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Business & IT Alignment

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ABSTRACT

A key success factor for a successful company in a dynamic environment is effective and efficient information technology (IT) supporting business strategies and processes. In recent surveys however it is concluded that in most companies IT is not aligned with business strategy. The alignment between business needs and IT capabilities is therefore still a prominent area of concern. What is striking about these surveys is that they investigate the concerns of IT executives. The logic of business & IT alignment (BIA) however requires both IT and business executives to share this concern. Other research shows that business executives do not rank business & IT alignment very high in their concerns. This result raises the question whether BIA is an IT issue? And also: Do business executives perceive business & IT alignment differently than their IT colleagues?

This paper investigates the difference in perception of BIA between business executives and IT executives. The paper presents an brief overview of the theory on BIA and reports an assessment of BIA maturity by business managers and IT managers in 12 Dutch firms.

INTRODUCTION

In almost all industries, developments like new technologies, mergers and acquisitions, entrepreneurial initiatives, regulatory changes and strategic alliances create a dynamic business environment. A key success factor for a successful company in such a dynamic environment is an effective and efficient information technology (IT) supporting business strategies and processes. The necessity and desirability of aligning business needs and IT capabilities is examined in numerous articles (Pyburn 1983, Reich and Benbasat 1996, Chan et al. 1997, Luftman and Brier 1999, Maes et al. 2000, Sabherwal and Chan 2001) and its importance well recognized (Cumps et al. 2006). The annual survey on top management concerns by the Society for Information Management (www.simnet.org) ranked 'IT and Business alignment' as the No. 1 concern for four years in a row (Society of Information Management, 2003, 2004, 2005, 2006). Other surveys indicate similar concerns (Synstar 2004, Winmark 2004).

What is striking about these surveys is that they investigate the concerns of IT executives. The logic of business & IT alignment (BIA) however requires both IT and business executives to share this concern. Recent research by Accenture did not rank 'aligning IT to business requirements' in the top-10 concerns of the CEOs in the survey (Accenture 2006). This result raises the question whether BIA is an IT issue? And also: Do business executives perceive business & IT alignment differently than their IT colleagues?

This paper investigates the difference in perception of BIA between business executives and IT executives. This research is part of a research program exploring the differences of BIA in theory and in practice. More information on this program and the research questions is given in the next paragraph. Following this introduction, the theoretical concepts of BIA are described to reach a working definition for the study. The next paragraph describes the BIA maturity assessments that are used to measure the differences in perceptions of BIA. These maturity assessments are based on the research of Luftman et al. (1999) into the enablers and inhibitors of BIA in practice. The last paragraph reports the assessment of BIA maturity in 6 Dutch firms and the results of this study.

The paper is concluded with a number of concluding remarks and our suggestions for further research.

THE RESEARCH PROGRAM

The goal of the research program reported in this paper is to explore and understand the differences of BIA in theory and in practice. With this knowledge the theory on BIA can be further developed.
Step one of the research was a literature review on the topic. The literature review focused on the following questions.

- *How is BIA defined and interpreted?*
- *Which theories are developed on BIA?*
- *What was the development path of BIA?*
-

This literature is not reported in his paper, but some relevant parts are included in the following paragraph.
The second step in the program was a number of focused group discussions in order to explore the practical side of BIA. Participants in the focused discussion groups were IT managers and CIOs of medium sized and large organizations in the Netherlands. In total 23 participants from trade, manufacturing and financial companies joined in three separate groups. The discussions were aimed at exploring the following questions.

- *Which issues are faced in aligning IT with business requirements in practice?*
- *Which actions are taken to align IT with business requirements?*
-

This research was reported in Silvius (2007). The results of the discussions give input to the construct of BIA as a result of the relationship between business professionals and IT professionals instead of a systematic methodology. This insight was also found with in other studies (Luftman et al., 1999). The relationship can be well established and matured within an organization, with a clear process and assessment, or it can be still in its infancy. The third step of the research program therefore focuses on the assessment of the maturity of BIA in real-life companies. Since November 2005 number of BIA maturity assessments has been undertaken by middle-sized and large Dutch firms. In these assessments the central question was:

- *How do practitioners assess the level of BIA maturity in these companies?*
- *Do IT professionals assess BIA maturity differently as business professionals?*
-

This paper reports the detailed results of five companies in the study.

