

Building the Business Case for COBIT[®] and Val IT[™]

Executive Briefing



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About University of Antwerp Management School (UAMS)

UAMS, www.uams.be, has the ambition to be a 'learning partner in management' by offering a broad range of training programmes for future and current managers in the business world, in public services and social-profit organisations. The priorities cover optimal quality control, interactive teaching methods, an emphasis on research-based knowledge and best practice, an international orientation and a continuous adaptation of its programmes to the needs of the market.

The Information Technology Alignment and Governance Research Institute, www.uams.be/itag, was established within UAMS to host applied research in the domains of IT governance and business/IT alignment. The research centre is an initiative of Dr. Wim Van Grembergen and Dr. Steven De Haes. Both have research and practical experience in the IT Governance and Strategic Alignment domains. In 2005, this team was reinforced by senior researcher Hilde Van Brempt.



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1. Introduction

The majority of today's business processes depend heavily upon an IT organisation and supporting processes that function well. To ensure that investments in IT generate the required business value and that risks associated with IT are mitigated, a specific focus on enterprise governance of IT is required. Enterprise governance of IT can be seen as an integral part of enterprise governance since it addresses the definition and implementation of processes, structures and relational mechanisms in the enterprise that enable both the business and IT to execute their responsibilities in support of business/IT alignment and the creation of business value (Van Grembergen and De Haes, 2009). Investments in enterprise governance of IT practices and adoption of typical frameworks, such as COBIT and Val IT, are increasing and enterprises appreciate their practical relevance. But implementing these practices requires a reasonable amount of effort since enterprises must evaluate and re-think their processes. Investing in IT-related governance and management practices is, therefore, often perceived as costly and complex, while return in short- and long-term value is difficult to measure in tangible (financial) outcomes.

Against this background, academic and practice-oriented research was initiated to explore whether applying enterprise governance of IT practices, such as COBIT and Val IT, actually contributes to business value generation. By offering the evidence that those practices do have a positive impact on the enterprise's performance, business and IT management can find inspiration to build the business case for adopting COBIT and Val IT and, thus, may find it easier to defend such projects. Additionally, the results of this research may contribute to the relatively new domain of knowledge and theory building and this research may assist practitioners by providing more guidance on how enterprise governance of IT frameworks, such as COBIT and Val IT, can lead to a higher value from IT.

This research explores and demonstrates the business value of COBIT and Val IT. The project was commissioned by ISACA and executed by the IT Alignment and Governance Research Institute of the University of Antwerp Management School (UAMS). The enormous dataset resulting from the research offers many analysis opportunities and, in addition to clarifying the relationship between enterprise governance of IT and business performance, also provides a good indication of the current implementation status of the COBIT and Val IT frameworks within enterprises of different size, industry segment and geographic location. An overview of the most important findings is presented in this executive briefing. Reactions and questions are welcomed via steven.dehaes@ua.ac.be, wim.vangrembergen@ua.ac.be and research@isaca.org.

2. Research Approach

Enterprise governance of the COBIT and Val IT frameworks is closely related and offers enterprises a set of well-defined processes, control objectives and key management practices. COBIT delivers a management and control framework for IT, organised around 34 IT processes and approximately 210 control objectives. As worldwide adoption of COBIT increases, it can be seen as the *de facto* framework for governance over IT. The complementary Val IT framework is organised around 22 IT-related business processes and corresponding key management practices, and focuses on business decisions integral to maximising the value from IT-enabled business investments. Both frameworks offer enterprises practical guidance in the domain of enterprise governance of IT, assuming that its adoption will lead to higher organisational performance. The latter constitutes the key research question of this executive briefing:

What is the relationship between organisational performance and enterprise governance of IT practices based on COBIT 4.1 and Val IT 2.0?

Measuring organisational performance is a crucial part of this research, but a review of the literature reveals that no standard tool exists for that purpose. While an enterprise's value is often expressed in shareholder and other stakeholder value, identified by measurements such as profit and non-monetary targets, caution is required since an enterprise's value is best identified by metrics that support both short- and long-term objectives. A more straightforward approach for measuring an enterprise's value in the context of this research is by using the available concepts in COBIT and Val IT—more specifically, the cascade of business goals, IT goals and IT (related) processes. This approach offers the possibility to capture insights on how an enterprise is actually performing against a set of IT and business objectives, and, as such, provides an interesting indicator (proxy) of the real enterprise benefits.

For this research, IT and business managers (ISACA members) from 538 enterprises worldwide completed a survey regarding their implementation status of 56 IT-related governance processes (COBIT and Val IT processes) and the enterprise's performance against a set of 18 IT goals and 20 business goals. The group of respondents came from different worldwide regions, with the majority from North America (40 percent), Asia (26 percent) and Europe (19 percent). The industry segments were grouped in five major industries represented by the sector groups:

- FIN represents banks, financial and insurance companies.
- GIH includes government institutions, utilities (e.g., energy, oil and gas) and the healthcare sector.
- ITM represents companies from IT professional services, telecommunications and media.
- MFT includes companies from the manufacturing and pharmaceutical industry.
- RET represents companies from the retail, distribution and transportation industries.

The 'More' category includes those enterprises involved in more than one of the five sector groups.

Regarding their individual function, 55 percent of the respondents worked within a business department whereas 45 percent operated from the IT department. Also, 28 percent of respondents reported that they were working as consultants (see **figure 1**).

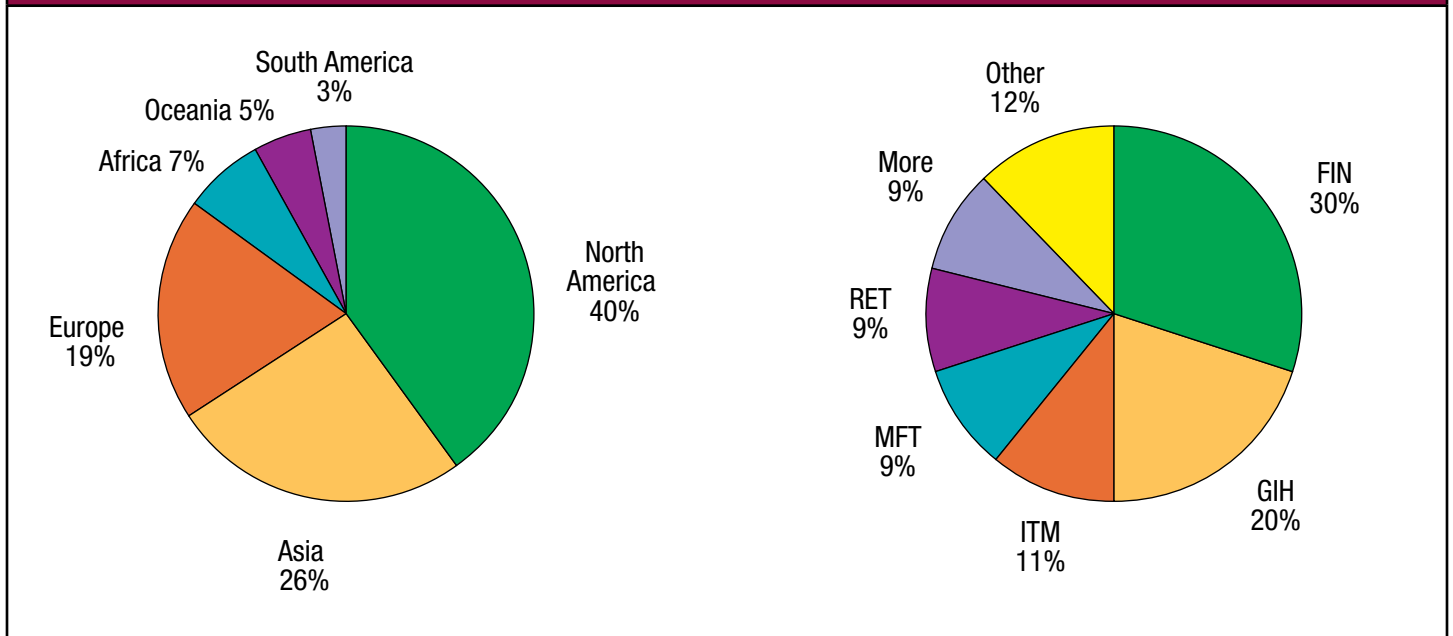
Information was gathered to measure the implementation status of the 34 COBIT processes and 22 Val IT processes (see **figure 2**). Respondents were asked to score the implementation status of the processes from 1 (not implemented) to 5 (fully implemented). Each process was briefly described by some of its key activities.

Respondents could assess the achievement of IT goals and business goals within their enterprise by scoring each goal from 1 (not achieved) to 5 (achieved). For all questions, a 'don't know' option was added. The list of business goals and IT goals, as presented in **figure 3**, was based on research¹ that further validated the IT goals and business goals as presented in COBIT 4.1. In **figure 3**, the business goals are grouped according to business balanced scorecard (BSC) perspectives (fin=financial, cust=customer, int=internal, LG=learning and growth). Regarding the business goals, three Val IT-specific business goals were added. Val=Val IT. The IT goals are grouped according to the IT BSC perspective (corp=corporate, user=user, oper=operational, fut=future).

All data gathered were uploaded using SPSS software to allow for statistical analysis. As explained previously, data for 94 metric points were gathered with 34+22 metric points for the COBIT and Val IT processes layers, 18 metric points for the IT goals layer and 20 metric points for the business goals layer. Correlations between all individual metric points and groups of metric points were analysed leveraging the Pearson correlation technique.

¹ ITGI, *Identifying and Aligning Business Goals and IT Goals: Full Research Report*, ISACA, USA, 2008, available at www.isaca.org

