BUSINESS-IT ALIGNMENT MATURITY: A GLOBAL PERSPECTIVE

Executive Summary

The challenge of aligning business and IT continues to be an elusive strategic initiative for organizations around the world. Since the late 1970’s, practitioners, academics, consultants, and research organizations have identified “attaining alignment between IT and business” as a pervasive and persistent problem. Although our latest research results showed that alignment is improving\(^1\), there are reasons why alignment continues to be a global issue – as will be elaborated on in this article.

This article will present significant new global insights from Luftman’s evaluation of strategic alignment maturity (SAM). It is the result of assessments from 238 Global 1,000 organizations. While this article focuses on the global and industry differences among the respective alignment factors, the overarching findings that are the focus of this article are:

1. Most organizations today are still at Level 2 and Level 3
2. The strongest (receiving the highest maturity scores) alignment factors are: demonstrated contribution of IT to business, business sponsor/champion, IT ability to react/respond quickly to changing business needs, relationship/trust style, articulation of and compliance with IT standards and scope of IT systems.
3. The weakest (receiving the lowest maturity scores) alignment factors are: career cross-over, service level agreements, balanced metrics, education, cross-training, attract and retain best talent, IT metrics.
4. The consistently higher maturity scores for Indian IT service companies’ merits further discussion.
5. The relationship of IT business alignment maturity to firm performance is strongly supported.

THE IMPORTANCE OF ACHIEVING IT-BUSINESS ALIGNMENT

The global importance of alignment has remained on the top of information technology surveys for almost three decades. The lead author has previously presented some of the reasons why alignment persists, including: 1. Just focusing on how IT is aligned with the business, and not also leveraging how the business can be in harmony with IT. 2. The continuous pursuit of a silver bullet (not recognizing that there is no one factor that will improve the IT business relationship). 3. The lack of having an effective descriptive and prescriptive tool (until SAM, the Strategic Alignment Maturity assessment) that will assist

\(^1\) Luftman, J., and Kempaiah, R.,” An Update on Business-IT Alignment: “A Line” Has Been Drawn, MIS Quarterly Executive (6,3) September 2007, PP. 165-175.
IT and business executives in dealing with the alignment conundrum. Discussing the importance of alignment but concentrating just on IT infrastructure considerations.

Alignment addresses both how IT is aligned with the business and how business should or could be aligned with IT. Terms such as harmony, link, fuse, fit, match, meld, converge, interwoven, and integrate are frequently used synonymously with the term alignment (perhaps another reason why alignment has been so evasive). Whatever term you prefer, it is a persistent/pervasive problem that demands an ongoing process to ensure that IT and business strategies adapt effectively and efficiently together. Perhaps most important is recognizing that there is significant research available that demonstrates the relationship of alignment to firm performance (These findings as well as new industry findings will be introduced later in this paper.).

A STRATEGIC ALIGNMENT MATURITY TOOL

The Strategic Alignment Maturity (SAM) assessment tool comes from the lead author’s work since 2000. SAM, which has been applied globally by organizations of all sizes, evaluates six components (and 41 factors) of an organization to identify an alignment maturity score and more importantly specific opportunities to improve the IT business relationship. The six components (Communications, Value Metrics, Governance, Partnership, Technology Scope, and Human Resources) for assessing alignment maturity along with the 41 specific criteria/factors measured for each component are illustrated in Figure 1 (X axis). Also illustrated in Figure 1 are the average overall scores and the differences in the scores as assessed by business and IT leaders. The scores an organization achieves for each of the 41 factors included in the six components of maturity are based on a five-level maturity model. The model denotes the organization’s IT-business alignment maturity, with Level 1 indicating the lowest maturity and Level 5 indicating exemplar maturity. The research process is described in the Appendix.

ANALYSIS OF THE ALIGNMENT MATURITY DATA

The research presented in this paper involved analyzing the responses of 1,960 business and IT executives from 231 organizations; primarily Global 1,000 companies. Of the 238 organizations, 137 were based in the United States, 42 were from Latin America (the largest companies data are applied, although below the Global 1,000 level), 21 were from Europe, and 38 were from India (more than half were in the IT service industry).

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4 The six components of alignment maturity were initially validated by evaluating 25 Fortune 500 companies. Early studies included five companies that were invited to participate because of their exemplar reputation; these companies were assessed at Level 5. Our procedure for assessing maturity is described in the Appendix. Some two-thirds of the data was gathered from interviews or group discussions. The rest came from questionnaires.
5 In the previous article published by the lead author in MISQE Sep 2007 edition, the database consisted of 197 organizations of which 124 organizations were from U.S.A., 38 from Latin America, 11 from Europe and 24 organizations from India.
The 1,960 respondents are comprised of 915 from IT (112 CIOs, 10 CTOs and 793 other IT leaders) and 1,045 from the business (88 CEOs, 97 CFOs, 217 VPs, and 643 other business leaders). It is interesting to note (in Figure 1) that although IT executives’ assessment scores tend to be higher than business executives, their relative scores are very similar.

Analyses of Variance (ANOVA) were carried out in order to detect significant differences among the regions concerning SAM elements. IT was employed a level of analysis of 0.05. Duncan post-hoc multiple comparisons were employed in order to identify which groups presented differences.