DEFINING BUSINESS & IT ALIGNMENT

Despite of the apparent importance of aligning IT and business, the majority of publications are rather vague in terms of how to define or practice alignment (Maes et al. 2000). A first question seems to be how to define the word 'alignment'. Other expressions used in this context are 'fit' (Venkatraman, 1989), 'harmony' (Luftman et al. 1993), 'integration' (Weill and Broadbent 1998), 'linkage' (Henderson and Venkatraman 1993), 'bridge' (Ciborra 1997) or 'fusion' (Smaczny 2001). A second question is whether IT aligns to business or business to IT? Or both? Wieringa et al. (2005) define BIA as 'the problem of matching IT services with the requirements of the business', identifying business as leading. This logical, but also traditional, approach is opposed by Poels (2006) who states that BIA implies a 'mutual influence' between business and IT.

Another question is whether BIA is a 'state' or level that can be achieved or a 'process' to get to a certain (higher?) state. The concept of BIA as a 'state' is further developed by Luftman (2000), who assesses the BIA maturity level of organizations. Also Reich and Benbasat (1996) 'measure' a degree or level of BIA. The process approach to BIA can be found in the methodologies of IT planning developed in the '70s and '80s (IBM Corporation 1981, Martin 1982). Also Weill and Broadbent (1998) support the process view when they state 'Alignment is a journey, not an event'.

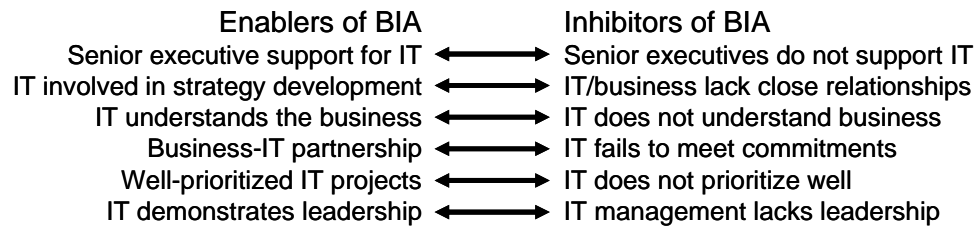**Figure 1:   The 'Strategic Alignment Model'.**
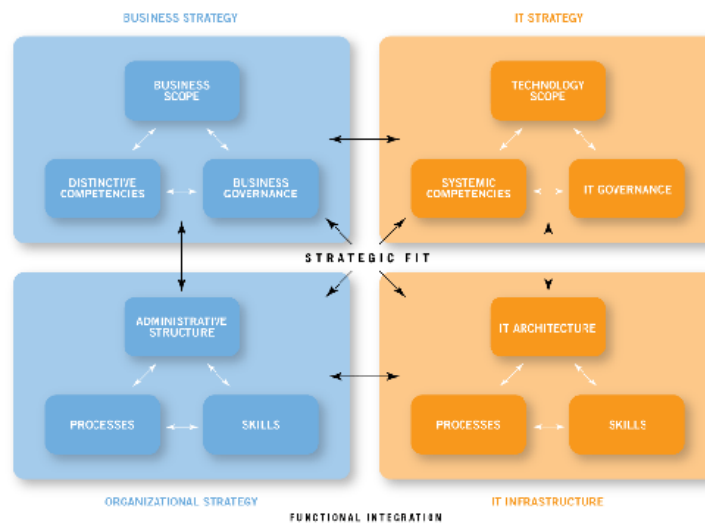
In this jungle of questions and opinions, Business & IT Alignment delivers well over a million Google hits, Chan (2002) distinguishes two prevailing conceptualizations of the alignment problem. The first one focuses on planning and objectives integration and views alignment as the degree to which the business mission, objectives and plans are supported by the ICT mission, objectives and plans. This view can be found with Reich and Benbasat (1996), Kearns and Lederer (2004) and Hirschheim and Sabherwal (2001). A more holistic conceptualization of BIA can be found with Henderson and Venkatraman (1993). Their widespread framework of alignment, known as the Strategic Alignment Model, describes BIA along two dimensions (Figure 1). The dimension of strategic fit differentiates between external focus, directed towards the business environment, and internal focus, directed towards administrative structures. The other dimension of functional integration separates business and IT. Altogether, the model defines four domains that have been harmonized in order to achieve alignment. Each of these domains has its constituent components: scope, competencies, governance, infrastructure, processes and skills. Henderson and Venkatraman pay extensive attention to the different approaches of achieving this alignment. In the model this can be visualized by starting the process of alignment from any one of the four domains. Maes et al. (2000) refine the Strategic Alignment Model by identifying three, instead of two, columns: business, information/communication and technology column, and three, instead of two, rows: strategy, structure and operations.