Figure 1—Profile of Respondents



Respondent Profile by Company Size

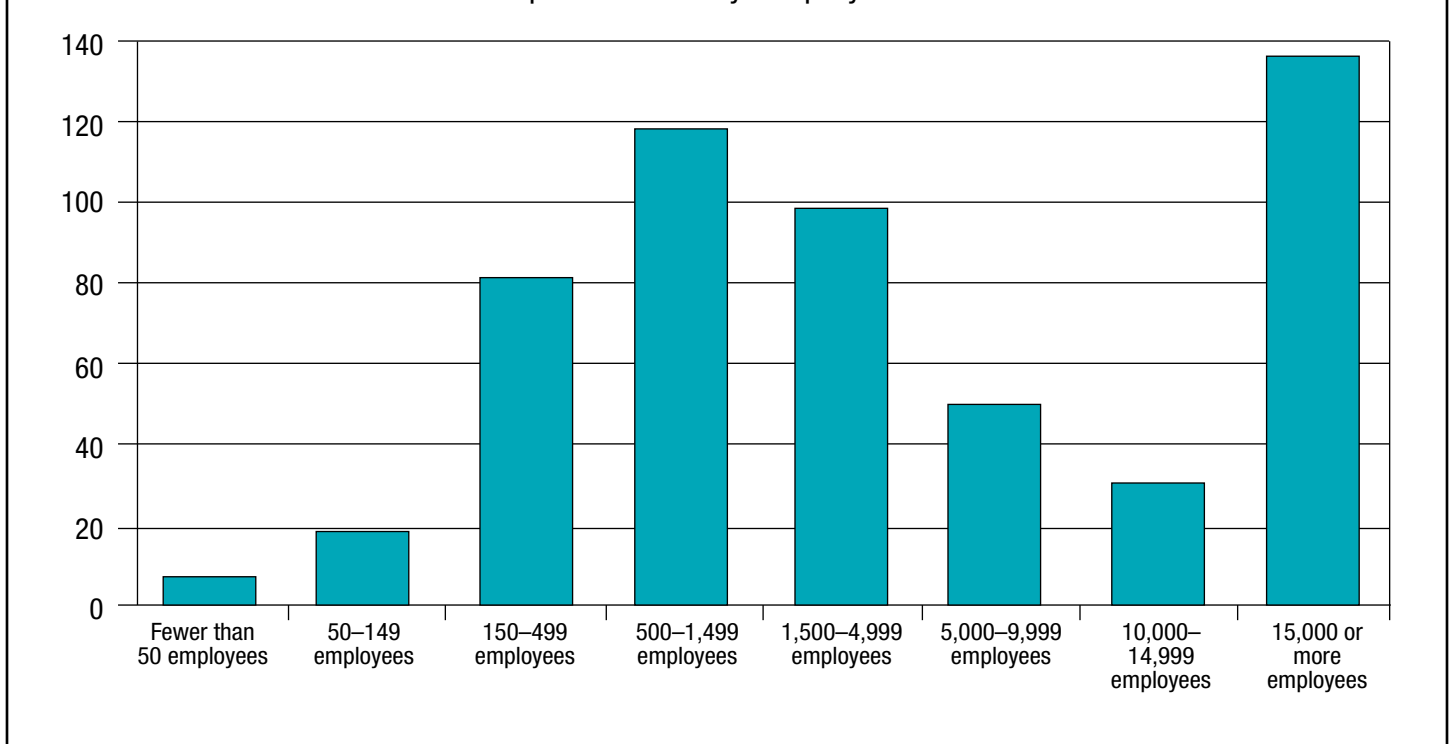


Figure 2—COBIT and Val IT Constructs

COBIT		Val IT	
Plan and Organise (PO)		Value Governance (VG)	
PO1	Define a strategic IT plan.	VG1	Establish informed and committed leadership.
PO2	Define the information architecture.	VG2	Define and implement processes.
PO3	Determine technological direction.	VG3	Define portfolio characteristics.
PO4	Define the IT processes, organisation and relationships.	VG4	Align and integrate value management with enterprise financial planning.
PO5	Manage the IT investment.	VG5	Establish effective governance monitoring.
PO6	Communicate management aims and direction.	VG6	Continuously improve value management practices.
PO7	Manage IT human resources.	Portfolio Management (PM)	
PO8	Manage quality.	PM1	Establish strategic direction and target investment mix.
PO9	Assess and manage IT risks.	PM2	Determine the availability and sources of funding.
PO10	Manage projects.	PM3	Manage the availability of human resources.
Acquire and Implement (AI)		PM4	Evaluate and select programmes to fund.
AI1	Identify automated solutions.	PM5	Monitor and report on investment portfolio performance.
AI2	Acquire and maintain application software.	PM6	Optimise investment portfolio performance.
AI3	Acquire and maintain technology infrastructure.	Investment Management (IM)	
AI4	Enable operation and use.	IM1	Develop and evaluate the initial programme concept business cases.
AI5	Procure IT resources.	IM2	Understand the candidate programme and implementation options.
AI6	Manage changes.	IM3	Develop the programme plan.
AI7	Install and accredit solutions and changes.	IM4	Develop full life-cycle costs and benefits.
Deliver and Support (DS)		IM5	Develop the detailed candidate programme business case.
DS1	Define and manage service levels.	IM6	Launch and manage the programme.
DS2	Manage third-party services.	IM7	Update operational IT portfolios.
DS3	Manage performance and capacity.	IM8	Update the business case.
DS4	Ensure continuous service.	IM9	Monitor and report on the programme.
DS5	Ensure systems security.	IM10	Retire the programme.
DS6	Identify and allocate costs.		
DS7	Educate and train users.		
DS8	Manage service desk and incidents.		
DS9	Manage the configuration.		
DS10	Manage problems.		
DS11	Manage data.		
DS12	Manage the physical environment.		
DS13	Manage operations.		
Monitor and Evaluate (ME)			
ME1	Monitor and evaluate IT performance.		
ME2	Monitor and evaluate internal control.		
ME3	Ensure compliance with external requirements.		
ME4	Provide IT governance.		

Figure 3—Business Goals and IT Goals Constructs

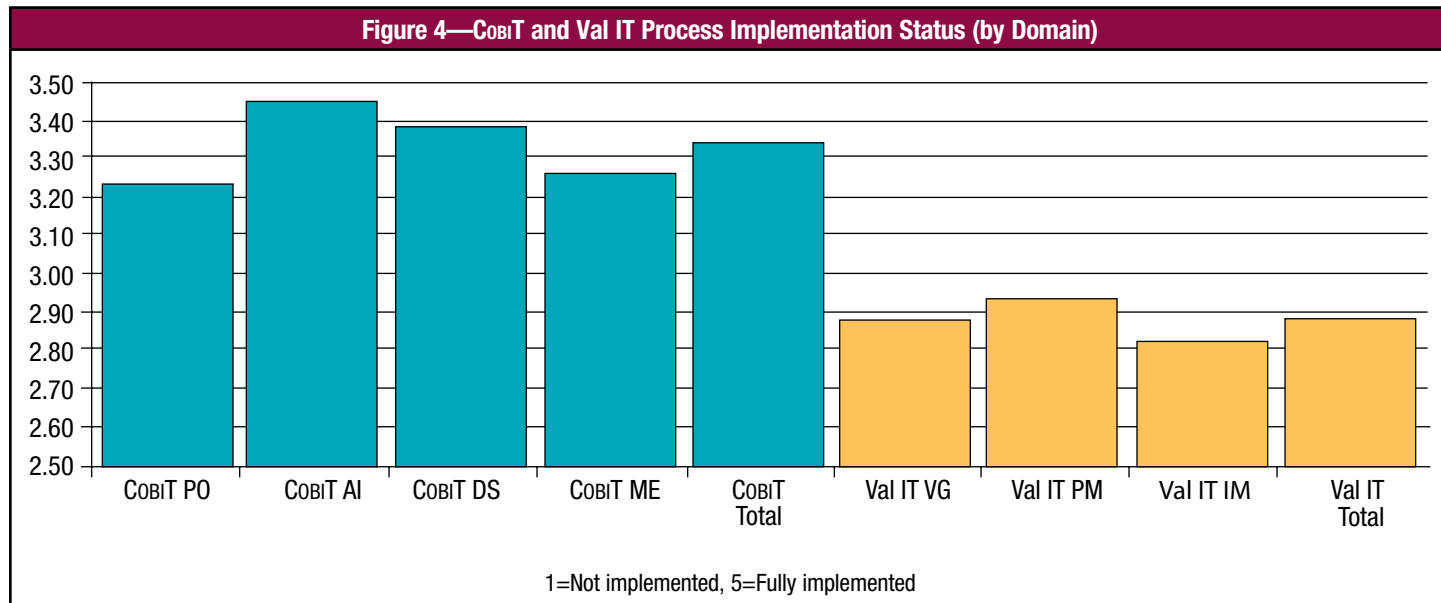
Business Goals	
B_Fin1	Manage (IT-related) business risks.
B_Fin2	Provide a good return on investment of (IT-enabled) business investments.
B_Fin3	Improve financial transparency.
B_Fin4	Provide compliance with external laws, regulations and contracts.
B_Cust1	Improve customer orientation and service.
B_Cust2	Establish service continuity and availability.
B_Cust3	Offer competitive products and services.
B_Cust4	Achieve cost optimisation of service delivery.
B_Cust5	Create agility in responding to changing business requirements.
B_Cust6	Obtain reliable and useful information for strategic decision making.
B_Int1	Improve and maintain business process functionality.
B_Int2	Improve and maintain operational and staff productivity.
B_Int3	Enable and manage business change.
B_Int4	Provide compliance with internal policies.
B_Int5	Optimise business process costs.
B_LG1	Acquire, develop and maintain skilled and motivated people.
B_LG2	Identify, enable and manage product and business innovation.
B_Val1	Ensure that value management practices are embedded in the enterprise to enable it to secure optimal value from its investments in business change.
B_Val2	Ensure that optimal value is secured by the enterprise across its portfolio of investments in business change.
B_Val3	Ensure that the enterprise's investments contribute to optimal value.
IT Goals	
IT_Corp1	Offer transparency and understanding of IT cost, benefits and risks.
IT_Corp2	Provide IT compliance with laws and regulations.
IT_Corp3	Account for and protect all IT assets.
IT_Corp4	Drive commitment and support of executive management.
IT_Corp5	Improve IT's cost-efficiency.
IT_Corp6	Align the IT strategy to the business strategy.
IT_User1	Make sure that IT services are reliable and secure.
IT_User2	Provide service offerings and service levels in line with business requirements.
IT_User3	Translate business functional and control requirements into effective and efficient automated solutions.
IT_User4	Accomplish proper use of applications, information and technology solutions.
IT_Oper1	Maintain the security (confidentiality, integrity and availability) of information and processing infrastructure.
IT_Oper2	Deliver projects on time and on budget, meeting quality standards.
IT_Oper3	Optimise the IT infrastructure, resources and capabilities.
IT_Oper4	Provide IT agility (in responding to changing business needs).
IT_Oper5	Seamlessly integrate applications and technology solutions into business processes.
IT_Fut1	Acquire, develop and maintain IT skills that respond to the IT strategy.
IT_Fut2	Acquire knowledge and expertise in emerging technologies for business innovation and optimisation.
IT_Fut3	Ensure that IT demonstrates continuous improvement and readiness for future change.

3. Key Findings

The data set obtained revealed information regarding the current implementation status of the COBIT and Val IT frameworks within enterprises of different size, industry segment and geographic location. This benchmarking information was extended to current achievement status of typical IT goals and business goals across enterprises, uncovering a knowing-doing gap between what enterprises find important and what they effectively achieve in terms of IT and business goals. Finally, clear correlations were identified between the implementation of COBIT/Val IT processes and the achievement of business goals and IT goals. These results are discussed in more detail in the following sections.

Benchmarking COBIT and Val IT Process Implementation

The large amount of research data offers a good snapshot of the general implementation status of individual COBIT and Val IT processes. As illustrated in **figure 4**, the Val IT process implementation status is generally lower than the COBIT status. The lower Val IT implementation scores may indicate that enterprises are still less concerned about the IT-related business processes that should be established and executed by the business. Also, it should be acknowledged that some Val IT processes do represent complex accountabilities and responsibilities in both the business and IT sides (e.g., compared to operational COBIT DS processes) resulting in more difficult implementation characteristics.



As for the COBIT implementation status, the PO and ME processes received lower scores than the DS and AI processes (see **figure 4**). This suggests that enterprises still focus more on the operating issues (implementation, delivery and support) than on the planning and monitoring issues, indicating that most enterprises are still primarily involved in organising and improving the ‘basic’ IT processes.

The top five most fully implemented COBIT processes are:

1. DS12 *Manage the physical environment* (3.87)
2. DS8 *Manage service desk and incidents* (3.70)
3. AI3 *Acquire and maintain technology infrastructure* (3.67)
4. DS5 *Ensure systems security* (3.66)
5. ME3 *Ensure compliance with external requirements* (3.66)

In contrast, the least fully implemented processes are PO2 *Define the information architecture* (2.96) and PO8 *Manage quality* (2.88), again confirming the more operational focus of enterprises.