**Main Observations**

**Industries vary in their alignment maturity.** As can be seen in Figure 2 (and in Figure 1), the average overall maturity score for all companies was 3.13 – shown by the midpoint dark line. Most companies are still assessed with a level 2 or level 3 alignment

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6 In the previous article published by the lead author in MISQE Sep 2007 edition, we had 1,527 respondents, with 727 from IT (105 CIOs, 10 CTOs and 612 other IT executives) and 800 from the business (88 CEOs, (& CFOs, 169 VPs, and 456 other business executives)
maturity score. The six industries with the highest maturity scores – retail, transportation, hotel/entertainment, services, manufacturing and insurance – were above the average alignment maturity score of 3.13; however, the industry samples for retail, transportation, and hotel/entertainment were quite small. The industries with the lowest maturity scores - financial, healthcare, government, oil/gas/mining, utilities, pharmaceuticals, chemical and educational institutions were below the average alignment maturity score of 3.12.

Figure 2  **Industry Maturity Levels By Component**

<table>
<thead>
<tr>
<th>Industry Name</th>
<th># of Companies</th>
<th>Communication</th>
<th>Competency</th>
<th>Governance</th>
<th>Partnership</th>
<th>Scope of IT Architecture</th>
<th>SKILLS</th>
<th>OVERALL AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail</td>
<td>8</td>
<td>3.57</td>
<td>3.53</td>
<td>3.47</td>
<td>3.83</td>
<td>3.83</td>
<td>3.45</td>
<td>3.61</td>
</tr>
<tr>
<td>Transportation</td>
<td>3</td>
<td>3.18</td>
<td>3.83</td>
<td>3.53</td>
<td>3.53</td>
<td>3.55</td>
<td>3.47</td>
<td>3.51</td>
</tr>
<tr>
<td>Hotel/Entertainment</td>
<td>5</td>
<td>3.46</td>
<td>3.46</td>
<td>3.53</td>
<td>3.44</td>
<td>3.63</td>
<td>3.45</td>
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<td>Services</td>
<td>41</td>
<td>3.20</td>
<td>3.42</td>
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<td>3.53</td>
<td>3.49</td>
<td>3.50</td>
<td>3.47</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>45</td>
<td>3.21</td>
<td>3.11</td>
<td>3.14</td>
<td>3.23</td>
<td>3.28</td>
<td>3.19</td>
<td>3.19</td>
</tr>
<tr>
<td>Insurance</td>
<td>7</td>
<td>3.11</td>
<td>3.19</td>
<td>3.30</td>
<td>3.17</td>
<td>3.21</td>
<td>2.93</td>
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<tr>
<td>Financial</td>
<td>70</td>
<td>2.91</td>
<td>3.07</td>
<td>3.11</td>
<td>3.08</td>
<td>3.17</td>
<td>2.93</td>
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<tr>
<td>Healthcare</td>
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<td>2.19</td>
<td>3.28</td>
<td>3.00</td>
<td>3.17</td>
<td>3.05</td>
<td>3.06</td>
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<tr>
<td>Government</td>
<td>8</td>
<td>2.93</td>
<td>2.77</td>
<td>3.10</td>
<td>2.99</td>
<td>2.99</td>
<td>2.72</td>
<td>2.93</td>
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<tr>
<td>Oil/Gas/Mining</td>
<td>3</td>
<td>2.96</td>
<td>2.86</td>
<td>2.92</td>
<td>2.84</td>
<td>3.22</td>
<td>2.64</td>
<td>2.91</td>
</tr>
<tr>
<td>Utilities</td>
<td>7</td>
<td>2.96</td>
<td>2.94</td>
<td>2.81</td>
<td>2.84</td>
<td>3.13</td>
<td>2.60</td>
<td>2.88</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>16</td>
<td>2.86</td>
<td>2.75</td>
<td>2.89</td>
<td>2.85</td>
<td>2.92</td>
<td>2.72</td>
<td>2.83</td>
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<tr>
<td>Chemical</td>
<td>7</td>
<td>2.77</td>
<td>2.61</td>
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<td>2.11</td>
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<tr>
<td>Educational</td>
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<td>1.95</td>
<td>2.00</td>
<td>1.87</td>
<td>2.04</td>
<td>2.14</td>
<td>2.03</td>
</tr>
</tbody>
</table>

**Overall Alignment Average Score: 3.13**

**Similarities and Differences Among the Strongest and Weakest Six Factors**

Figure 3 compares the alignment scores from the 231 Global 1,000 organizations from the U.S.A., Latin America, Europe and India; it will be the focus of this section of the paper. The next two subsections of this paper present the dozen (top six and bottom six) most important factors, the global similarities/differences, and includes an illustrative organizational vignette/example. Given that more than half of the Indian companies were from the IT service industry, when presenting the highs there will be additional discussion comparing IT service firms across geographies, as well as a discussion of the relationship of SAM to firm performance in the IT service industry.
Strongest Maturity Factors

Overall level 4 IT organizations do exemplary within the company itself; where a level 5 IT organization extends their success externally to partners and customers/clients (including partners of partners, and customers of customers). Although these six factors received the highest average maturity scores, there is clearly still room for improvement.