In our study we define BIA as:

Business & IT Alignment is the degree to which the IT applications, infrastructure and organization, the business strategy and processes enables and shapes, as well as the process to realize this.

In this definition, BIA can express both a 'state', the degree of alignment, as a 'process', the activities or methodology to reach a certain state of alignment. The definition also implies that BIA covers not just the alignment process aimed at developing, selecting or enhancing IT applications and infrastructure, but also the agreements regarding the management and maintenance of application and infrastructure services. In the Strategic Alignment Model this is shown in the different levels of alignment. The strategic level covers the alignment between business strategy and IT strategy, whereas the operational level covers the alignment between business processes & organization and IT infrastructure & organization.

In the definition 'business' is defined by business processes and business strategy and 'IT' is defined as IT applications, infrastructure and organization. This view finds support in the methodologies of IT planning. The question whether IT aligns to business or the other way around is answered as 'enables and shapes'. This indicates a two-way alignment.

Figure 2: Enablers and inhibitors of Business & IT Alignment.

Enablers of BIA   Inhibitors of BIA

Senior executive support for IT ⟷ Senior executives do not support IT
IT involved in strategy development ⟷ IT/business lack close relationships
IT understands the business ⟷ IT does not understand business
Business-IT partnership ⟷ IT fails to meet commitments
Well-prioritized IT projects ⟷ IT does not prioritize well
IT demonstrates leadership ⟷ IT management lacks leadership
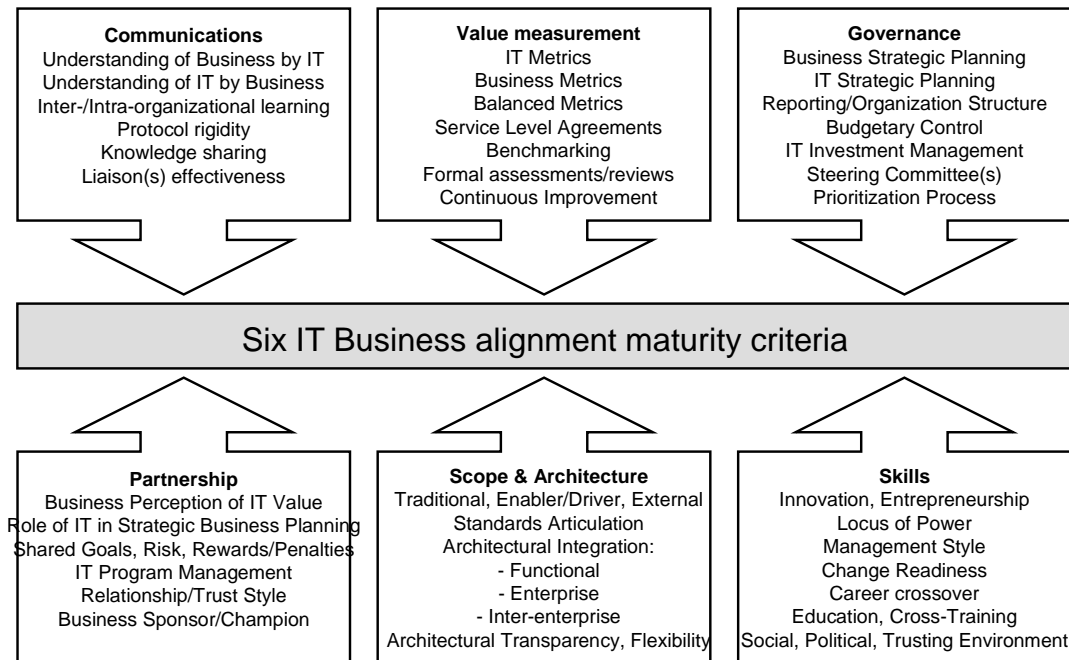
BUSINESS & IT ALIGNMENT MATURITY

The message of BIA is logical and undisputed. IT should support the business and this will be more successful if the IT resources are developed and organized with the business strategy and processes in mind. If this message is so clear, how can the results from the Synstar (Synstar, 2004) and Winmark (Winmark, 2004) research be explained?