Figures 5 to 7 offer a detailed overview of the average implementation scores for the COBIT processes by continent, enterprise size and industry segment. Looking in detail at regional differences, some remarkable deviations are revealed. In general (see figure 5), it appears that European enterprises report a higher implementation status for most COBIT processes than do North America and Asia. A relatively high implementation score in Europe is reported for implementing PO9 *Assess and manage IT risks*. A potential explanation may be found in the impact of regulatory requirements such as Basel II in the European financial sector. North America reported the highest implementation score for ME2 *Monitor and evaluate internal control*. This finding may be explained by the Sarbanes-Oxley regulatory push, although this legislation primarily focuses on financial reporting controls and less on other internal controls. Asia outperformed other regions in the world for AI1 *Identify automated solutions*, which may be explained by the presence of many offshore outsourcing companies that are engaged in the development of systems.

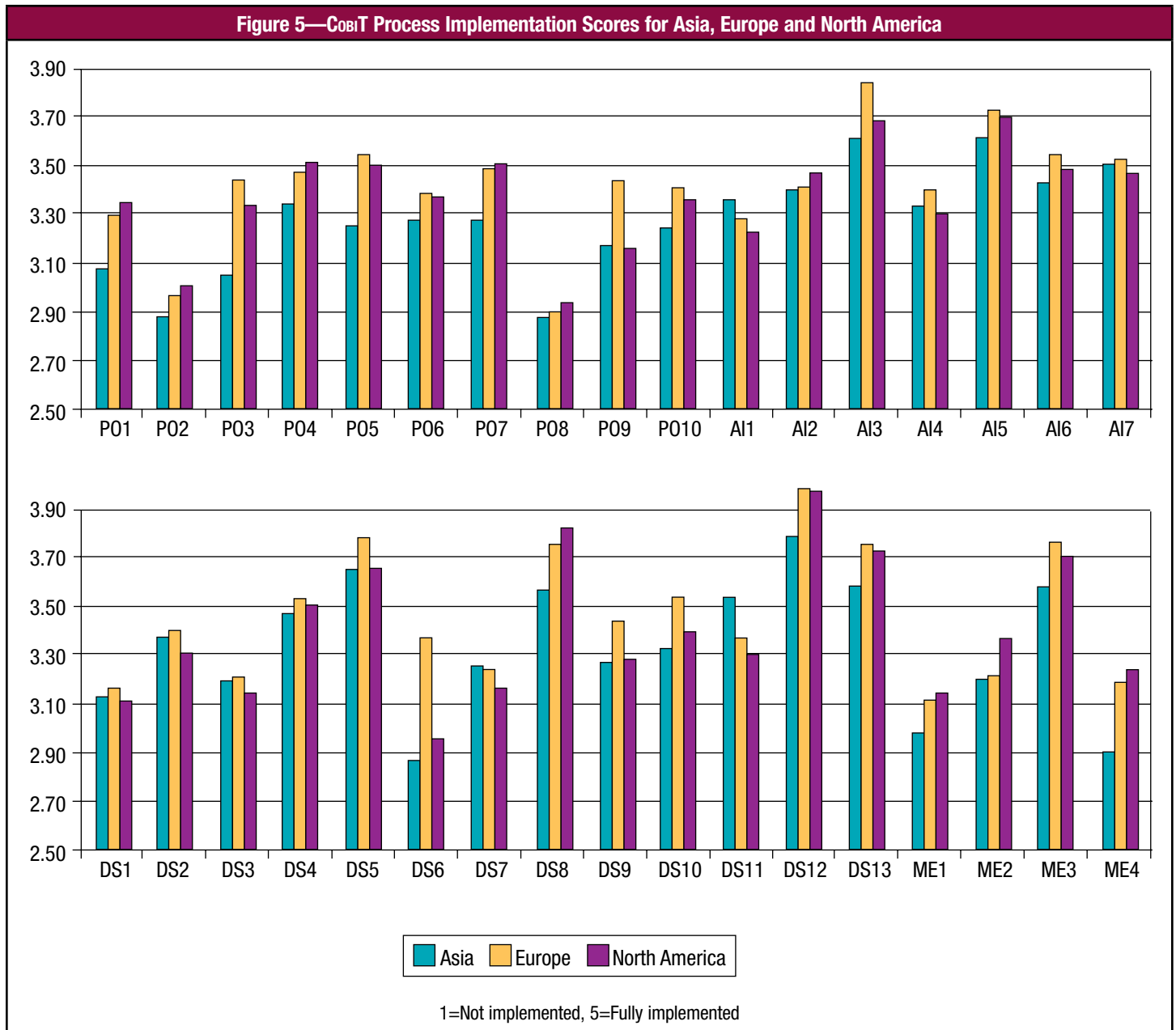
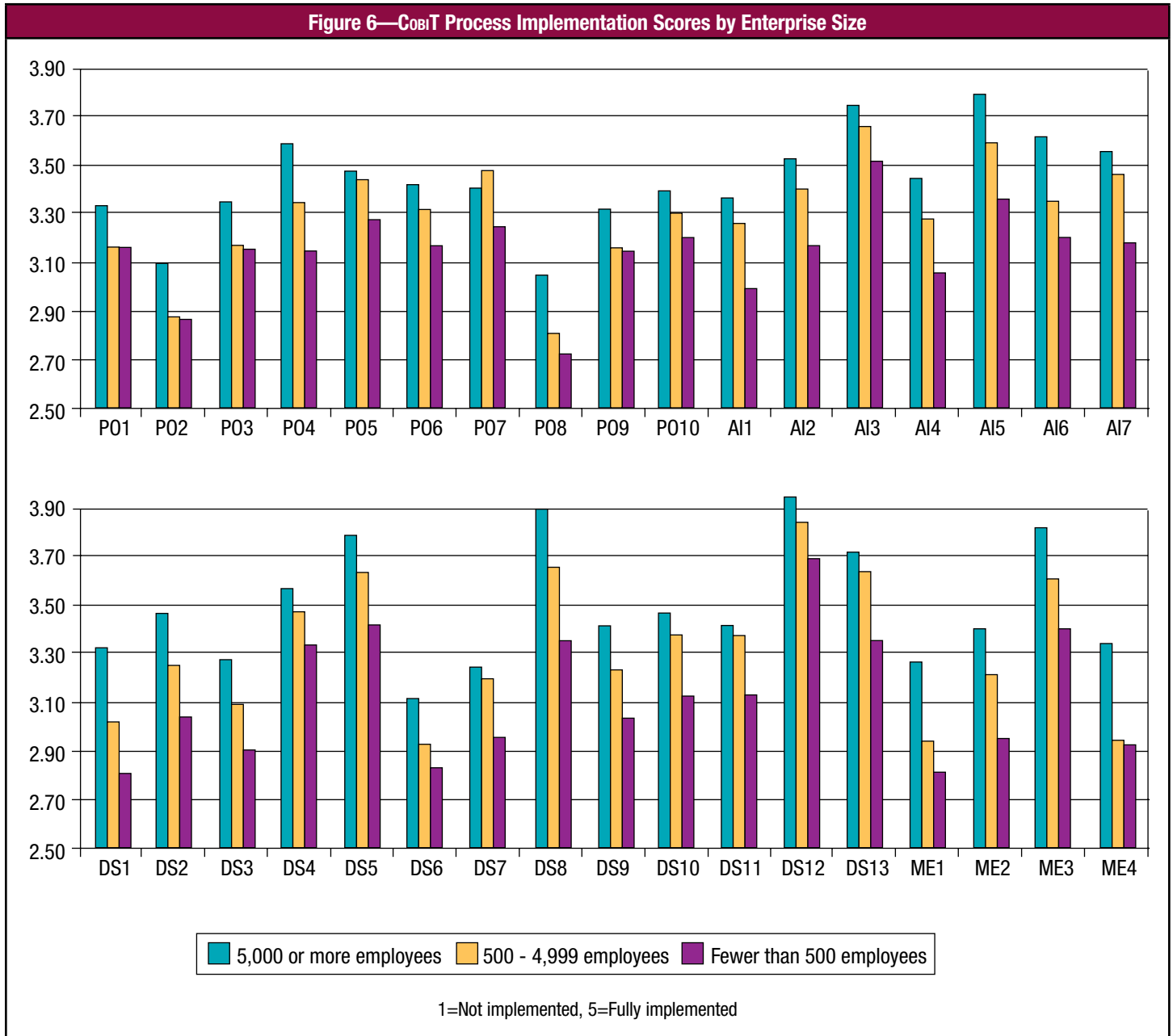
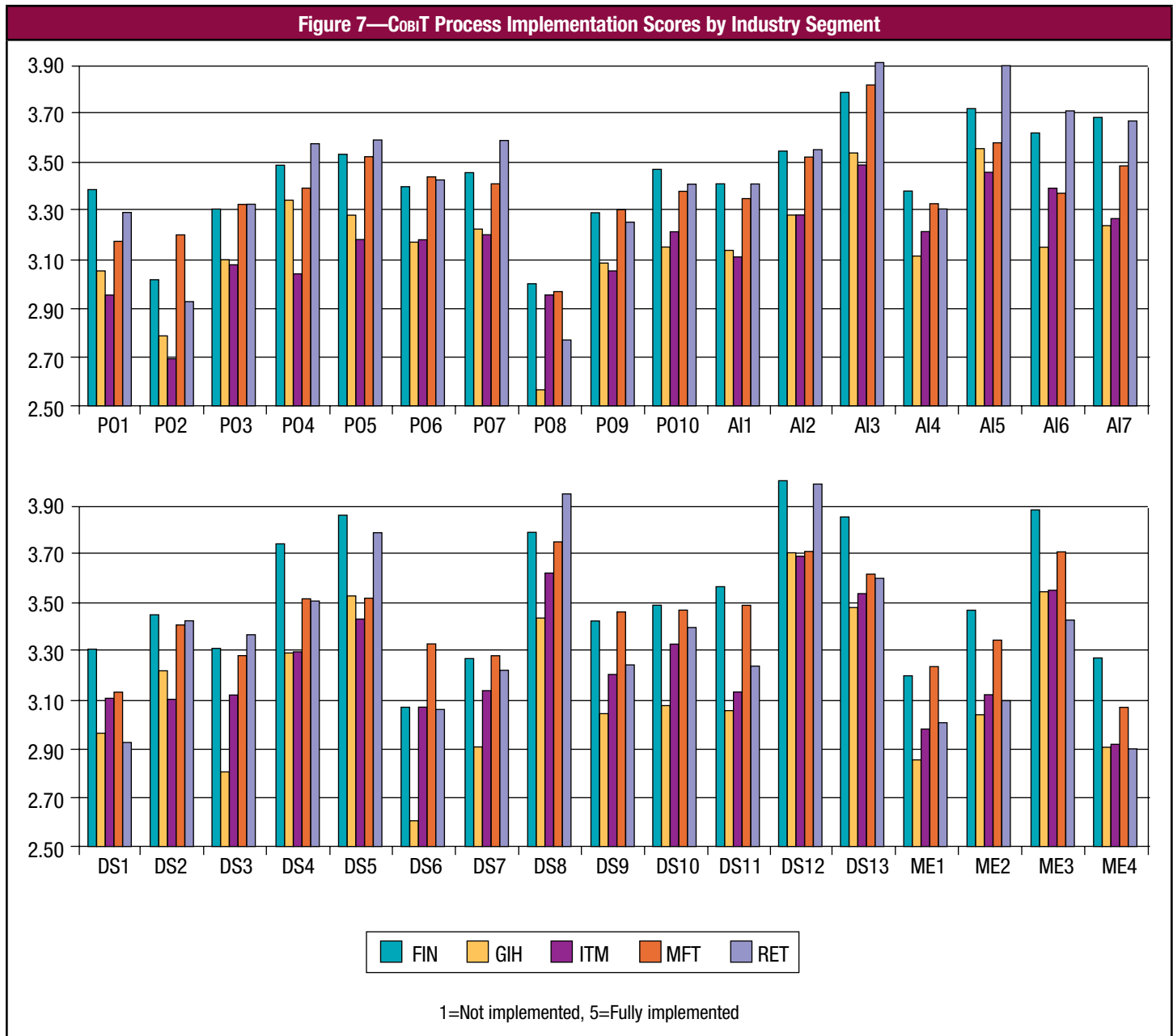


Figure 6 shows a direct relation between enterprise size and the implementation status of COBIT processes: as may be expected, the larger the enterprise, the higher the implementation score. The only, perhaps striking, exception is PO7 *Manage IT human resources*, for which very large enterprises do score a bit lower than the large enterprises. A potential explanation may be the nature of the respondents and the possibility that, in very large enterprises, the management of IT human resources is less a concern for IT management because it is primarily managed by the enterprise human resources department.