**Demonstrated Contribution of IT to Business:** Overall, IT and business executives agree that the contribution IT makes to the organization’s strategic goals is compelling. Albeit, the rigor of the actual measurement of this contribution is relatively weak, as demonstrated by the overall value component falling in fifth place among the six alignment maturity components. IT assets are being leveraged across the organization and the application systems are enabling/driving business process enhancements to obtain competitive advantage. At a subjective level, IT is viewed as an innovative strategic contributor to success; as will be seen when discussing the weakest factors; it is time to ensure these opinions can be substantiated.

The contribution of IT to business maturity scores for the India (3.97), U.S.A. (3.71), Europe (3.55), and suggest that these geographies are moderately strong in this area. One-
way Anova test was performed and no differences among the three areas were detected. So it is not possible to say that Indian companies focus more this practice than USA or Europe companies.

From Latin America we have only one company categorized as a retail company which has a score of 4.5 for the contribution of IT to business. The conservative nature of Latin American IT investments could have influenced this score. Latin business executives prefer to invest in what they consider stable business areas instead of IT projects.

For example, a manufacturing company initially assessed IT’s contribution to business to be at a level 2.5. They implemented a balanced set of metrics that were established by IT and business executives to evaluate the service provided to business functions. However, they did not establish formal feedback mechanisms and their maturity score improved only moderately because the dashboard alone lacked the focus of maintaining an open communication path between business and IT; perhaps their next SAM assessment will show an improvement?

**Business Sponsor/Champion:** The business sponsor is the highest level management person engaged in the overall organization involved in the initiative. They can ensure that the appropriate resources (e.g., financial, people) are committed to ensure the success of the initiative, including making any process and organizational changes that are necessary. The champion(s) is/are the initiative/project evangelist. They motivate stakeholders to make the required change. Overall, IT and business executives agree that IT based initiatives frequently have appropriate senior management performing the proper roles necessary to ensure an initiative's success.

Maturity scores for “business sponsor/champions” in India (3.88), Latin America (3.54), Europe (3.36), and the U.S.A. (3.21), suggest that IT based initiatives often have a senior level IT and business sponsor/champion at the corporate level playing a major role in the success of implementing IT based initiatives. Overall companies at level 3 suggest that a business sponsor or champion(s) recognize and convey the importance of ensuring change, resource allocation, and accountability.

For example, a large pharmaceutical firm assessed “business sponsor/champion” to be at a level 3. The business saw IT as a key enabler for integrating the supply chain management process across the company. Having a business sponsor at the corporate headquarters level rather than from any of the functional business units was recognized as fundamental to the success of the initiative. At the same time they ensured that the respective business unit executives served as effective project champions that motivated the business units to carry out the complex change across the organization. If/when this company extends the reach of this system externally to its external partners it will be closer to a Level 5.

One-way Anova test was performed and some differences among the three areas were detected. The areas of Europe (3.36) and USA (3.21) forms a group that present averages that are statistically below the other group formed by India (3.88). Latin America companies belong to both groups presenting an intermediate average (3.54).
The role of “business sponsor/champion” maturity scores for IT service companies from India (3.88) are significantly higher than the Europe (3.36) and USA (3.21). A level 2 maturity score suggests that IT initiatives frequently have just IT serving as project sponsor and champion. Not having the appropriate business leaders engaged as sponsor and champion(s) is a major obstacle for project success.

**IT's ability to react/respond quickly:** With an overall average maturity score of 3.37, IT and business executives agree that the capacity of IT to react/respond quickly to changing business needs is acceptable; it is neither weak nor strong. This is true for all of the researched geographies with scores for India (3.82), U.S.A. (3.30), Europe (3.15), and Latin America (3.13), and all falling within a level 3 maturity.

For example, a retail company originally assessed this factor at a level 3; IT and business organizations worked together to make important changes to improve their overall maturity to a level 4. Today business strategy and planning is managed across the business and IT functions. They have a well defined governance process at strategic, tactical, and operational levels with IT and business stakeholders working well together. IT is treated as a contributing business partner and an important business process driver. The CIO reports to the CEO. With effective processes in place, the company is quickly able to identify, communicate, and react to changes across all organizations; including IT.

One-way Anova test was performed and two groups were detected. The first group is formed by Latin America (3.13), Europe (3.15) and USA(3.30). The second group is composed by only one region: India (3.82). So it is possible to say that India has a higher focus in this practice than the first group. This indicates that Indian IT service companies are quicker to react/respond to the changing business requirements. Most of these Indian IT service companies are certified at CMMI level 5, which indicates that all key processes are in place and that the best practices are disseminated across the entire organization.

**Relationship/Trust Style:**
With an overall average maturity score of 3.35, IT is emerging as a valued service provider. The next step firms should focus is on transforming this association in a primarily a long-term partnership style of relationship. One-way Anova test was performed and three groups were detected. The first group is formed by Europe (3.04) and USA (3.24). The second group is composed by USA (3.24) and Latin American (3.48). The third group is formed by Latin America and India (3.84).

Three conclusions can be drawn from these three groups. First, Europe (3.04) is the area that focuses less on relationship/trust style practices in other words IT is beginning to emerge as a valued service provider.

Second India(3.84) is the area that focus most on relationship/trust style practices in other words although IT is emerging as a valued service provider it presents some traits of an association between business and IT that is primarily a long-term partnership style of relationship.
Third, Latin America (3.48) and USA (3.24) occupy an intermediate region between these two extreme regions: Europe and India.

