Key Issues Facing Information Systems Executives

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Strategic agility ranked number 1 in a summer 2004 survey of "Key Issues" of 28 senior IT Executives and 2nd by 21 thought leaders from the academic community. The latter group ranked *Offshore-Sourcing* as number 1 in sharp contrast to the senior executives who, ranking it at number 49 appeared to view it as a minor disruption. We also found major differences in our results when compared with other similar surveys. This document provides a brief overview of the results and a comparison with similar surveys[2].

Participating CIO's were asked to rate each of 53 issues on a scale of 1 (high interest) to 4 (no interest). Exhibit 1 lists, in decreasing order of importance, the top 40 CIO key issues. The number at the left is the average rating while the number on the right is the rank order.

RATING	ISSUE	RANK
1.29	Strategic Agility	1
1.36	Demonstrating IT Value	2
1.44	Alignment	3
1.44	Security	4
1.57	Reducing IT Costs	5
1.63	Sustainability	6
1.70	Web Services	7
1.70	Risk Mgmt	8
1.78	System Reliability	9
1.85	Internal Alliances	10
1.86	Continuity Planning	11
1.86	Development	12
1.88	IT as a Business	13
1.89	Emerging/Disruptive Tech	14
1.89	Customer-Facing Systems	15
1.93	Outsourcing/Co-Sourcing	16
1.96	Integration	17
1.96	CIO/CEO Governance Partnership	18
1.96	Unstructured Info Resources	19
1.96	IT and Corp Governance	20
1.96	IT Credibility	21

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[1] A joint project between the Irwin L. Gross eBusiness Institute, Temple University and the Information Systems Research Center, University of Houston

[2] The complete results are available from http://www.ebi.temple.edu/programs/keyissues2004/
See the Appendix of this document for the survey methodology

2.04	Enterprise Portals	22
2.04	Privacy	24
2.04	Mobile Workforce	23
2.04	Role of CIO	25
2.05	Project Management	26
2.07	Data Warehousing	27
2.08	Emerging Tech Adoption	28
2.08	IT Governance/Structure	29
2.11	Risk Portfolio	30
2.11	Change Management	31
2.11	Cyber Terrorism	32
2.14	Sarbanes-Oxley (SOX)	33
2.15	Enterprise Architecture	34
2.19	Open Source Software	35
2.19	Reskilling IT Professionals	36
2.22	New Service Models	37
2.22	Audit-ability of Web Services	38
2.23	Business Process Outsourcing	39
2.25	Managing in Uncertain Environment	40

Exhibit 1: CIO Ranking of Key Issues – Summer 2004

In addition to the CIO's a set of well known and highly published information systems scholars separately rated this same set of issues. This comparison data is presented in Exhibit 2.

ISSUE	CIO	ACAD
Strategic Agility	1	2
Demonstrating IT Value	2	4
Alignment	3	23
Security	4	14
Reducing IT Costs	5	32
Sustainability	6	7
Web Services	7	11
Risk Mgmt	8	6
System Reliability	9	47
Internal Alliances	10	31
Continuity Planning	11	43
Development	12	48
IT as a Business	13	61
Emerging/Disruptive Tech	14	5
Customer-Facing Systems	15	26
Outsourcing/Co-Sourcing	16	3
Integration	17	28

CIO/CEO Governance Partnership	18	24
Unstructured Info Resources	19	42
IT and Corp Governance	20	10
IT Credibility	21	35
Enterprise Portals	22	54
Privacy	24	41
Mobile Workforce	23	18
Role of CIO	25	9
Project Management	26	39
Data Warehousing	27	53
Emerging Tech Adoption	28	15
IT Governance/Structure	29	16
Risk Portfolio	30	12
Change Management	31	25
Cyber Terrorism	32	27
SOX	33	8
Enterprise Architecture	34	19
Open Source Software	35	22
Re-Skilling IT Professionals	36	56
New Service Models	37	17
Auditability of Web Services	38	45
Business Process Outsourcing	39	13
Managing in Uncertain Environ	40	20
Skills	41	29
Global Application Governance	42	44
Global IT Management	43	34
Cross-Industry Platforms	44	37
Demand for IT Professionals	45	38
Intellectual Property	46	49
Career Paths	47	51
ET: RFID	48	21
Offshore-Sourcing	49	1
In-Sourcing	50	46
Managing Skill Requirements Uncertainty	51	50

