The Chartered Institute for IT
Enabling the information society

Top issues in IT management - Delphi Survey 2009

Introduction

BCS has been compiling, through the Forums Board, a list of the 'top issues' in IT. There was some uncertainty that the list may or may not contain the 'real' top issues, as they comprise items proposed by members of the Strategic Panel of each Forum without necessarily consulting members widely.

The Management Forum Strategic Panel (MFSP) offered to carry out an experiment to try and identify the top issues in IT management on behalf of the Forums Board through wider consultation of members of management-oriented BCS Specialist Groups, including ELITE. We felt this would help to identify which areas the MFSP, and possibly other forums, should be studying at in more detail.

Most, if not all, surveys of top issues in IT management follow a conventional method where a panel of experts or specialists agree a long list of top issues. This list is sent to the target audience who rank them and a ranked list is produced. Subscribers rank the topics and the ranked list is issued at the beginning of the next year. The weakness of this method is that the final list can be no better than the initial long list. If the experts miss something then it will be missing from the final list.

The Delphi method, by contrast, exploits, 'the wisdom of crowds'. It starts with no presumption of what the top issues may be. Rather it asks the target audience to submit their hot issues. These are collated and sent out to be ranked by the target audience. A subset of the uppermost of these top issues is resent out and, after a few rounds, when the ranking has converged, a final ranked list is declared.

Our experimental survey took place between June and August 2009 – see the appendices for more details - and the final ranked list is set out on the next page.

The BCS Management Forum 2009 ranked list of the 15 top issues in IT management

Rank order	Relative weight	Round 1 alpha sequence	
1	2.96	3	**Aligning IT with business**
2	2.58	6	**Benefit/value ROI from IT / data-information - maximising / demonstrating /realisation (related to IT**
3	2.30	55	**Strategy - integration of IT strategy with business strategy**
4	2.14	30	IT governance: investment decisions, business case, and prioritisation etc: See benefits/value above.
5	1.99	7	Budget/cost/funding: reduction, justifying, management (with or without recession): see later items ref productivity and
6	1.82	8	Business change, transformation (incl M&A) and culture change
7	1.75	11	**Communicating, relating, engaging with the business - collaboration, understanding**
8	1.49	25	Innovation: IT adding to business; balancing with IT governance
9	1.46	17	**Data/information security, risk, compliance, governance, 'protection'**
10	1.34	49	**Skills, competency, adequacy, gap, re-skilling, training**
11	1.33	16	Data/information exploitation: growth, reuse; business intelligence
12	1.30	48	Security, backup/disaster recovery, privacy (business continuity), survivability - incl emails
13	1.12	42	Professionals, professionalism, qualifications: (role of BCS)
14	1.00	23	Green IT; Sustainability; Climate change; Carbon trading
15	1.00	58	The Cloud, SaaS, PaaS, IaaS, IT utility

Commentary

Firstly, we see that there are enduring and transient topics.

The enduring topics include alignment, strategic fit and professionalism. They express the enduring CIO challenges: Setting business-led priorities, assembling the necessary resources, delivering applications and services. These do change gradually over time, eg in an increasing emphasis on organisational change, but topics related to these have appeared on every list of top IT management issues that we have ever seen. Also, the relative priorities vary according to some combination of circumstance, eg CIOs are more worried about costs and less worried about recruitment in a recession, and, frankly, fashion.

No less than five of the 15 issues – alignment, benefit, strategy, governance and business engagement – are aspects of just one enduring topic, the first one. And they fill four of the top five slots. Our respondents could not have been more emphatic about their highest priority (whose importance is confirmed by independent research.) This issue has been high on CIO agendas for at least 30 years. We suspect that although great progress has been made by many organisations and their IT departments, the expectation and the bar keeps rising, always needing to strive to be better than before just to keep up!

The transient topics include both emerging items, such as Green IT and The Cloud, which are driven by technical or wider socio-political change, and short-term items such as coping with the recession. In the longer list of 60 (see appendix 5 and 6) there were several items related to the current recession. Some of these will lose mind-share after a year or two. Others will be absorbed into an existing enduring topic while a very few will themselves become enduring topics.