This paradox is explored by Luftman and Brier (1999). In their studies of BIA they found that enablers and inhibitors of alignment, as shown in Figure 2, seem to be different ends of the same variable. The ability of aligning IT to business needs is therefore a result of the relative 'position' on the variables. What is striking about the variables of BIA Luftman and Brier found that they are more relational than technical or organizational. This is consistent with other researchers who added social elements of alignment to the formal methodological elements (Keen 1991, Reich and Benbasat 2000, Chan 2002). BIA therefore seems to be a state resulting more from the relation between IT executives and business executives than from a methodological analysis of business strategy. This relationship position is determined as a maturity level, with the BIA maturity resulting from the mean maturity on all variables.

Based on the components of the strategic alignment model (Figure 1) and the enablers and inhibitors of BIA (Figure 2), Luftman developed his Business & IT Alignment Maturity model. In this model six criteria are used to determine the maturity of the alignment of IT and business (Luftman, 2000). These six criteria are:

- Communications Maturity
  How well does the technical and business staff understand each other? Do they connect easily and frequently? Does the company communicate effectively with consultants, vendors and partners? Does it disseminate organizational learning internally?

- Competence / Value Measurement Maturity
  How well does the company measure its own performance and the value of its projects? After projects are completed, do they evaluate what went right and what went wrong? Do they improve the internal processes so that the next project will be better?

- Governance Maturity
  Do the projects that are undertaken flow from an understanding of the business strategy? Do they support that strategy?

- Partnership Maturity
  To what extend have business and IT departments forged true partnerships based on mutual trust and sharing risks and rewards?

- Scope & Architecture Maturity
  To what extend has technology evolved to become more than just business support? How has it helped the business to grow, compete and profit?

- Skills Maturity

Figure 3: Business & IT Alignment Maturity criteria.

| **Communications**
Understanding of Business by IT
Understanding of IT by Business
Inter-/Intra-organizational learning
Protocol rigidity
Knowledge sharing
Liaison(s) effectiveness | **Value measurement**
IT Metrics
Business Metrics
Balanced Metrics
Service Level Agreements
Benchmarking
Formal assessments/reviews
Continuous Improvement | **Governance**
Business Strategic Planning
IT Strategic Planning
Reporting/Organization Structure
Budgetary Control
IT Investment Management
Steering Committee(s)
Prioritization Process |

Six IT Business alignment maturity criteria

| **Partnership**
Business Perception of IT Value
Role of IT in Strategic Business Planning
Shared Goals, Risk, Rewards/Penalties
IT Program Management
Relationship/Trust Style
Business Sponsor/Champion | **Scope & Architecture**
Traditional, Enabler/Driver, External
Standards Articulation
Architectural Integration:
- Functional
- Enterprise
- Inter-enterprise
Architectural Transparency, Flexibility | **Skills**
Innovation, Entrepreneurship
Locus of Power
Management Style
Change Readiness
Career crossover
Education, Cross-Training
Social, Political, Trusting Environment |

Does the staff have the skills needed to be effective? How well does the technical staff understand business drivers and speak the language of the business? How well does the business staff understand relevant technology concepts?

In the concept of BIA maturity, the level of maturity indicates an organization's capability to align IT to business needs. As in many maturity models, Luftman's BIA maturity assessments involves five levels of maturity:

1. Initial / Ad Hoc Process
2. Committed Process
3. Established Focused Process
4. Improved / Managed Process
5. Optimized Process

In our research we used the BIA maturity assessments to investigate the differences in perception of BIA by business executives and IT executives.

EXPLORING DIFFERENCES IN PERCEPTION

In order to explore the differences in perception of BIA by business executives and IT executives, the BIA maturity assessments as developed by Luftman are applied to a number of international Dutch firms. This paragraph reports the results of this study.

Participants

The five participating companies in the pilot study were selected from a group of participants of a series of master classes organized by bITa center, an independent 'knowledge hub' on BIA (see http://www.bita-center.com/masterclasses). In this way we assured that the participants had an interest in BIA. The participating companies are listed in table 1. They represent two types of industry: public services and financial services. The three financial services companies have substantial international activities.

