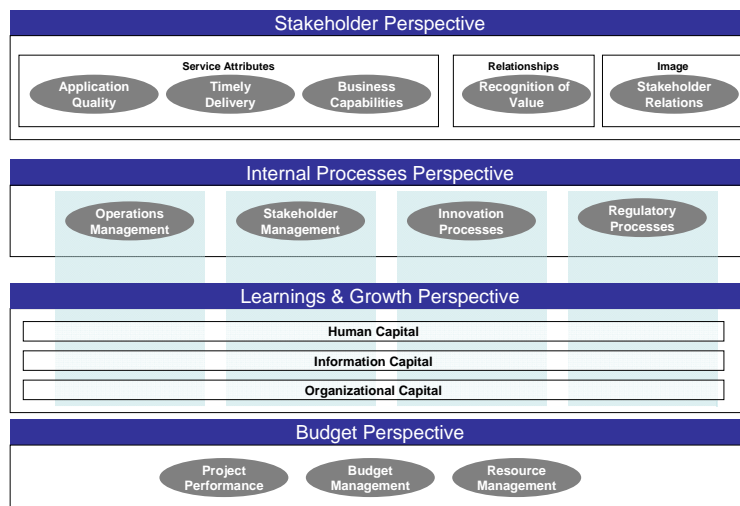


Figure 1 - an example strategy map for an IT organization. Replacing the Financial perspective with a Stakeholder perspective is the first step in building the Balanced Scorecard for IT. This scorecard is more representative of a joint IT and Business “negotiated” value view

The strategy map is a visible indicator of the connection between strategic goals and execution. The Critical Success Factors are the measures of performance for these goals. The process of strategic thinking starts with this cause and effect map of strategies. Connecting Critical Success Factors with Key

Performance Indicators provides traceability from execution at the project level to fulfillment of strategic objectives.

IT’S ALL ABOUT MANAGING THE INFRASTRUCTURE PERFORMANCE TO ENABLE STRATEGIC PERFORMANCE

A conceptual framework is needed for a performance measurement and management system. Effective internal and external communications are the keys to successful performance measurement. Accountability for results must be clearly assigned and well understood. Performance measurement systems must provide intelligence for decision makers, not just compiled data. Compensation, rewards, and recognition may be linked to performance measurements. Performance measurement systems should be positive, not punitive. Results and progress towards program commitments should be openly shared with employees, customers, and stakeholders. [14]

The measurement of IT performance that is meaningful for the business must start with strategy. Each measure is:

- **Derived from strategy** – “a way to operationalize the vision of the business” and move from an infrastructure basis to a strategy focused organization.
- **Activity based** – actions guided by performance measures, each connected to an element of the Balanced Scorecard.
- **Customer focused** – actions guided by internal and external customers.
- **Dynamic** – with new metrics developed as needed.
- **Participative** – between supplier and consumer as the basis of the negotiated value of IT.

CONNECTING STRATEGY WITH EXECUTION

Without the ability to negotiate value, IT cannot engage the business in a meaningful conversation about its contribution to corporate performance. Adding the three scorecard perspectives, Customer, Process and Learning and Growth to the financial perspective provides the “language” to start the conversation about the corporate value of IT. This value negotiation can address both the strategic and tactical capabilities of IT – avoiding the dilemma found in many organizations.

Inverting the question of the role of IT – *how can IT start the conversation about negotiating business value in terms of IT capabilities.*

To start this conversation, a shared vocabulary is needed. One that demonstrates the connections between strategy and execution. **Figure 2** describes a notation for this vocabulary for the strategy “Increase Customer Retention.” This vocabulary contains words and phrases meaningful to the Business. The “Units of Measure” exchanged during the conversation about ITs measurable value to the business in dollars or percentages of dollars. Only when these units of measure, the value they speak to, and the connections between strategy and execution are in place, can IT start to look at its operational excellence activities.

Figure 2 describes the fulfillment of the strategy “Increase Customer Retention,” by defining the Performance Goals, Critical Success Factors, and Key Performance Indicators associated with the operational excellence of IT. This is the way the CIO gets a seat at the table. This is the way IT is connected to the business as a member of the value stream. This is the way IT connects infrastructure, with business value and with its own value.