**Standards Articulation and Compliance:** Overall, IT standards articulation and compliance is at a level 3, indicating that IT standards are defined and enforced at the functional unit level, with emerging coordination across functional units. IT standards for the India (3.93), Latin America (3.27), U.S.A. (3.25) and Europe (3.12) indicate that they are defined and beginning to be enforced across functional units.

For example, a large U.S. service company is assessed at a level 3 moving to a level 4. ERP systems are installed and all projects are monitored at an enterprise level. Standards are integrated across the organization, and standards articulation is enforced across the enterprise, but not externally to business partners and customers/clients.

One-way Anova test was performed and two groups were detected. The first group is formed by Europe (3.12), USA (3.25) and Latin America (3.27). The second group is formed by India (3.93). It can be stated with a certainty of 95% that Indian companies focus more on “standards articulation and compliance” compared to companies of other regions and have their IT standards defined and enforced across all functional units within their organizations.

**Scope of IT Systems:** The scope of the IT systems refers to the impact that IT applications have across the company, and externally to company partners and customers/clients. Overall, IT and business executives agree that the scope of IT systems is primarily business process enablers (IT supports business process change, as opposed to drivers of the initiative) within the company.

The maturity scores for the India (3.77), Latin America (3.58), U.S.A. (3.18), Europe (3.17), and suggest that that IT has begun to receive recognition as a process enabler. The growing reliance on Enterprise Resource Planning (ERP) systems encourages support for process changes that enable/drive business strategies.

For example, a large financial institution assessed their “scope of IT systems” to be at a level 4. They implemented an internal customer relationship management system to improve services to clients calling the company for assistance. Like the pharmaceutical example above, when this company provides their clients with direct access to the system, they will then be able to assess their maturity closer to a Level 5.

One-way Anova test was performed and two groups were detected. The first group is formed by Europe (3.17) and USA (3.18) and the second group is formed by Latin America(3.58) and Indian companies (3.77). It can be stated with a certainty of 95% that Europe and USA companies focus less on “scope of IT systems” than Latin America and Indian ones.
The “scope of IT systems” maturity score for Indian service companies is at a level 3.77 compared to Latin America (3.58), U.S.A. (3.18) and Europe (3.17) the suggesting that Indian IT service companies are making better use of IT as a catalyst for business process change across the firm. A level 2 organization focuses their IT services to back office support.

**Weakest Maturity Factors**

These six factors received the lowest average maturity scores across all geographies and industries, and have the largest opportunity for improvement.

**Career Crossover:** Career crossover is an excellent vehicle for educating, enhancing communications, and improving relationships by preparing business and IT staffs with perspectives that can generate trust, empathy, and enhance understanding across the organizations.

One-way Anova test was performed and two groups were detected. The first group is formed by Europe (2.81), USA (2.64) and Latin America (2.81) and the second group is formed by Indian companies (3.65). It can be stated with a certainty of 95% that Europe, USA and Latin companies focus less on “career crossover” than Indian ones.

Companies from India (3.65) indicate that career crossover opportunities among IT and business professionals regularly occur for all position levels within functional units. Companies from and Europe (2.81), Latin America (2.81) and USA (2.64) indicate that job transfers between business and IT occur only occasionally. We know that the more valuable IT professionals possess business, industry, interpersonal, and team oriented skills as well as technical expertise. The irregular career crossover provides evidence (as well as the low scores for education and cross training discussed next) supporting the conclusion that management continues to under-emphasizing the importance of skills enhancement.

**Service Level Agreements:** With the use of SLAs and an effective service level management process both IT and business executives agree that they have SLAs which are technically oriented.

One-way Anova test was performed and two groups were detected. The first group is formed by Europe(2.45), Latin America (2.74) and USA(2.79) and the second group is formed by Indian companies (3.60). It can be stated with a certainty of 95% that Europe, Latin and USA companies focus less on “service level agreements” than Indian ones.

Indian companies have rated “service level agreements” at a level 3.60 indicating that service level agreements are technically oriented and relationship oriented compared with Europe (2.45), Latin America (2.74), the USA (2.79), and which are largely technically focused. Service level agreements and processes provide important metrics for supporting the understanding among IT and business stakeholders, obtaining agreement on important considerations, and continuously learning about how to ensure IT services are attained and improved.
For example, a finance company had defined systems availability to be 99.9%, which provides for up to 8.8 hours of downtime during the entire year. An important system was down for 2 hours one day, and the CIO was fired. Having effective communications and understanding across the organizations is essential to a successful relationship.

**Balanced Metrics:** It is important to understand that there is no universal set of measurements that would meet every organization's criteria. The metrics that are applied should be agreed to among IT and business stakeholders and should regularly be reviewed and acted upon. It is important that these metrics include both quantitative and non-quantitative measurements that clearly demonstrate IT's contribution as an enabler/driver of business value. As discussed above, having subjective measurements alone is not sufficient.

One-way ANOVA test was performed and two groups were detected. The first group is formed by Europe (2.53), Latin America (2.73) and USA (2.88) and the second group is formed by Indian companies (3.63). It can be stated with a certainty of 95% that Europe, Latin and USA companies focus less on “balanced metrics” than Indian ones.