Financial institutions (FIN) and, to a lesser extent, the manufacturing/pharmaceutical (MFT) and retail/distribution/transportation (RET) enterprises generally score higher than do enterprises from the other industry segments (figure 7). This may be expected because these sectors are traditionally seen as being amongst the most IT-intensive and IT-dependent environments.

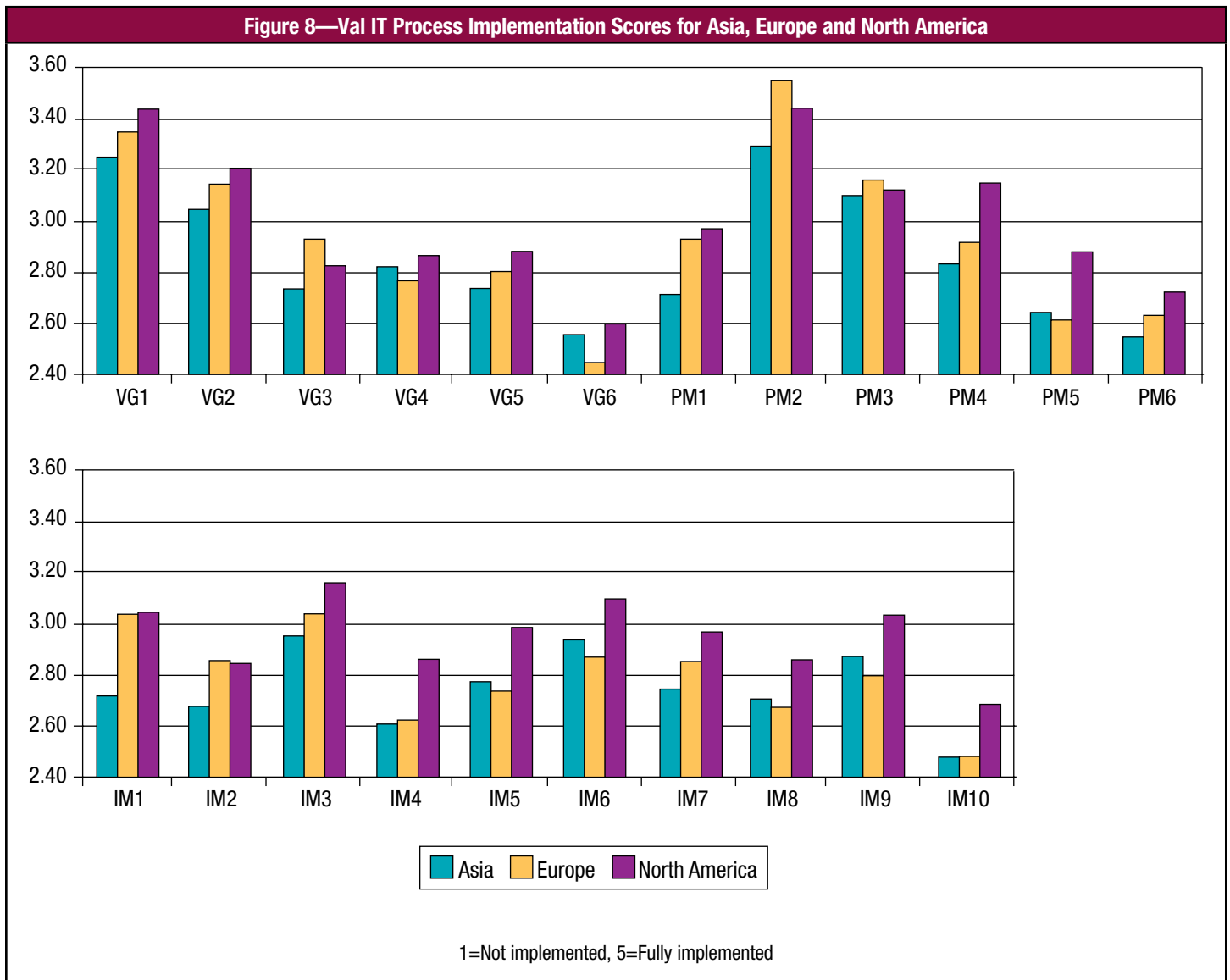


As previously observed in this section, in general, enterprises seem to focus more on what is called the ‘IT factory,’ reflected in AI and DS CoBIT processes. Based on the specific results, this finding is even stronger for Asian enterprises, enterprises from the IT services sector and governmental institutions, and smaller enterprises (figure 5 to figure 7). Conversely, this finding suggests that more mature organisations, such as larger enterprises, enterprises from the financial and manufacturing sectors, and European and North American enterprises, have already shifted efforts from the operational processes to the more strategic (PO and ME) ones.

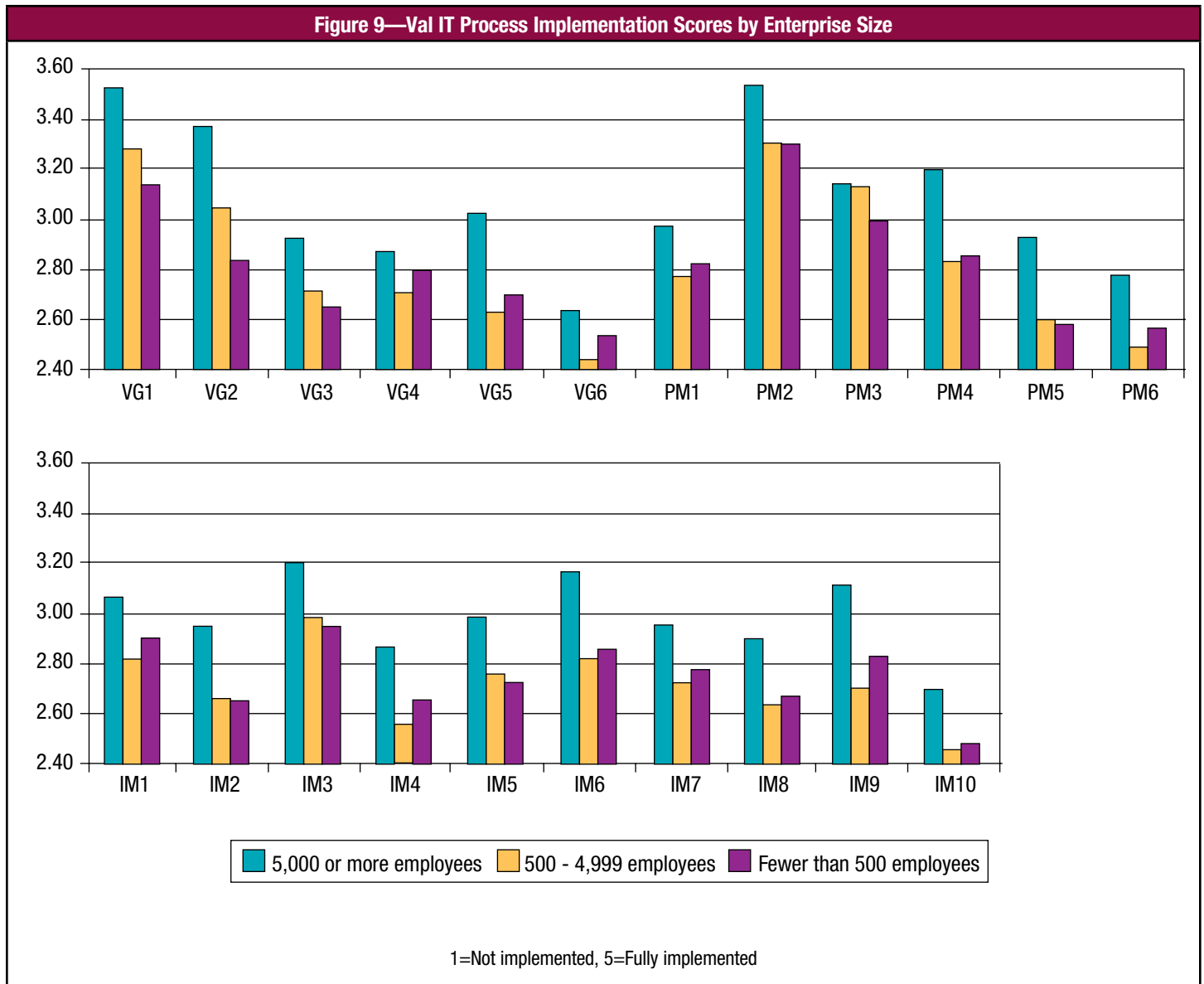
As discussed previously, the Val IT process implementation status is generally lower than the COBIT status (see **figure 4**). The least fully implemented Val IT processes are VG6 *Implement lessons learned* and IM10 *Retire the programme*. Although these processes are specifically promoted in Val IT, they appear to have less attention in enterprises. The top five most fully implemented Val IT processes are:

1. PM2 *Determine the availability and sources of funds* (3.38)
2. VG1 *Establish informed and committed leadership* (3.33)
3. VG2 *Define and implement processes* (3.12)
4. PM3 *Manage the availability of human resources* (3.09)
5. IM3 *Develop the programme plan* (3.05)