Figure 4: The three groups of respondents in the study.
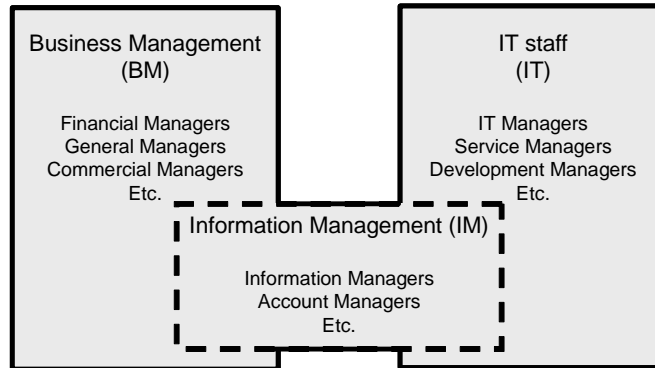
The respondents in each company held positions differing from IT management, information management, general management, financial management and commercial management, both on a managerial level and on an operational level. Their positions were clustered into three function groups. Given the goal of the study, exploring differences in perceptions between 'IT' and 'Business', the first two groups were logically being IT management (IT), for IT staff, and business management (BM), for non-IT staff. The third group, information management (IM), represented the different liaison positions between IT and business as 'information manager' or 'account manager'. These positions may in one organization be considered part of the IT department, where in another organization they may be considered 'business'. For this reason, and also because they should be at the heart of the BIA processes, these positions were analyzed as a separate group of respondents.

In a structured interview based on Luftman's assessment questionnaire, an individual assessment of the respondent's perception of BIA maturity was made on each of the aspects of the six criteria shown in Figure 3. The assessments were scored on a five point scale, corresponding with the five levels of maturity. The interviews were conducted between October 2005 and December 2006.

Expected results

Since the explorative nature of the study no formal hypothesis were formulated. Based on the Accenture research, it was expected however that business executives would assess the maturity of BIA differently than IT executives.

Table 1: The participants of the study.

Company	Industry	# Employees	# Respondents			
			total	IT	IM	BM
1 Hogeschool Utrecht	Public / Education	1000-2500	16	6	3	7
2 CFI	Public	250-500	6	3	1	2
3 NIBC	Financial Services	100-250	7	3	2	2
4 Alex	Financial Services	100-250	9	5	0	4
5 Interpolis Verzekeringen N.V.	Financial Services	1000-2500	4	2	0	2
			42	19	6	17

Figure 5: Detailed results.
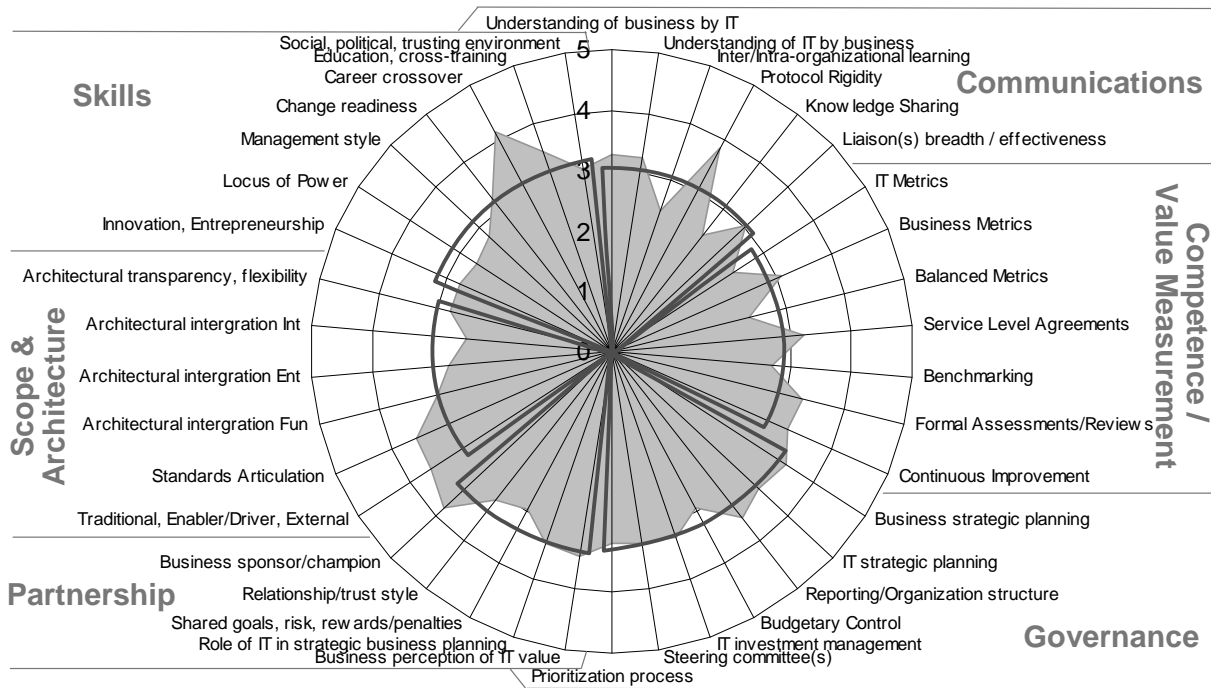
Most likely lower, but in any case different. Given the liaison position of the Information Management group it could be expected that their assessment would be somewhere between the assessment of the Business Management and the IT staff.