The maturity score for balanced metrics for India (3.63) indicates that they measure IT’s contribution to business by formally linking the value measurements of IT and business. They have formal feedback processes in place to review and take action based on the results and regularly assess the contribution across the functional organizations. The lower scores for Europe (2.53), Latin America (2.73), the USA (2.88) suggest that formalization and linkages between IT and business metrics remains incomplete. It also indicates that formal processes and feedback reviews are used less frequently.

For example, a manufacturing company assessed “balanced metrics” at a level 2 because they use cost efficiency (not effectiveness) methods across the business and within the functional organizations; IT is a pure cost center. Benchmarking is not generally provided and is informal. Formal assessments are sometimes performed to address problems however minimum action is taken after the assessment.

**Education, Cross-Training:** Institutionalizing formal training for business stakeholders regarding IT, and in turn requiring formal training for IT professionals in the operational and management aspects of the business will enhance understanding, rapport, trust, and communications among the communities. This in turn will result in improved relationships and the opportunity to leverage IT across the business.

One-way ANOVA test was performed and two groups were detected. The first group is formed by USA (2.75), Latin America (2.99), Europe (3.05), and the second group is formed by Indian companies (3.61). It can be stated with a certainty of 95% that USA, Latin America and Europe companies focus less on “educational, cross-training” than Indian ones.

Maturity scores from USA (2.75), Latin America (2.99) and Europe (3.05) shows that opportunities are dependent on the functional unit and formal programs are starting to be practiced by all functional units. However India (3.61) demonstrates that formal programs are in place and practiced by all functional units and across the organization. Although some U.S. companies routinely implement executive training, the USA score of
2.75 remains well below average. The low U.S. performance contributes to the poor understanding of IT by business and the poor understanding of the business by IT.

Companies attaining higher levels of maturity in this area tend to leverage their academic partners to help identify and deliver effective programs to ensure employees have the requisite expertise to ensure harmony across IT and business organizations. Again, this should go beyond just the technical attributes.

**Attract and Retain best talent**

This element is about programs or policies designed to attract and retain key talent in the IT area (H7). Effective IT organization needs a wide variety of capabilities ranging from staffing the help desk to creating and integrating innovative business applications. Traditionally, most organizations did as much as they could in-house. Today nearly all the capabilities any company might want are available from a range of suppliers, including low-cost IT specialists in India and elsewhere. Authors like Shpilberg et al. (2007) reason that choosing the right source for a capability maximizing effectiveness while minimizing costs is true a critical consideration. So instead of trying to retain key talents in IT area it could be acceptable “right sourcing” talents.

One-way Anova test was performed and two groups were detected. The first group is formed by USA (2.86), Latin America (2.86), Europe (2.97), and the second group is formed by Indian companies (3.62). It can be stated with a certainty of 95% that USA, Latin America and Europe companies focus less on “programs of attract and retain best talents” than Indian ones. One possibility is that these regions prefer to right source talents from regions like India.

In the first group IT hiring focus on technical expertise however this group is starting to hiring IT focusing equally on technical and business expertise. One important thing to note is that retention programs are in place.

On the second group (India companies) IT hiring is focused equally on technical and business expertise. Differently from the previous group, formal programs are in place to attract and retain the best IT professionals with both technical and business

**IT Metrics**

One-way Anova test was performed and three groups were detected. The first group is formed by Europe (2.61) and USA (2.82). The second group is formed by USA and Latin America (3.15), and the third group is formed by Indian companies (3.65). It can be stated with a certainty of 95% that Europe focus less on programs of attract and retain best talents than Latin America. Europe, USA and Latin America companies focus less on “programs of attract and retain best talents” than Indian ones.

It can be seen in the first group that typical companies from Europe (2.61) and USA (2.82) are equally concerned with technical and cost efficiency measures. However they have a limited or no formal feedback processes in place to review and take action based on the results of their measures.

The second group best represented by USA (2.82) and Latin America companies (3.15) formally assesses technical and cost efficiency using traditional financial measures, such
as return on investment (ROI) and activity-based costing (ABC). This group is starting to put formal feedback processes in place to review and take action based on the results of their measures. It is important to note that Latin American companies (3.15) have a dual role between the first and second group.

The third group represented by Indian (3.65) companies although these companies present very similar practices with the second group. However its companies formally assess technical, cost efficiency, and cost effectiveness using traditional financial measures (e.g., ROI, ABC). They are starting to have formal feedback processes in place to review and take action based on the results of our measures.

**INDIAN IT SERVICE COMPANIES**

Given the consistently higher SAM scores for Indian IT companies, the remainder of this paper will elaborate on many of our observations from working with these firms, as well as introduce research demonstrating the relationship of SAM to firm performance for IT service companies.

**Why is India Different**

The India of today is no longer the India of a decade ago; it is no longer the land of tigers and the Taj Mahal. India today is widely considered one of the most exciting and vibrant emerging economies of the world. India’s economic success is far from new. The country’s economy grew at 6 percent from 1980-2002 to 7.5 percent from 2002-2006; making it one of the world’s best-performing economies for a quarter century.