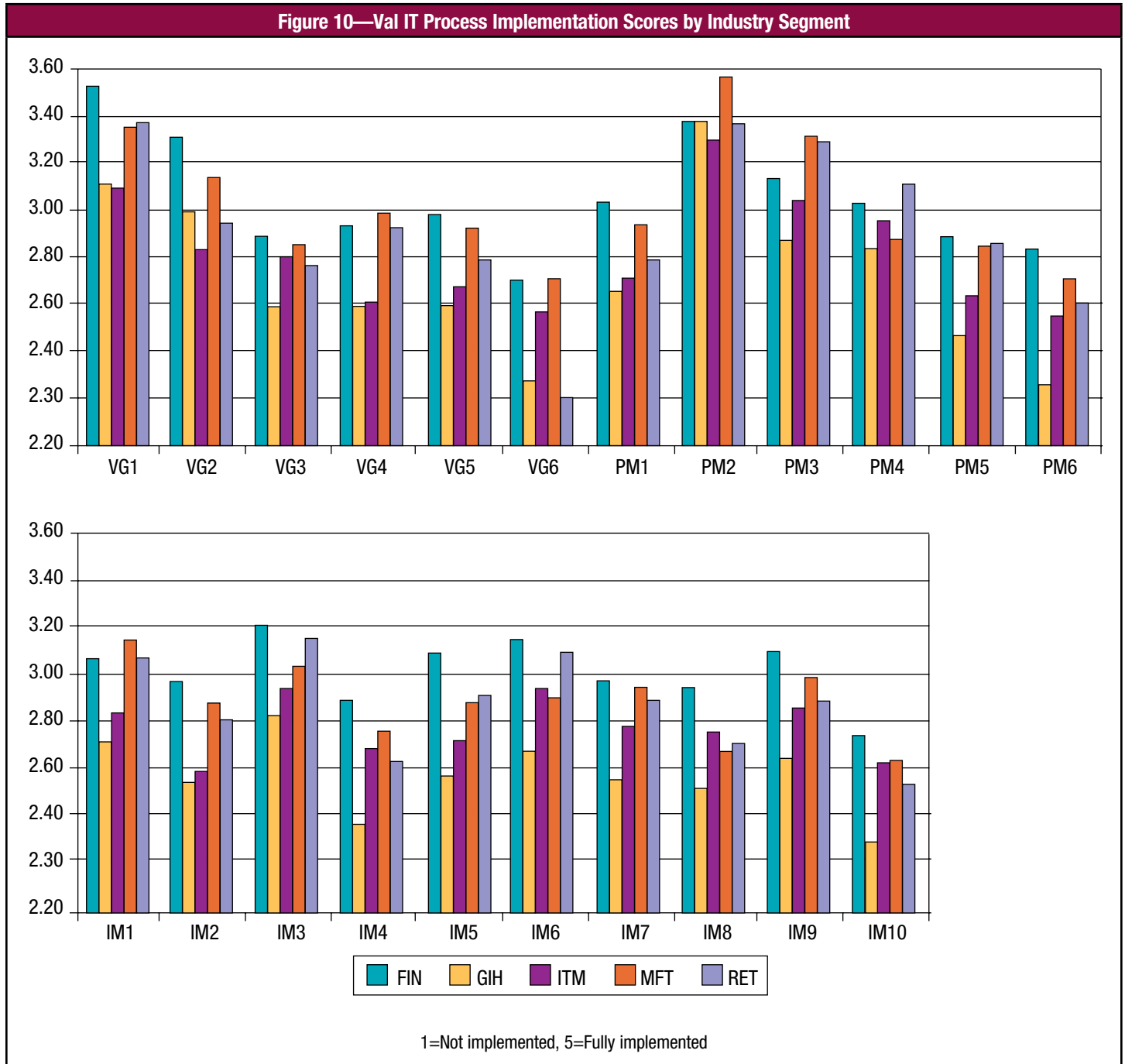
Figures 8 to 10 offer a detailed overview of the average implementation scores for the Val IT processes by continent, enterprise size and industry segment. In general, North American and European enterprises score higher than Asian enterprises in implementing the Val IT processes. This finding may be explained by the fact that, in Asian countries, there is still more focus on the technical IT issues than on the IT-related business issues (**figure 8**).



Very large enterprises (more than 5,000 employees) score much higher than do the large and smaller enterprises. There are no significant differences between the large (500 to 4,999 employees) and the smaller enterprises (fewer than 500 employees) (figure 9).

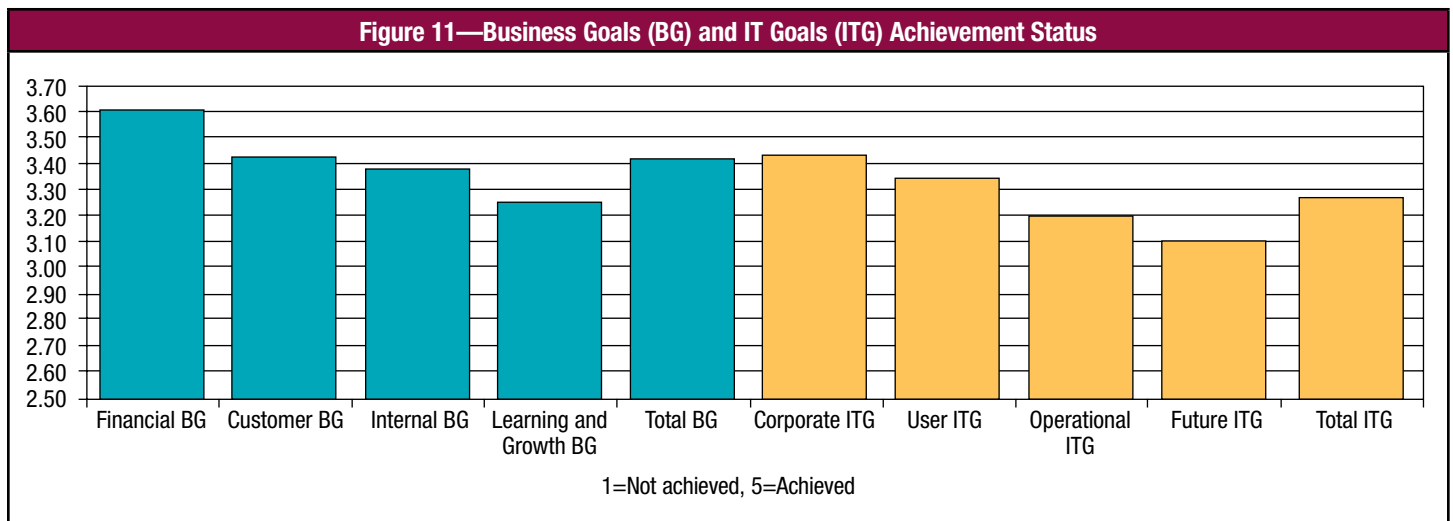


In line with the findings on COBIT processes, and with the same interpretation, enterprises from the financial (FIN), manufacturing/ pharmaceutical (MFT) and retail/distribution/transportation (RET) sectors score higher in implementing the Val IT processes than do the governmental and IT services enterprises (GIH) (figure 10).



Benchmarking Achievement of Business Goals and IT Goals

In this study, not only was the implementation status of COBIT and Val IT processes measured, but the degree of actual achievement of business goals and IT goals was measured as well. IT goals received an overall average achievement score of 3.24 (on a scale of 1=not achieved, 5=achieved) (see **figure 11**). The corporate contribution and user-oriented IT goals received higher average achievement scores (3.43 and 3.34) than did the operational and future-oriented goals (3.19 and 3.10), suggesting a positive situation where the performance of business-related IT goals is higher than the more specific operational IT goals. Business goals fared slightly better than IT goals as they received higher achievement scores (see **figure 11**). Overall, business goals received an average score of 3.33, with the finance-oriented goals scoring the highest (3.60), which seems logical as more and more enterprises have a significant focus on financial results.



Figures 12 to 14 offer a detailed overview of the average achievement scores for IT goals by continent, enterprise size and industry sector. Differences are observed over the three major regions (figure 12). IT compliance (IT_Corp2) is ranked higher in Europe and North America than in Asia, possibly due to a greater focus on compliance and corporate governance and a higher priority for implementing internal control. European enterprises score higher on the achievement of operational IT goals, especially ‘Maintain the security of information and processing infrastructure’ (IT_Oper1) and ‘Optimise the IT infrastructure, resources and capabilities’ (IT_Oper3).

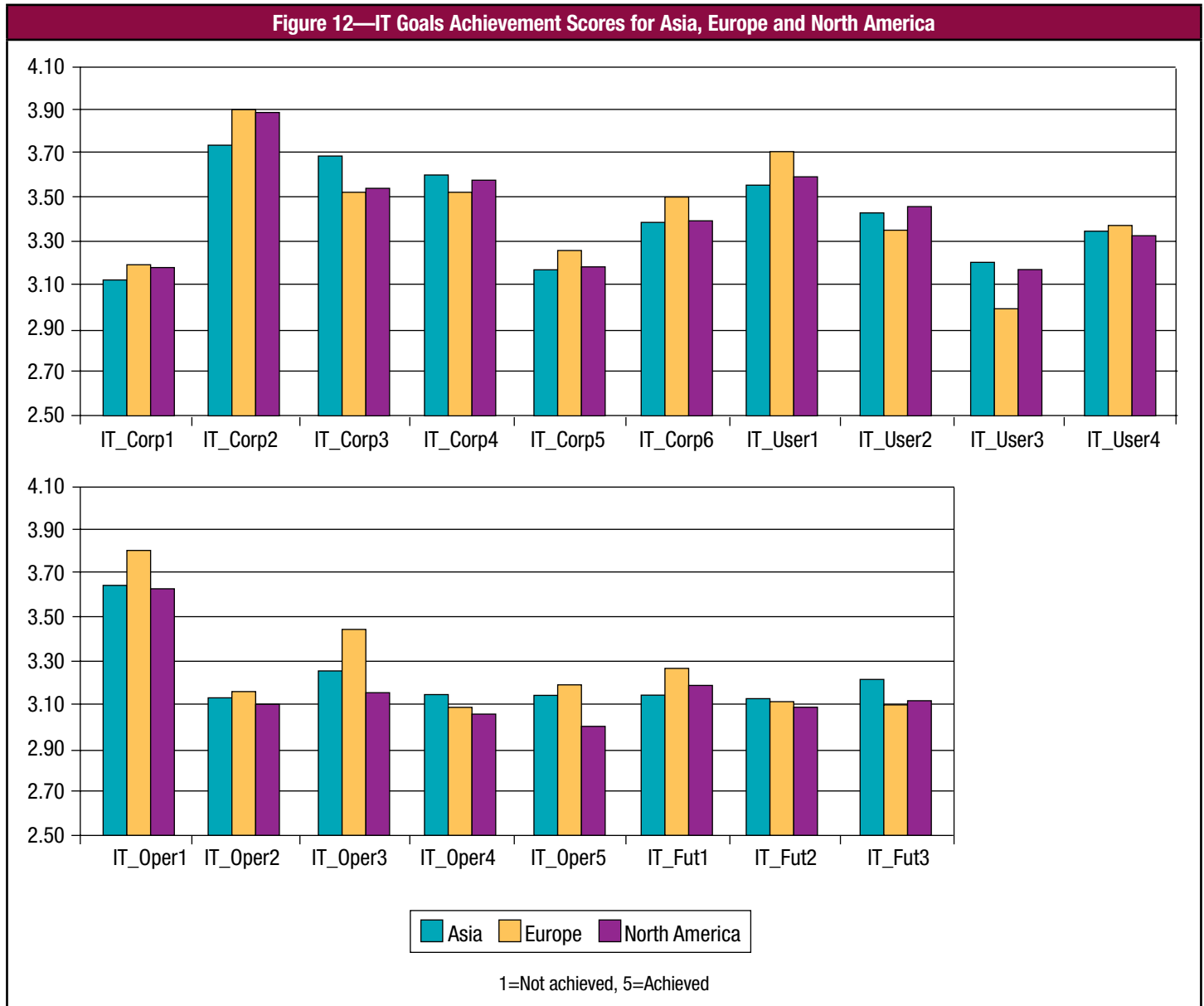
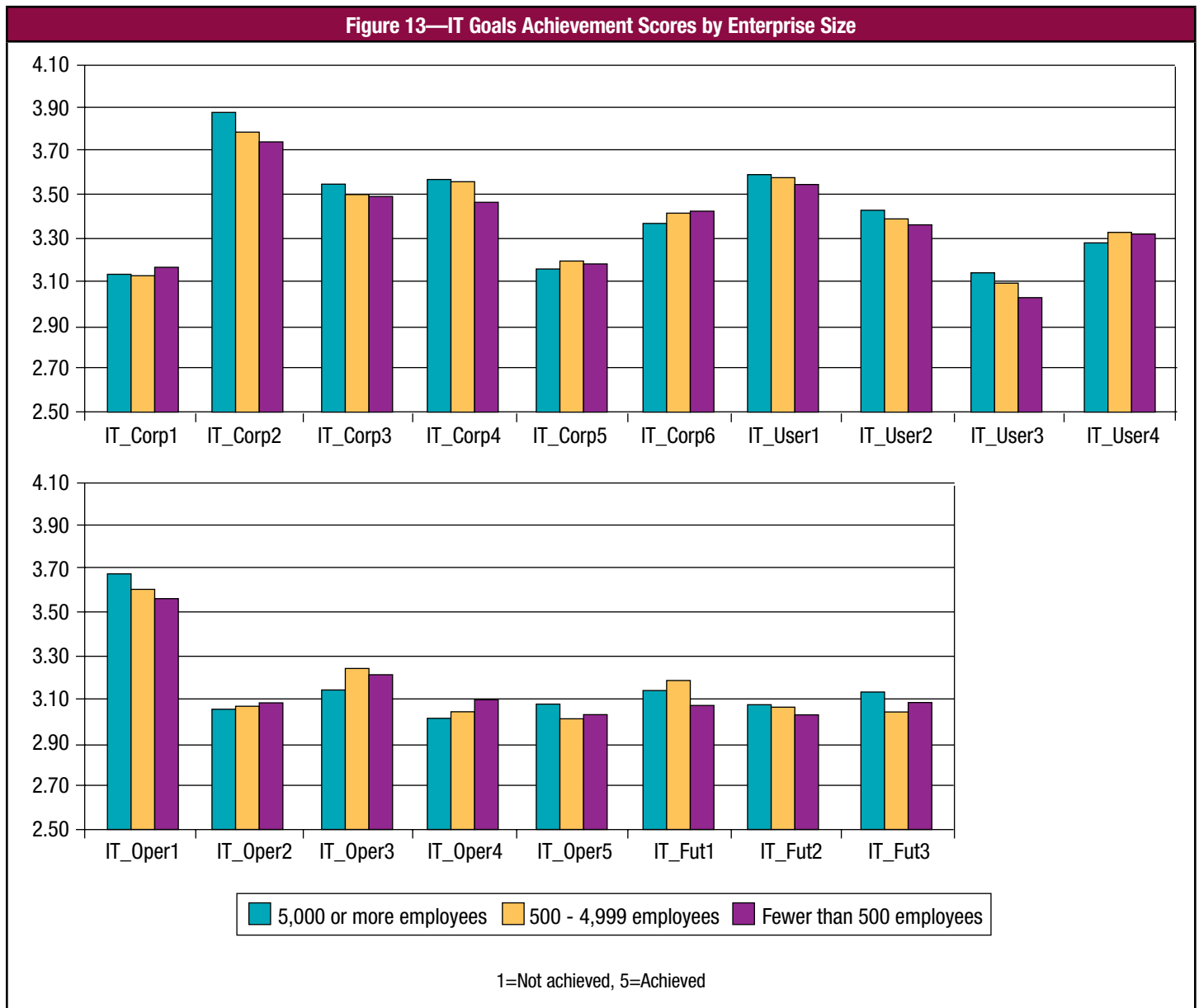