Research findings

Figure 5 first of all shows the results of all respondents. The overall maturity level was assessed close to level three, established process, with small differences between the six variables. This is shown by the outside line of the pie shaped graphs. The criteria Competence / Value Measurement and Scope & Architecture scored overall just below level 3, whereas the criteria Governance and Partnership scored between level three, established process and level four, improved/managed process.

More interesting than the overall level of maturity are the underlying assessments. Figure 5 also shows the assessment of the criteria one level deeper. These are shown by the area graph. This shows a much more whimsical pattern with relatively high scores for 'career crossover opportunities', 'protocol rigidity', 'business sponsorship' and 'standards articulation'. Relatively low levels of maturity scored 'inter-/intra-organizational learning', 'IT metrics', 'balanced metrics (between IT and business)' and 'architecture integration'.

Another interesting finding is the result per function group. This is shown in figures 6 and 7. Figure 6 shows the assessment of the three function groups on the six criteria. What is remarkable about this result is that the assessment of the business managers and of the IT managers seem to be more in line with each other than the assessment of the information managers. Especially on the criteria Competence / Value Measurement and Partnership is the score of the information managers substantially less than the score of both IT and business management.

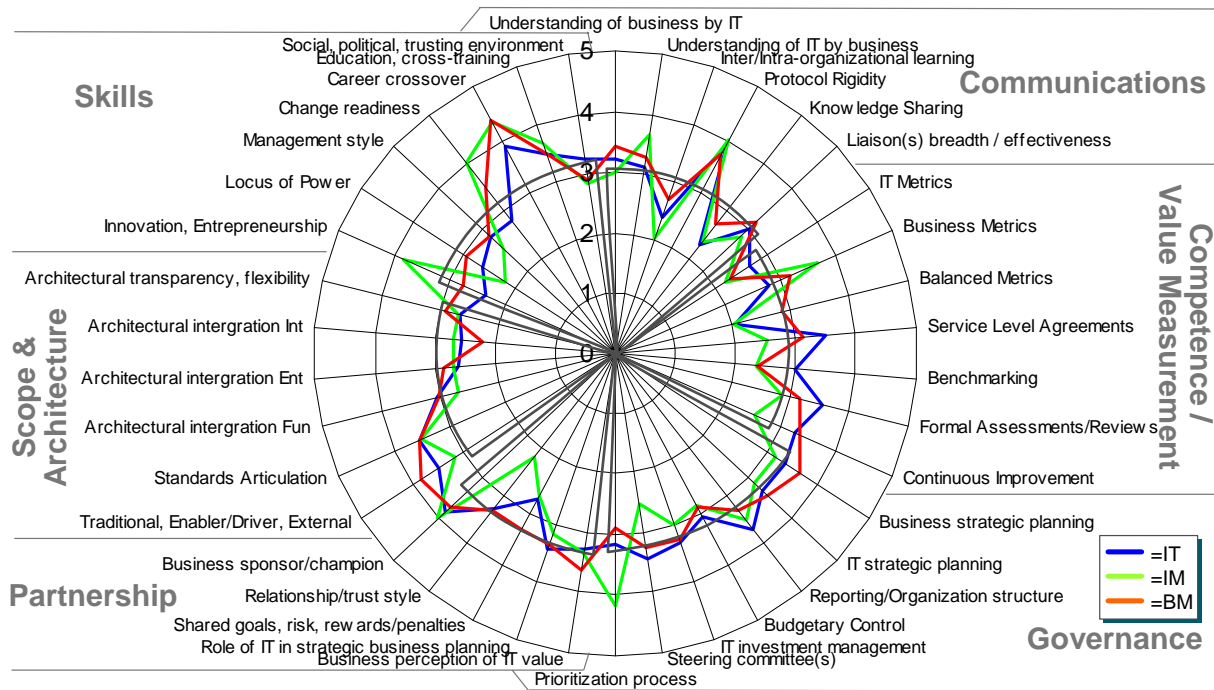**Figure 7: Results detailed by function group.**

Figure 7 shows the more detailed result by function group. In this graph the pattern is more fuzzy and differences in assessment seem to show for all three function groups.