The rise of Indian service companies has been a notable success when measured against standard indicators such as sales, exports, and employment. There is no single factor that has contributed to the accomplishment of these firms but, factors such as legal transparency, education, culture, population base, low labor costs, and quality have all contributed to their success. The growth of IT service firms has been possible not just because India is a less expensive alternative, but also because of the well planned strategy of building and marketing the domain skills adopted by these companies. They have taken steps for market penetration by expanding their global presence and by acquiring strategically important companies abroad. The outsourced business model has incorporated certain complementary organizational capabilities such as the human resource ability to scale up quickly in response to growth in demand, software process management capabilities, and the ability to manage global operations.

**IT Metrics:** Demonstrating process quality and expertise in IT service delivery are the key factors driving India’s sustained leadership in global IT services. From the birth of the industry, there has been a culture of quality. Various quality control and process management tools have been improved and developed in India. Indian IT service firms have been focusing on quality initiatives to align themselves with international standards. ISO 9001, COPC, 6 Sigma are some of the established quality initiatives. In fact, 90 out
of the world’s 117 SEI CMM Level 5 companies are from India; albeit their overall SAM is at 3.7. This implies that while India is exemplary in tactical and operational aspects of IT, they still have opportunities to improve in strategic areas.

Over the years, the Indian IT service industry has built robust processes and procedures to offer world class IT software and technology related services by developing next-generation tools, technology concepts, and standards. The quality of the software has not only impacted India directly (e.g., making India a favored destination for IT enabled services), it has also impacted the overall IT field by raising the software quality bar for all IT applications and services.

Indian IT service firms have a reputation for better, faster, and cheaper project delivery. These firms hire top talent who they immediately provide training in their SEI CMM Level 5 standardized methodology. They follow rigorous processes, employing quality management techniques and using the latest technology. They have developed a new generation of project-management skills that enables work to be carried out from multiple locations simultaneously. Core to this global delivery model is a heavy emphasis on quality standards.

**Human Resources/Skills:** Low-cost, highly skilled IT professionals are widely believed to be the key to India’s success story. India has the single largest pool of engineering talent among the emerging countries. Over 50 percent of the population in India is less than 25 years old. India’s young demographic profile is a unique advantage, complemented by a vast network of academic infrastructure and the legacy effects of British colonization. These have all contributed to an unmatched mix and scale of educated, English speaking talent. 80 percent of the IT professionals have engineering degrees. Having engineering degrees has helped IT service firms with problem solving skills, a rigorous method of thinking logically, and in learning tools that helps in adapting quickly with rapid changes in technology, domains, and tasks. This is in comparison to the reduction of these engineering and related computer science skills in the United States. Additionally, given the strong demand to have an appropriate balance of technical, business/management, interpersonal (communications, teams), it is clear that academic changes are required everywhere.

In-house testing and training has become a regular and significant component in the Indian service firm hiring process. Companies have also established dedicated facilities for employee skill enhancement initiatives. NASSCOM (National Association of Software and Services Companies) has developed a comprehensive skill assessment and certification program for entry-level IT talent. It also has implemented an image enhancement program to create the awareness of opportunities in the field of IT. The HR Skills maturity component for Indian Service companies is at an average score of 3.71.

Improvement in the quality of education system is being actively discussed at the highest level of policy formulation in India. Educational curriculum is being upgraded to

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international standards at many institutions. When it comes to senior IT professionals or managers, IT service companies are able to manage with either the local experienced IT professionals or returning expatriates, whom IT service companies have found very useful in bridging cultural gaps between local IT professionals and foreign clients.

**Partnership:** For Indian IT service companies’ cultural alignment and closer customer relationships are keys to competing successfully in providing high-end services. Further, immigration rules for obtaining work visas create project planning and management risks. Recognizing these difficulties, Indian IT service companies are acquiring consulting firms in United States and Europe, and are aggressively hiring hundreds of IT professionals from within the US and Europe.

The irony, of course, is that as global companies from the West are trying to set up cheap offshore delivery capability, the Indian IT service firms are building front-end consultancy in the West. Major IT service companies such as IBM Global Services, Accenture, EDS, and Ernst & Young are aggressively expanding their own operations in India because of the considerations discussed above.

**Governance:** Indian IT service firms are enjoying minimal regulatory and policy restrictions along with a range of incentives provided by both the state and the central governments. Software Technology Parks of India (STPI) have also helped the growth of IT service firms across the nation. Some of the major reforms such as rationalization of international taxation policies, mutual trade agreements with partnering countries, and a proactive and positive stance on international free trade are helping IT service firms to grow.

**India IT Service Case - WIPRO**

Wipro is a global IT service company. Established in 1945, and headquartered in Bangalore India. It entered into IT services in the 1980s. Its revenues have grown at a CAGR of 21% over a six decade period. Today it is a U.S. $3.47 billion organization with over 66,000 employees with operations in 19 countries.

It is the Worlds 1st PCMM Level 5 software company and the first IT service company to use Six Sigma. Among the top 3 offshore BPO (Business Process Outsourcing) service providers in the world, it has 592 + clients. Wipro is a strategic partner to five of the top ten most innovative companies in the world. It is also the world’s first company outside the U.S.A. to receive the IEEE software process award. It is the largest independent R&D service provider in the world. It is the first Indian IT service provider to be awarded Gold-Level status in Microsoft’s Windows Embedded Partner Programme. It is the first to get the BS15000 certification for its global command centre. It has 46 development centers across the globe. It is the pioneer in applying LEAN Manufacturing techniques to IT services.
Communications: Wipro’s Foreign Language Initiative enables IT professionals to communicate effectively with global clients. Employees are encouraged to learn one or more foreign languages. The initiative also helps non-English speaking IT professionals in the use of English effectively for communicating effectively with business executives.