STRATEGY: Increase Customer Retention

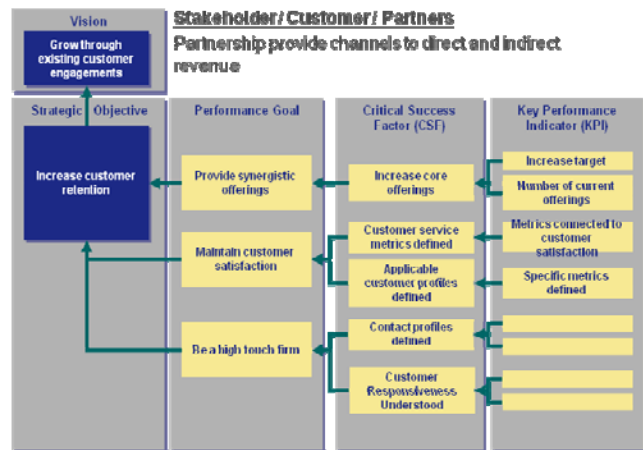


Figure 2 – Mapping Strategy to Execution – Once corporate strategies have been defined, connecting these strategies with the IT strategies and defining their contributed value takes place through a “map” of the Performance Goals, Critical Success Factors, and the Key Performance Indicators..

ANSWERING THE QUESTION OF “WHAT IS ITS ROLE IN THE STRATEGY SIDE OF THE BUSINESS?”

The questions asked in the beginning of this paper now need answers in the context of a Balanced Scorecard.

Questions about the role of IT?	Answers using the Balanced Scorecard
Is IT a strategic enabler of the business or simply an operational expense?	Operational excellence and its associated cost are needed to fulfill strategy. Strategy is not needed as the basis of operational excellence.
Should IT focus on developing new services that support business operations and customers or should it focus on improving the infrastructure so that the business units can stay focused on the customer?	This is the difference between strategy and operational excellence. Without the latter, the former is not an operation. If IT is to contribute to corporate growth, it needs to do both.
How much responsibility should IT have in meeting the business objectives?	This is the outcome of the negotiation between IT and the business.
What does IT need to do to ensure its place in the business’s strategy?	IT needs to negotiate its role with the business. It needs to be a participant in the performance measured used by the business.
Why is the disconnect between what corporate strategists want and what IT is actually doing?	The language used to communicate strategy needs to be in units of measure meaningful to the business.
If the correct role for IT is that of a shared service bureau, how can IT best ensure the requests it receives align with company strategy?	Connecting the requests with the enterprise architecture through a portfolio management process. This PPM approach should make use of <i>real options</i> as the tradeoff decision making process for each request and its impact on the business benefits of this architecture. Connecting EA and Balanced Scorecard is well established in the literature.
What IT applications should be deployed to yield competitive advantage?	By following the strategy from its Mission, Vision, to the Performance Goals, IT should be able to speak to what applications are needed for the successful fulfillment of this strategy
What technological opportunities should be considered?	The statements about strategy must include future activities – the “out years” of the strategy. These future oriented strategies are the groundwork for the IT technological road map.
Which IT capabilities should be nurtured and which should be acquired from outside sources?	The strategic trade off discussion starts with the “line of sight” connection between financial performance, through Customer Focus, to Internal Processes and then to Learning’s and Growth. Along this path, the alternatives – in their monetized measures – can be discussed between the business and IT.
How should IT activities be organized and what is the role of the IT function?	This is a key contribution of IT to the business. But the conversation starts with determining how IT can best fulfill the short, medium and long term strategic initiatives of the business.
What is management’s role in the IT domain and what IT capabilities are required for today’s managers?	If IT is to have a “seat at the table,” then management of the business and management of IT must be seen as peers. The role of the Chief Information Officer is equivalent to the Chief Financial Officer, the Chief Operations Officer.

Table 3 – each question asked in the beginning of this paper can now be addressed through the context of Balanced Scorecard. Answering the question what is the role of IT – tactical or strategic – has the answer of “Both.” Both are needed, but more importantly, the strategic approach depends on the operational excellence of the tactical approach.

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BIOGRAPHY

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