Exhibit 2: CIO vs "Thought Leader" Rankings

Exhibit 3 highlights six issues where the academic "thought leader" respondent's rank ordering of an item was far higher than the CIO's. CIO's who have already dealt with a pressing problem might explain the Sarbannes-Oxley dichotomy, the others are less obvious. Most interesting is the dramatic difference of opinion regarding off-shore sourcing.

ISSUE	CIO RANK	ACAD RANK
Risk Portfolio	30	12
SOX	33	8
New Service Models	37	17
Business Process Outsourcing	39	13
Managing in Uncertain Environ	40	20
Offshore-Sourcing	49	1

Exhibit 3: Issues of More Importance to "Thought Leaders"

As seen in Exhibit 3, there were ten issues for which CIO's were far more concerned than the "thought leaders". Three of these were among the most highly ranked by the CIO's. We found the most interesting difference here to be the item on re-skilling IT professionals. While it did not score highly with either group, this would seem to be an item of interest to universities but from this data it appears to be of considerably greater interest to the executives.

ISSUE	CIO RANK	ACAD RANK
Alignment	3	23
Reducing IT Costs	5	32
System Reliability	9	47
Internal Alliances	10	31
Continuity Planning	11	43
Development	12	48
IT as a Business	13	61
Unstructured Info Resources	19	42
Enterprise Portals	22	54
Re-Skilling IT Professionals	36	56

Exhibit 4: Issues of More Importance to CIO's

Key issues studies must be used with care. The results depend, among other things, on the method used to develop the key issues, the number of issues presented, the wording of the issue, the rating scale, the time frame of the survey, and the demographics of the individuals and industries participating. Exhibit 5 compares, in the final column, the rankings of our 28 CIO survey respondents with 253 SIM members and 48 respondents from the conference board. The latter two groups were surveyed in 2003 by Eph McLean and Jerry Luftman in a study commissioned by the Society for Information Management International[3]. The issues addressed were similar but by no means the same. Where multiple numbers appear in the final column they refer to rankings of multiple items from our study. For instance, we had no issue called strategic planning, but two other issues – alignment and sustainability – cover some of that same territory.

Several items in the previous study did not, however, appear in our survey. Similarly many issues in our study, including six of the top ten, did not appear in the shorter SIM survey. Again, however,

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[3] McLean and Luftman, "Key Issues for IT Executives," MIS Quarterly Executive, Vol. 3 No. 2/ June 2004.

some of their items (e.g., the performance of the IT organization) overlap with several of ours (e.g., "reducing IT costs, systems reliability). Nevertheless, there are some significant differences on issues that are relatively comparable. Sarbanes-Oxley, appears to have fallen in importance in the several months between the two surveys. Our respondents appeared to be far less concerned with global outsourcing, IT governance, architecture, and human resources than were the other groups.

In the SIM survey, "IT and business alignment" and "IT strategic planning" were ranked first and second while "Alignment" was ranked 3rd in our survey. More surprisingly, "strategic agility" was only ranked 9th in the SIM survey.

Another major difference can be found in the value placed on IT workers – including retention, acquisition, and development. The SIM survey ranked as 4th the item "Attracting, developing, and retaining IT professionals" – our respondents ranked "reskilling IT professionals" at 36th, while other items such as IT worker skills, managing skills, retention, and demand were all ranked below 40 except for worker development which was ranked 12th.