Value Metrics: Wipro wishes to be the “Toyota of business services” and is on track to becoming the world’s most efficient IT service provider\(^8\). It offers a full portfolio of IT services including systems integration, package implementation, software application development and maintenance, research and development services, and information systems outsourcing across a range of industries delivering benefits for customers with six sigma consistency for global organizations. Using their global delivery model, they have international benchmarks in execution excellence that has translated in to measurable results for their global customers which includes a 75 percent faster time-to-market, 35 percent cost savings, and 35 percent productivity enhancements. Wipro is one of the few Indian IT service firms having adopted web services as an independent practice in its business plan. The IT capabilities are being built around web services-oriented applications and services to its customers. In this context, the confidentiality, security and integrity of organizations data is paramount, especially as data is exchanged across the internet. Web service standards have gone a long way to address those concerns.

Skills/HR: Wipro has opened centers in the U.S. (Atlanta, Georgia and Troy, Michigan) in a continuing trend of “reverse outsourcing”. Cultural alignment and closer customer relationships are keys to competing successfully in providing high-end consulting services. The recruits for the Wipro’s centers will attend three months of training in India before starting jobs in the U.S. in software development and project management. It is also scouting for training sites in the U.S. Further, the opening of U.S. centers are also an alternative to getting visas for workers, since getting work visa these days are getting competitive. It has also earmarked as much as $250 million for expansion in Europe through acquisition (mainly in Germany).

IT Service companies such as Wipro make sure that they are able to have a continuous flow of new engineers and IT people by reaching into India’s “second-level” engineering colleges to hire people before their last semester of study and then provide job-related course materials and training for that last semester. International campus hiring has also been initiated across the U.S.A., Europe, and Asia to attract top talent. By doing so, Wipro is able to get commitment from students early on who are ready to take on the jobs after graduation with less in-house training. Only 1 out of 10 candidates gets interviewed, following a 1:50 ratio of resumes scanned, all enabled by IT.

HR counsels every employee on their strengths and weaknesses based on their profile by providing a map of courses to take at Wipro. There is a 40-day “Project Readiness Program” for new IT employees. Also, online study is encouraged. Wipro supplements

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\(^8\) King, W., “Offshoring Decision Time Is At Hand”, Information Systems Management; Summer 2006; 23, 3, pp 102
continuing education program for those who choose to enroll at leading educational institutes to provide special skill or training in areas such as project management. At the leadership institute for senior managers, managers teach managers the business skills needed. 5 percent of billable time is spent on training. The Chairman of Wipro himself spends half a day of his personal time teaching in every leadership program. Wipro offers 100,000 person-days of training a year.

**Partnership:** At Wipro everyone is encouraged to come up with big or small ideas, which would improve serving the customer. The idea is not to break new ground in basic knowledge, but in improving customer service. As Wipro’s Chairman adds “If it isn’t going to add to the success of our customers, we aren’t going to invest in it.” Wipro ties the rewards to performance. The entry level IT person moves onto a higher salary/benefits curve as they progress in completing assigned course/seminars that are geared to transform them from a computer science/engineering/business graduate into a software engineer. “Wipro Equity Rewards Trust” plan gave Wiproites the benefits of participating in the wealth creation back in the 80’s. The stock option along with Quarterly Performance Linked Compensation (QPLC) provides innovative idea for linking Wipro’s performance with employee compensation.

**Governance:** Wipro’s technical competency lies in the ability to apply strong methodology to ensure on time delivery, in significant investments in accelerators, and in partnerships and alliances. For Wipro the nature of client trust is very important. IT tries to look at the problems the clients (internal and external) are experiencing and invites them to discussions to identify opportunities for the future growth of the firm. They push the business verticals to think seriously of the potential developments over the distant horizon to prepare for the challenges the company might face tomorrow. They continuously map new technologies coming into market and invest productively in IT and skills. New knowledge is created by combining the existing knowledge assets from multiple sources and is used before implementing new projects. Lessons learned are disseminated across the organizations for after-action-reviews, which lead to further insights for the future.

**Technology Scope and Architecture:** Wipro is very cognizant of the fact that they need to remodel their processes and technical foundation to ensure that the IT infrastructure is scalable. They have created autonomous structures combining IT, process, and applications which will allow them to continue the same growth in the future, while making sure that the data from the legacy systems are not lost by incorporating middleware technologies. Mobile applications are also a top priority at Wipro. With more than 50 offices in India and 30 offices abroad, scalability and flexibility are fundamental. Different geographic locations have different IT requirement and Wipro’s IT infrastructure conforms to each of the locations in a flexible manner to ensure effectiveness/efficiency. The internet is the key enabler of their infrastructure. In addition to physical security measures, frequent information audits are carried out to ensure a secure environment. As Wipro keeps hiring more employees, IT enables scalability in the HR process.

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SAM Impact on Service Industry Firm Performance

Evidence of the relationship of alignment and firm performance continues to be strong. Alignment has consistently demonstrated a positive association to firm performance. The Appendix provides a summary of some new research and previous research relating SAM and company performance.