Figure 13 displays IT goals achievement scores by enterprise size. No significant differences were discovered.



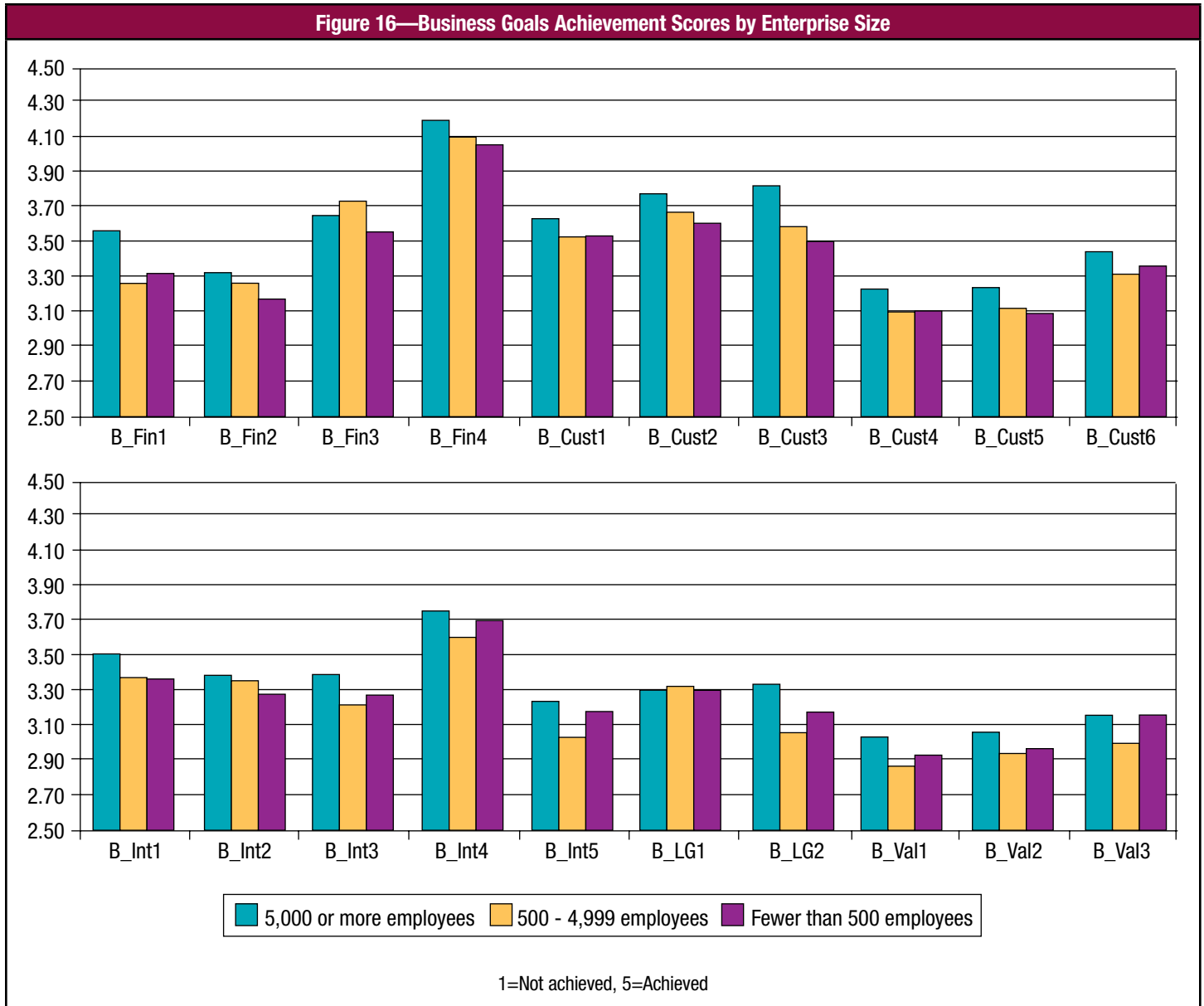
When examining different industries (**figure 14**), it seems that enterprises from the financial (FIN) and the manufacturing/ pharmaceutical (MFT) sectors generally score higher than the other sectors, which may be explained by the fact that financial institutions and manufacturing enterprises are historically amongst the first to implement IT services and processes and can be regarded as rather mature. Further, the IT services and media (ITM) and governmental institutions (GIH) sectors consistently score lower in achieving IT goals than do the other industry segments. The fact that governmental institutions score lower seems logical, but it is surprising that IT and media enterprises score low in comparison with others. This may indicate that IT services enterprises focus more on their customers' internal IT processes and less on their own.



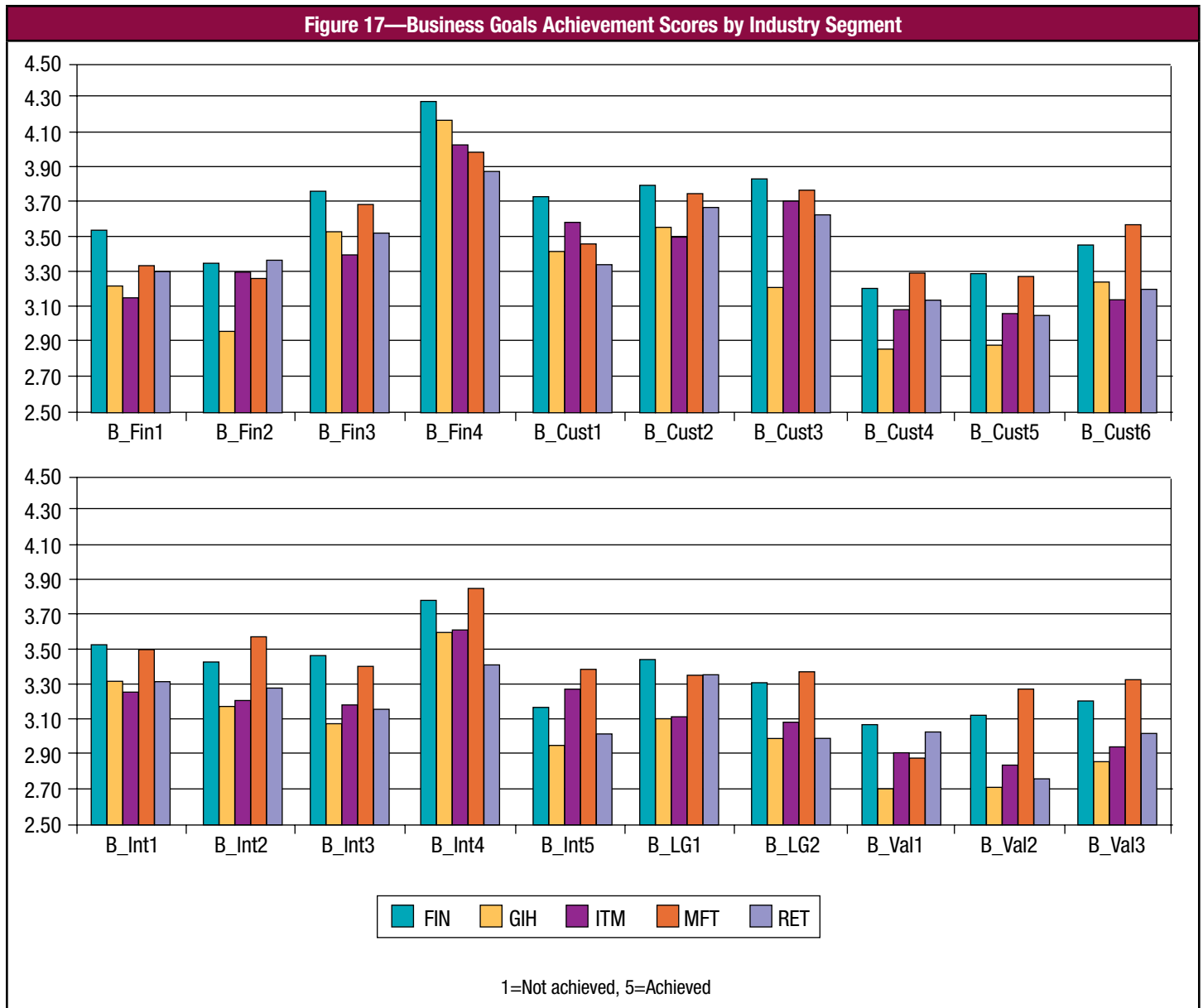
Figures 15 to 17 offer a detailed overview of the average achievement scores for the business goals by continent, enterprise size and industry sector. In general, the scores for business goals are relatively consistent for Asia, Europe and North America (figure 15). European enterprises seem to score higher on the achievement of ‘Identify, enable and manage product and business innovation’ (B_LG2) whereas Asian enterprises score lower on the achievement of ‘Offer competitive products and services’ (B_Cust3).