A closer analysis of the results however confirm the impression that the perception of BIA maturity is more aligned between the groups BM and IT than between IM and any of the other groups. Table 2 shows that the overall

Figure 6: The maturity assessments of business managers (red line),
information managers (green line) and IT managers (blue line).
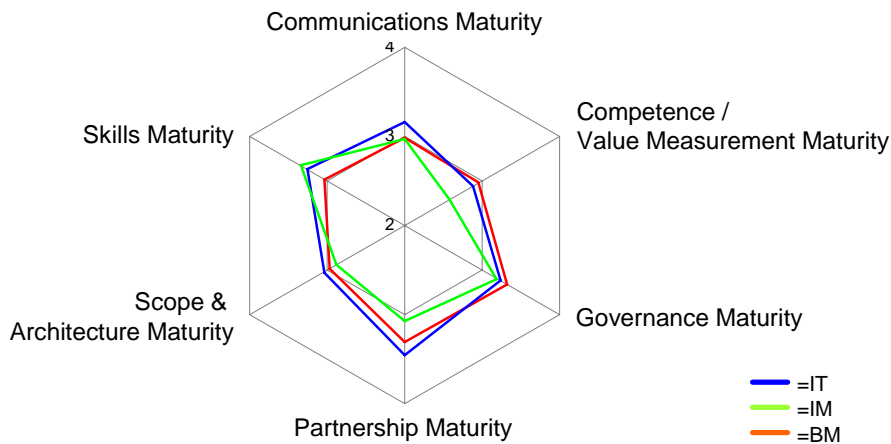
perception of BIA maturity differs little over 0.4 maturity level between IM and IT and between IM and BM. The difference in perception between BM and IT is 0.28 maturity level.

Typical areas where IM has a different assessment of the BIA maturity, compared to the IT and BM groups are Value measurement and Partnership.

Interpretation

The study reported here did not include any further research into why the respondents assessed the maturity of theit organizations the way they did. Any explanation of the results is therefore the researcher's interpretation.
The more critical view that the respondents in the group Information Management had could be a result of the fact that they are really in the middle of the BIA processes. They are therefore in probably the best position to have an opinion on these processes. In other words, they could know best. In their jobs, they probably literally feel the 'squeeze' between business and IT. This squeeze may very well be the reason why they are critical about the assessment of 'Partnership' and 'Value measurement'. They experience the reality of the Business-IT relationship every day and may therefore assess this relationship a little more critical.

Further research

The notable perception of BIA maturity of the Information Management group of respondents calls for further research. Where most of the studies into the alignment of Business and IT tend to focus on either Business aspects or IT aspects or a combination of both, the liaison positions as such are under exposed in research.

Table 2: Differences in perception between BM, IM and IT.