This is once again demonstrated by the very strong correlation (.826) between SAM and IT service firm performance (in this instance the Return on Assets). This research supports the proposition that investing in aligning IT and business increases the firm’s profitability. Thus, we suggest that IT and business leaders exercise the maximum effort to align their IT and business organizations.

There were 19 IT service firms (14 Indian, 5 U.S.A) that participated in this evaluation. The 95 respondents were comprised of 48 business executives and 47 IT executives.

CONCLUSIONS

Based on our research from the large organizations we examined from the USA, India, Europe, and Latin America, although IT executives have rated alignment maturity somewhat higher than their respective business executives, the relative scores are very similar.

The “snapshots” of the four geographies showed that Indian companies have generally scored higher when compared to the companies from the USA, Europe, and Latin America. Although most of the Indian companies were from the IT service industry, when just comparing IT service companies, India generally scored higher than the IT service companies from the USA, Europe, and Latin America. However, with an overall average alignment maturity score of 3.17, there are still significant opportunities to improve.

Last, there continues to be demonstrable evidence that efforts to enhance IT business alignment provide improved organizational performance.

REFERENCES
Shpilberg, D., Berez, S., Puryear, R. and Shah.S. (2007), Avoiding the Alignment Trap in IT, 49, 1, 51-58
APPENDIX: THE RESEARCH PROCESS

The maturity levels for about two-thirds of the organizations in this study were gathered from interviews or group (evaluation team) discussions; the data from the remaining one-third were gathered from questionnaires (paper or online). The procedure using “evaluation teams” was as follows.

1. Each of the criteria within the six components were first assessed individually by an evaluation team that was typically comprised of leading IT and business executives from the organization being assessed. All items for each component were rated on a 1-5 point Likert scale, where “1” denoted very ineffective and “5” denoted very effective. Based on these ratings, each of the 47 criteria (only the criterion used as maturity vehicles are included in the figures) and the six components were categorized at Level 1, Level 2, Level 3, Level 4, or Level 5. The figures do not include the criteria that did not affect the maturity level (e.g., organization structure and IT reporting).

2. The evaluation team of IT and business executives (usually with an outside facilitator) then used their individual ratings to converge on an overall assessment level/score of maturity for the organization. This process applied the model as a descriptive tool.

3. The evaluation team then applied the next higher level of maturity as a prescriptive roadmap to improve the alignment of IT and business by identifying specific opportunities for moving to that next higher level.

APPENDIX: SAM IMPACT ON COMPANY PERFORMANCE

Alignment has consistently demonstrated a positive association to firm performance. Regardless of culture, geographic location, or industry higher firm performance has been repeatedly demonstrated to accompany higher alignment maturity. As displayed by the strong correlation (.633) between SAM and firm performance for 78 organizations in our repository from Pharmaceutical, Financial, Services, and Manufacturing companies where Return on Assets (ROA) data was obtained, the relationship of SAM and firm performance is strong. Of the 78 organizations, 64 were based in the United States and 14 were from India (all of the Indian firms in this discussion were from the IT service industry). In this most research analysis, the ROA – is very significant. Return on Assets represents company profitability relative to its total assets and is sometimes denoted as return on investment.

Previous SAM investigations (summarized in Figure 4) include the banking industry (Dorociak, 2006\textsuperscript{10}), pharmaceutical industry (Nash, 2006\textsuperscript{11}), and government

\textsuperscript{10} The alignment between business and information systems strategies in small banks: An analysis of performance impact, PhD. Dissertation, Capella University.

\textsuperscript{11} Assessing IT as a driver or enabler of transformation in the pharmaceutical industry employing the
(Sledgianowski, 2004\textsuperscript{12}). However, these and the several other SAM validating studies (small industry – (Rigoni, 2006\textsuperscript{13}), international chemical manufacturers - (Sledgianowski and Luftman, 2005\textsuperscript{14}), and Cumps, Viaene, Dedne and Vandenbulcke’s (2006\textsuperscript{15}) study of European companies), identified the relationship of Luftman’s 41 business practices to an organization’s performance data using regression and correlation analysis.

The performance data from these earlier studies varied from subjective executive appraisals of general satisfaction to hard data such as Return on Equity or Return on Assets. These two ratios reflect percentage increases in net shareholder equity or net available assets.

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\textsuperscript{12} Identification of factors affecting the maturity of IT-business strategic alignment, PhD. Dissertation, Stevens Institute of Technology.

\textsuperscript{13} Alinhamento estratégico entre negócios e tecnologia da informação: Práticas promovidas em empresas industriais da região sul do Brasil, M.S. Dissertation, Universidade Federal do Rio Grande do Sul.

\textsuperscript{14} IT-Business strategic alignment maturity: A case study, \textit{Journal of Cases on Information Technology}, 7, 2, 102-120.

\textsuperscript{15} An empirical study on business/ICT alignment in European organizations, \textit{Proceedings of the 39th Annual Hawaii International Conference on System Sciences}.
SAM has been validated for multiple organization sizes, different industries, and the public and private sectors. Each of the studies substantiated that higher SAM maturity corresponded to increased organizational performance. That increased organizational performance raises the businesses’ bottom line. To IT and business executives this means that the firm should be actively pursuing activities with the goal of increasing alignment. The cost benefit of SAM alignment seems highly favorable.