Very large enterprises generally score higher in achieving business goals (figure 16), with a significantly higher level for ‘Manage (IT-related) business risks’ (B_Fin1), ‘Offer competitive products and services’ (B_Cust3) and ‘Identify, enable and manage product and business innovation’ (B_LG2).



Business goals within the financial perspective received overall higher scores from enterprises in the financial sector, whereas the goals from the other perspectives are relatively evenly scored over the different sectors (figure 17).



Confirming the Knowing-Doing Gap

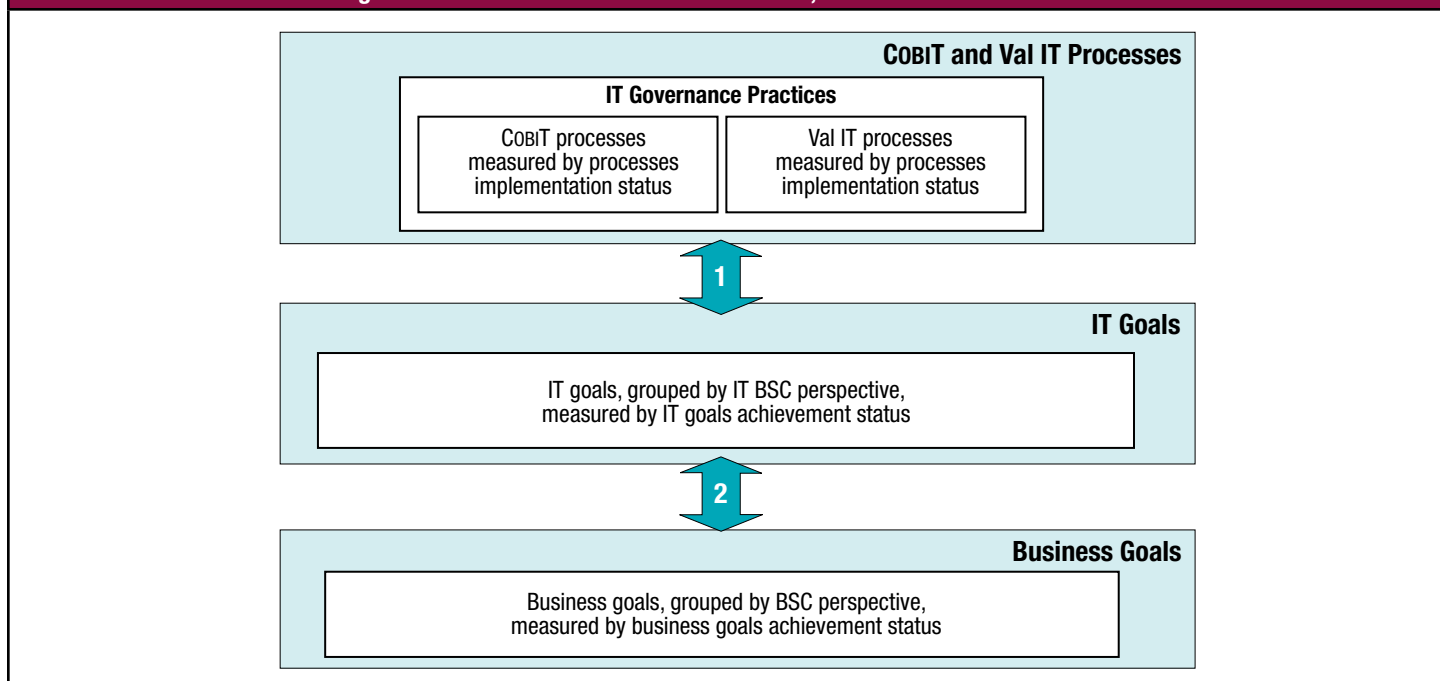
In a previous research report of the IT Alignment and Government Research Institute, results were reported regarding the top 10 of the most important IT goals and business goals for enterprises.² Comparing those results with actual achievement levels found in this research (see previous section) confirms a knowing-doing gap for some important goals, implying that enterprises are aware of the importance of the goals, but do not manage to realise them in a proper way. A typical example is the IT goal, ‘Align the IT strategy to the business strategy’, which was ranked as the most important goal in the previous research, but ranked only seventh in actual achievement status in this research. As an opposite example, the IT goal, ‘Provide IT compliance with laws and regulations’, was ranked in fifth place in terms of importance, but received the highest rank for achievement status.

Demonstrating the Value of COBIT and Val IT Processes

An important objective of this research was to find relationships between the implementation of COBIT 4.1 and Val IT governance practices and the achievement of IT and business goals. Establishing these relationships would demonstrate the value of COBIT and Val IT in terms of enabling enterprise performance. **Figure 18** illustrates the underlying relationships. IT goals are categorised using the IT BSC perspectives, and IT processes are grouped using the COBIT and Val IT domains. Business goals are categorised using the BSC perspectives. Based on the Pearson correlation analysis, the results confirm a strong relationship between the implementation status of COBIT and Val IT processes and the achievement of IT goals. This relationship is positive, which means that the more complete the implementation of IT processes, the higher the achievement of IT goals. Further, a strong positive relationship between the achievement of IT goals and the achievement of business goals is found.

The positive relationships between (1) the implementation status of COBIT/Val IT processes and the achievement of IT goals and (2) the achievement of IT goals and the achievement of business goals suggest that the implementation of COBIT/Val IT practices ultimately results in the achievement of business goals or in better organisational (enterprise) performance (if it can be assumed that the achievement of business goals is a good proxy for organisational performance). Although there also exists a ‘direct’ relationship between the implementation status of the COBIT and Val IT processes and the achievement of business goals, the relationship is not as strong as the one between the implementation status of IT processes and the achievement of IT goals. This suggests the intermediate step in the cascade, indicating that the COBIT and Val IT processes are implemented as functions of the set of IT goals, which in turn service the set of business goals.

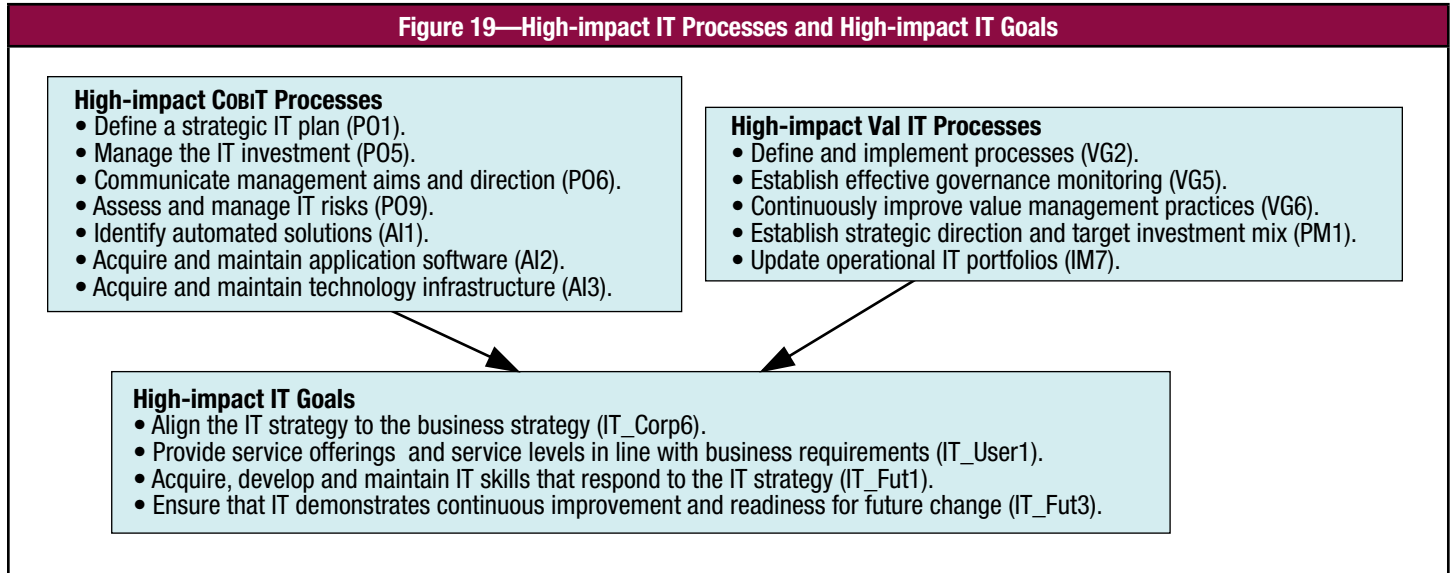
Figure 18—Correlations Between COBIT/Val IT, IT Goals and Business Goals



² *Ibid.*

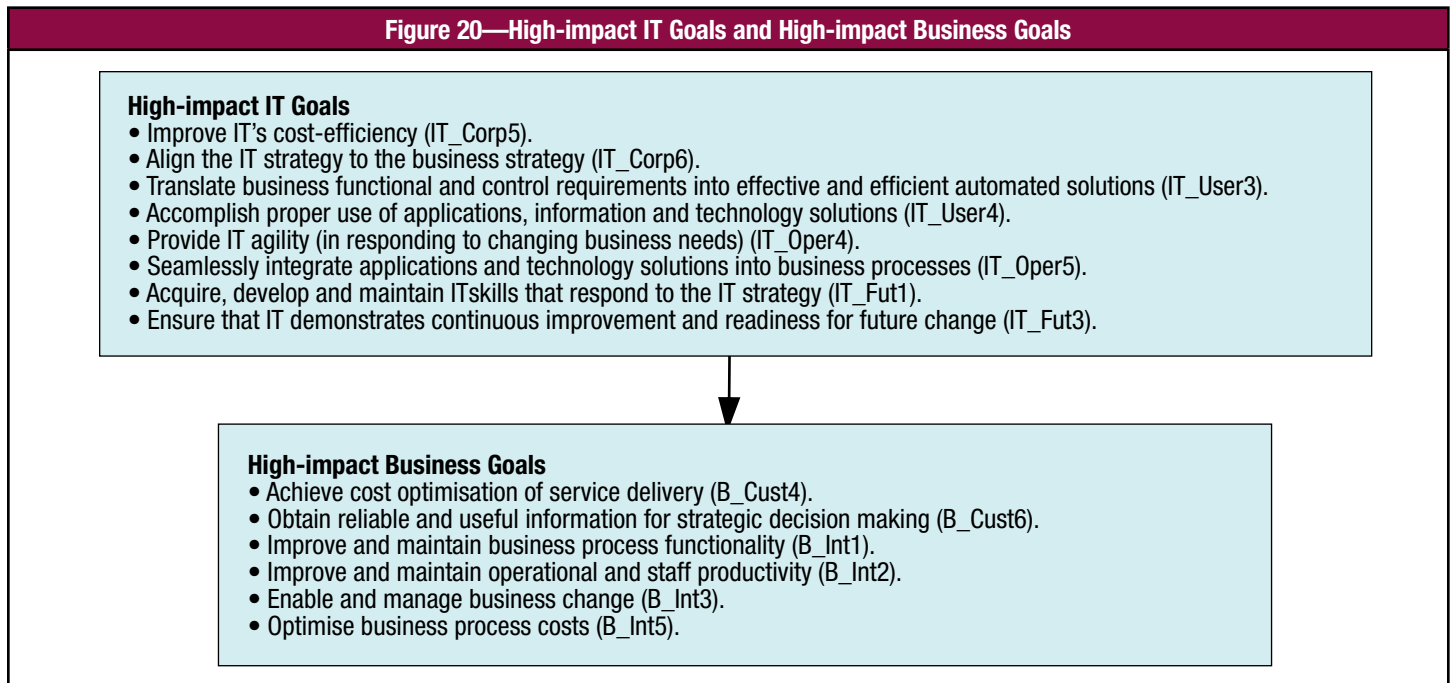
Looking at the correlations in more detail, it seems that processes that deal with strategy, direction, IT investment and risk, and the more general COBIT AI processes that deal with acquisition of application and infrastructure environment have the highest impact on IT goals (see **figure 19**). For Val IT, the high-impact processes are distributed over the three domains (VG2, VG5, VG6, PM1, IM7). On the other hand, some processes were identified that did not reveal strong correlations with any of the IT goals. For example, it was found that the implementation of the COBIT process PO2 Define the information architecture seems to have no direct impact on the achievement of any of the IT goals. One can only assume that, although this process is relevant, it is less known or it plays a role at an intermediate level.