	Mean IT	Mean IM	Mean BM	Mean All	IT-IM	IM-BM	IT-BM
Communications	**3,0**	**3,0**	**3,2**	**3,05**	**0,25**	**0,41**	**0,25**
Understanding of business by IT	3,2	3,0	3,4	**3,26**	0,21	0,41	0,20
Understanding of IT by business	3,1	3,7	3,3	**3,26**	0,56	0,37	0,19
Inter/Intra-organizational learning	2,4	2,0	2,7	**2,45**	0,37	0,71	0,34
Protocol Rigidity	3,9	4,0	3,7	**3,83**	0,11	0,29	0,19
Knowledge Sharing	2,3	2,3	2,7	**2,44**	0,07	0,35	0,42
Liaison(s) breadth / effectiveness	3,0	2,8	3,2	**3,06**	0,19	0,34	0,15
Value measurement	**3,0**	**2,6**	**2,9**	**2,87**	**0,63**	**0,45**	**0,44**
IT Metrics	2,6	2,2	2,3	**2,41**	0,47	0,10	0,37
Business Metrics	2,8	3,7	3,1	**3,08**	0,87	0,52	0,35
Balanced Metrics	2,0	2,0	2,8	**2,36**	0,03	0,82	0,79
Service Level Agreements	3,5	2,5	3,1	**3,18**	0,97	0,59	0,39
Benchmarking	3,0	2,3	2,3	**2,63**	0,64	0,01	0,63
Formal Assessments/Reviews	3,5	2,8	3,1	**3,26**	0,69	0,28	0,41
Continuous Improvement	3,2	2,5	3,4	**3,17**	0,72	0,85	0,13
Governance	**3,3**	**3,2**	**3,2**	**3,30**	**0,43**	**0,47**	**0,22**
Business strategic planning	3,3	3,2	3,6	**3,44**	0,18	0,48	0,30
IT strategic planning	3,3	3,2	3,4	**3,34**	0,14	0,27	0,14
Reporting/Organization structure	3,7	3,5	3,3	**3,50**	0,18	0,21	0,39
Budgetary Control	3,1	2,8	2,9	**2,95**	0,22	0,05	0,17
IT investment management	3,3	3,0	3,3	**3,25**	0,32	0,26	0,05
Steering committee(s)	3,4	2,5	3,2	**3,22**	0,94	0,74	0,21
Prioritization process	3,2	4,2	2,9	**3,19**	1,01	1,28	0,28
Partnership	**3,3**	**3,1**	**3,5**	**3,34**	**0,33**	**0,51**	**0,23**
Business perception of IT value	3,3	3,3	3,6	**3,44**	0,04	0,31	0,36
Role of IT in strategic business planning	3,4	3,2	3,4	**3,36**	0,25	0,19	0,07
Shared goals, risk, rewards/penalties	2,7	2,7	3,3	**2,96**	0,07	0,65	0,58
Relationship/trust style	3,3	2,2	3,3	**3,12**	1,10	1,13	0,03
Business sponsor/champion	3,8	4,0	3,7	**3,80**	0,17	0,29	0,13
Scope and architecture	**3,0**	**2,9**	**3,0**	**2,99**	**0,16**	**0,31**	**0,20**
Traditional, Enabler/Driver, External	3,5	3,2	3,8	**3,57**	0,31	0,66	0,35
Standards Articulation	3,5	3,5	3,5	**3,52**	0,03	0,03	0,00
Architectural integration Func	3,0	2,7	3,0	**2,96**	0,36	0,33	0,03
Architectural integration Ent	2,6	2,7	2,8	**2,70**	0,08	0,18	0,26
Architectural integration Int	2,5	2,7	2,2	**2,41**	0,14	0,48	0,34
Architectural transparency, flexibility	2,6	2,7	2,9	**2,74**	0,02	0,21	0,23
Skills	**3,0**	**3,3**	**3,2**	**3,16**	**0,65**	**0,42**	**0,33**
Innovation, Entrepreneurship	2,4	3,8	2,8	**2,74**	1,47	1,07	0,40
Locus of Power	2,6	2,2	2,9	**2,68**	0,44	0,77	0,33
Management style	2,8	2,5	2,8	**2,77**	0,32	0,32	0,01
Change readiness	2,8	4,0	3,5	**3,24**	1,21	0,53	0,68
Career crossover	3,9	4,3	4,4	**4,13**	0,46	0,02	0,48
Education, cross-training	3,5	3,7	3,5	**3,50**	0,19	0,20	0,00
Social, political, trusting environment	3,3	2,8	2,9	**3,05**	0,43	0,05	0,38
	19	6	17	42			
					0,41	**0,43**	**0,28**

CONCLUSIONS

Aligning IT to business needs is still an important challenge for many organizations. The research into the enablers and inhibitors of BIA makes clear that aligning IT to business needs in practice is not a mechanical 'by-the-book' process. The real world provides a more complex and fuzzy situation in which BIA is not as straightforward as implied by the methodologies. This BIA requires conditions like 'being on speaking terms with each other' and 'partnership between business and IT'. These fuzzy conditions are indications for an organization's maturity of the relationship between business and IT. In this relationship the perception of BIA from both business managers and IT managers is of critical importance. Recent surveys indicate that these perceptions may differ, making the relationship harder to develop.

The BIA maturity assessments performed in 5 companies showed some differences in perception between Business Management, Information Management and IT Management. Surprisingly the largest difference was not between Business Management and IT Management, but between Information Management and the two other groups. The implication of this is that liaison positions between business and IT deserve specific attention in the study of BIA.

These positions are implicitly included in either Business Management or IT Management, but appear to have opinions and perceptions that differ from the groups they are included in.

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