"Creating an information architecture" was ranked 7th in the SIM survey, while related items on our survey such as "integration" and "enterprise architecture" were ranked 17th and 34th. However, these differences may be attributed to wording and aggregation. The SIM survey ranked "complexity reduction" as 8th, while in our survey related items such as "reliability" (in response to complex changes of software) was ranked 9th, the next major *management of IT* type of item was managing "unstructured information resources" which was ranked 19th in the SIM survey. On the other hand, security, measuring the value of IT, and measuring the performance of the organization were highly ranked in both surveys.

We believe the differences above speak to the demographic differences between the two surveys. The SIM survey included 301 responses while our survey base is much smaller at 28. However, all but 3 of the respondents in our survey base hold the rank of "CIO" or "Vice President" and 43% are from organizations that have more than 10,000 employees, 61% from organizations that have more than 5000 employees, and 82% from organizations that have at least 1000 employees. The SIM survey consisted of 253 responses from a membership base of "nearly 3000" (SIM Website) which includes academics, consultants, and vendors. A search on the SIM site for members who belong to organizations with more than 5,000 employees, and are considered at least to be "division heads" resulted in 93 members. Therefore, based on a rough extrapolation we can assume that only about 3% of the SIM survey respondents were of comparable rank to our respondent group.

Another way to restate the above is that the results of our survey are likely a more accurate depiction of the views of CIO's whose purview is very large in scope and is a less accurate indication of the views of CIO's who work for smaller / mid sized organizations and have a smaller scope of responsibility. Other less important explanations for the differences are the time frame of the survey (summer 2003 vs. summer 2004), and differences in wording (our survey had more detailed items).

RANK	ISSUE	SIM MEMBER (253)	CONFERENCE BOARD (48)	CIOS (28)
1	Alignment	1	1	3
2	IT strategic planning	2	6	3,6
3	Security and privacy	3	2	4
4	IT Human Resources	4	4	26,41,51
5	Measuring the value of IT	5	3	2
6	Measuring the performance of the IT organization	6	7	
7	Architecture	8	8	34
8	Complexity reduction	9	5	
9	Speed and agility	7	11	1
10	IT governance	11	9	29
11	Business process reengineering	10	10	
12	Introducing rapid business solutions	13	12	1
13	CIO Role	12	15	25
14	IT asset management	14	16	
15	Managing outsourcing	15	17	16
16	Leveraging the legacy investment	16	13	
17	Sarbanes-Oxley	17	14	33
18	Globalization	18	18	42, 43
19	Offshore outsourcing impacts on IT careers	19	19	49
20	Societal implications of IT	20	20	

Exhibit 5: Comparing Across Two Key Issues Studies

Key issues surveys are useful for executives as a tool to confirm or identify important issues and for academics to align research. The results presented in this survey focus primarily on the concerns of IS executives in large US based organizations. We found that business centric issues such as agility, IT valuation, and alignment are currently of more interest to IS executives, we also found that there are significant differences between what IS executives consider important and what academics consider important. Both groups may initially discount these differences as the inevitable result of different contexts and mutual ignorance. However, we believe that in a tight economy and increasing competition, both groups need each other and it is thus important to understand the different imperatives and seek common ground.

Appendix: Survey Methodology

Key issues were identified through a preliminary three step Delphi-like approach. In the spring of 2004, industry liaisons from the member firms of the Information Systems Research Center at the University of Houston were asked to identify three to five issues that they felt were of considerable importance to them at the time. Similarly, a set of well known and highly published IS scholars were asked to provide a similar list. Those lists were combined, overlapping issues identified, and common wording chosen. These were then sent out again to both groups with a request that they check them for completeness and, as necessary, add further categories. Finally in stage three the

complete list of 72 items was sent out to both groups as well as the members of the Houston Chapter of the Society for Information Management, with instructions to rate the items on a four point scale ranging from one (very important) to four (of no importance). The top 53 issues emerging from this list were then presented to a separate pool of CIO's, affiliated with the Irwin L. Gross eBusiness Institute at Temple University and were primarily drawn from the Northeastern United States. This data was then merged with data we had already collected from Houston-based CIO's.