Figure 19—High-impact IT Processes and High-impact IT Goals

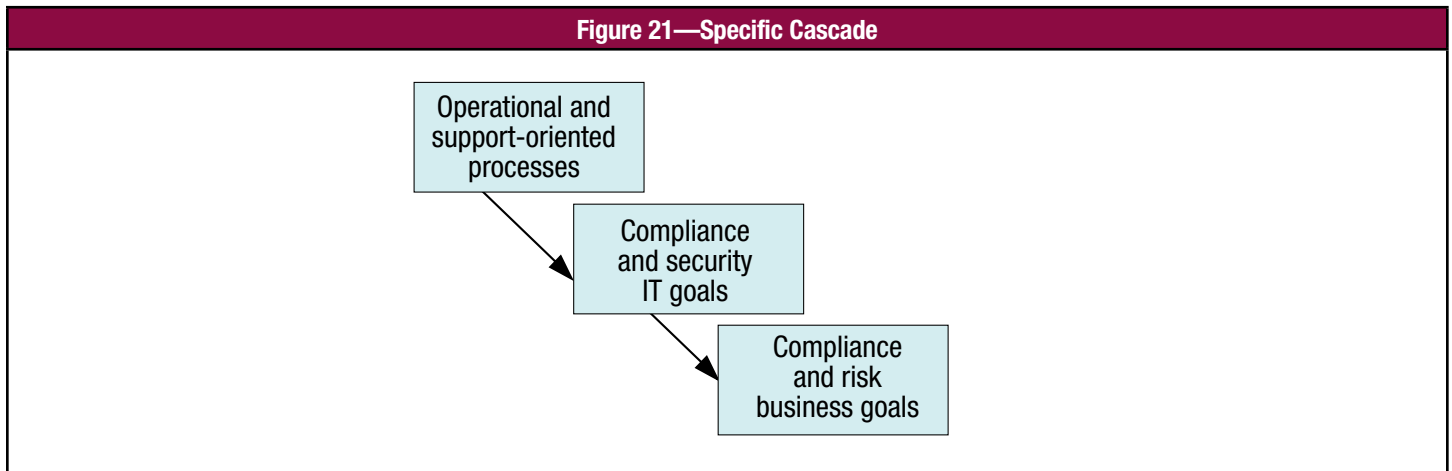


The IT goals contributing most to the achievement of general business goals concern efficient cost management, the optimisation of IT solutions in support of business needs and the capability of the IT organisation to deal with a changing environment (see **figure 20**).

Figure 20—High-impact IT Goals and High-impact Business Goals



Results also revealed a set of mutually independent COBIT and Val IT processes that together impact a specific set of IT goals, consequently impacting a specific set of business goals. For example (see **figure 21**), it seems that the operational and support-oriented IT processes contribute most to the achievement of compliance and security-specific IT goals, which in turn contribute most to the achievement of compliance and risk-oriented business goals.



4. Conclusion

The main question of this research project was to explore whether there exists a significant relationship between the implementation of the COBIT and Val IT information technology governance frameworks and enterprise performance. The study revealed a strong relationship between the implementation status of COBIT and Val IT processes and the achievement of IT goals, and a strong relationship between the achievement of IT goals and the achievement of business goals. These positive relationships validate the business goals/IT goals/IT processes cascade as presented in COBIT 4.1. By assuming that the achievement status of the enterprise's business goals is a good proxy for enterprise performance, the overall research question is confirmed and provides input for building a business case for adoption of COBIT and Val IT.

Looking at the results in more detail, a set of COBIT and Val IT processes was found that most impacts the IT goals. The more generally defined processes—for example, those dealing with IT strategy and direction, executive management, the implementation of application solutions and technology infrastructure—have a more direct link to the achievement of IT goals. Additionally, a combination of corporate-, user-, operational- and future-oriented IT goals was identified that have the highest impact on business goals. An idea can be formed from the survey data on the general implementation status of the individual COBIT and Val IT processes as well as for the achievement score of the IT goals and business goals in enterprises today. Additionally, geographic data (enterprise location), enterprise size and industry segment offer a segmented approach to the results. This approach revealed that the implementation status of the COBIT and Val IT frameworks is higher for more mature enterprises (i.e., enterprises that have been active longer with IT systems and services), such as larger enterprises; enterprises from the financial, manufacturing/pharmaceutical and retail/distribution/transportation sectors; and European and North American enterprises.

The adoption of an enterprise governance framework and the implementation of good enterprise governance practices for IT are considered complex and very costly. The added value in terms of business results is not always apparent and, as such, it may be difficult to set up and defend a business case for IT governance. The research described in this publication revealed an important relationship between the actual adoption of enterprise governance of IT processes and their contribution to the achievement of IT and business goals. Additionally, an insight was gained regarding the implementation status itself for different types of enterprises—based on geographic location, enterprise size and industry segment. All of these results can be directly applied by business and IT departments in their journey towards better IT performance, ultimately creating added business value.

It should be noted that this explorative research is a first study. Further research is needed, using alternative measurements of the practices and enterprise performance. Since this type of research is typically executed in complex organisational settings, more qualitative research could be considered. Cases studies comparing extreme cases (e.g., enterprises with the highest achievement rates of business goals vs. those with the lowest achievement rates) can reveal new and crucial information in the quest to better understand the cascade of IT processes, IT goals and business goals.

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COBIT and Val IT Related Publications

COBIT 4.1 includes all of the following:

- Framework—Explains how COBIT organises IT governance management and control objectives, and good practices by IT domains and processes, and links them to business requirements
- Process descriptions—Include 34 IT processes covering the IT responsibility areas from beginning to end
- Control objectives—Provide generic good practice management objectives for IT processes
- Management guidelines—Offer tools to help assign responsibility, measure performance, and benchmark and address gaps in capability
- Maturity models—Provide profiles of IT processes describing possible current and future states

In the years since its inception, COBIT's core content has continued to evolve and the number of COBIT-based derivative works has increased. Following are the publications currently derived from COBIT:

- *Board Briefing on IT Governance, 2nd Edition*—Helps executives understand why IT governance is important, what its issues are and what their responsibility is for managing it
- COBIT® Online—Allows users to customise a version of COBIT for their own enterprise, then store and manipulate that version as desired. It offers online, real-time surveys, frequently asked questions, benchmarking and a discussion facility for sharing experiences and questions.
- *COBIT® Control Practices: Guidance to Achieve Control Objectives for Successful IT Governance, 2nd Edition*—Provides guidance on the risks to be avoided and value to be gained from implementing a control objective, and instruction on how to implement the objective. Control practices are strongly recommended for use with the *IT Governance Implementation Guide: Using COBIT® and Val IT™, 2nd Edition*.
- *IT Assurance Guide: Using COBIT®*—Provides guidance on how COBIT can be used to support a variety of assurance activities and offers suggested testing steps for all of the COBIT IT processes and control objectives. It is also useful for performing self-assessment against the control objectives in COBIT® 4.1.
- *IT Control Objectives for Sarbanes-Oxley: The Role of IT in the Design and Implementation of Internal Control Over Financial Reporting, 2nd Edition*—Provides guidance on how to assure compliance for the IT environment based on the COBIT control objectives
- *IT Governance Implementation Guide: Using COBIT® and Val IT™, 2nd Edition*—Provides a generic road map for implementing IT governance using COBIT and Val IT resources and a supporting tool kit
- *COBIT® and Application Controls: A Management Guide*—Guidance on the definition, nature and operation of application controls, as well as the relationships and dependencies with other controls (such as IT general controls) and the relative responsibilities of business management and IT management.
- *COBIT® Quickstart, 2nd Edition*—Provides a baseline of control for the smaller enterprise and a possible first step for the larger enterprise
- *COBIT® Security Baseline, 2nd Edition*—Focuses on essential steps for implementing information security within the enterprise.
- *COBIT® User Guide for Service Managers*—Applicable to any service provider, whether acting as an internal IT function or as a commercial vendor, the guidance is based on good practice and the practical experiences of industry experts. The structure leverages ISACA's COBIT mapping research of COBIT 4.1 with ITIL V3.
- COBIT® Mappings—Currently posted at www.isaca.org/downloads:
 - Aligning COBIT® 4.1, ITIL V3 and ISO/IEC 27002 for Business Benefit
 - *COBIT® Mapping: Mapping of CMMI® for Development V1.2 With COBIT® 4.0*
 - *COBIT® Mapping: Mapping of ISO/IEC 17799:2000 With COBIT®, 2nd Edition*
 - *COBIT® Mapping: Mapping of ISO/IEC 17799:2005 With COBIT® 4.0*
 - *COBIT® Mapping: Mapping of ITIL With COBIT® 4.0*
 - *COBIT® Mapping: Mapping of ITIL V3 With COBIT® 4.1*
 - *COBIT® Mapping: Mapping of NIST SP800-53 With COBIT® 4.1*
 - *COBIT® Mapping: Mapping of PMBOK With COBIT® 4.0*
 - *COBIT® Mapping: Mapping of PRINCE2 With COBIT® 4.0*
 - *COBIT® Mapping: Mapping of SEI's CMM for Software With COBIT® 4.0*
 - *COBIT® Mapping: Mapping of TOGAF 8.1 With COBIT® 4.0*
 - *COBIT® Mapping: Overview of International IT Guidance, 2ⁿ Edition*
- *Information Security Governance: Guidance for Boards of Directors and Executive Management, 2nd Edition*—Presents information security in business terms and contains tools and techniques to help uncover security-related problems.

Val IT is the umbrella term used to describe the publications and future additional products and activities addressing the Val IT framework.

Current Val IT-related publications are:

- *Value Management: Getting Started, How to Begin Creating Value Through IT-Enabled Business Investments, An Executive Primer Based on the Val IT Framework*—This publication provides an easy-to-follow guide on getting a value management initiative started for business and IT executives and organisational leaders.
- *Enterprise Value: Governance of IT Investments—The Val IT Framework 2.0*, which explains how an enterprise can extract optimal value from IT-enabled investments and is based on the COBIT framework. It is organised into:
 - Three processes—Value Governance, Portfolio Management and Investment Management
 - IT key management practices—Essential management practices that positively influence the achievement of the desired result or purpose of a particular activity. They support the Val IT processes and play roughly the same role as do COBIT’s control objectives.
- *Enterprise Value: Governance of IT Investments—The Business Case*, which focuses on one key element of the investment management process
- *Val IT™ Mapping: Mapping of Val IT™ 2.0 to MSP™, PRINCE2™ and ITIL V3®*—Shows practitioners of these frameworks how they are complementary and is particularly useful when implementing multiple frameworks.



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