It may be helpful to the reader to condense our top 10 issues (on page 2) as follows:
1. Setting business-led priorities. This is a precondition for achieving anything else.
2. Cost management. Responding to the recession and also prudence.
3. Innovation and business change: Shows that IT and its sponsors still have an appetite for real change and achievement – even in a recession.
4. Security and compliance: Anxiety about the web and increasing regulation remains high.
5. Staff skills: Weaknesses remain or are we once again aiming for a higher bar?

Secondly, several topics that we would have intuitively placed amongst the top 15 were not.

These included: sourcing (rank 33 on pp10 & 11), off-shoring (48), social media/web 2.0 (42), open source (40), recession (24, 45). So, had we used the conventional method these would certainly have been included these in the long list of, say, 20 items for the audience to rank. It's tempting to speculate about the reasons for these low rankings. For instance, it's likely that sourcing is easier in a recession and that relatively few CIOs have time to think about social media. However, we encourage readers to consider whether any of the topics with low average ranks might be important to their specific businesses.

Thirdly, it is interesting to note that the six emboldened items in the first ten of our short list above *are not in Gartner's equivalent list*

Ranking	Gartner EXP: top 10 business priorities
1	Business process improvement
2	Reducing enterprise costs
3	Improving enterprise workforce effectiveness
4	**Attracting and retaining new customers**
5	Increasing the use of information/analytics
6	**Creating new products or services (innovation)**
7	**Targeting customers and markets more effectively**
8	Managing change initiatives
9	**Expanding current customer relationships**
10	**Expanding into new markets and geographies**

From: Gartner EXP CIO survey 2009, which is the largest of its kind, was carried out in September to December 2008 and published in January 2009.

 Five of our six items 'missing' from Gartner's list above - ranked, in our list on page 2, as 1, 2, 3, 7, and 10 - are implicit in the enduring topics. The last missing item: *Data/information security, risk, compliance, governance, 'protection'* is a surprising omission from Gartner's list as it is obviously high in the minds of many business execs and CIOs.

As the Gartner list goes to 10 items, we do not know if their longer list includes Green IT and Cloud computing or not.

The Gartner list includes two enduring topics that are not in our short list, viz:
- Business process improvement
- Improving enterprise workforce effectiveness

But these are in our long list on pages 10 & 11 as items 38 and 18 respectively.

The Gartner list also includes five items (emboldened above) that are growth or expansion oriented. As the survey was carried out between September and December 2008, these items suggest that the implications of the recession had not quite hit home or that the respondents were very optimistic.

Fourthly, we note many differences between McKinsey's survey (list of seven) and our top seven items

The McKinsey top issues are:
1. Improving the efficiency of business processes
2. Improving the effectiveness of business processes
3. Reducing IT costs
4. Providing managers with information to support planning & decision making
5. Ensuring compliance with regulations
6. Creating new products and services
7. Entering new markets.

From: McKinsey third annual Business Technology Survey 2009 was carried out in September 2008 and published in December.

Not surprising, given the focus of McKinsey, five of its items are directly about business results and only one is specific to IT. By contrast, only two of our 15 are about business results whilst 14 are IT-specific. Senior execs want results but functional managers must find ways for their functions to deliver those results and therefore focus on function-specific issues.

However, it should be noted that many of our 15 are generally relevant to achieving the McKinsey goals and four are specifically relevant:
- Our Budget/cost reduction (5) to their Reducing IT costs (3)
- Our Data security (9) to their Compliance (5)
- Our Data exploitation (11) to their Providing Mgrs with Information (4)
- Our Green IT (14) to their Compliance (5)

Note: There are significant differences between respondents' demographics - ours (see appendix 2), Gartner's and McKinsey's:

	BCS MFSP	Gartner EXP	McKinsey
Numbers	325	1,527	548
Geography:	mainly UK	worldwide	worldwide
Level	senior IT professionals	mainly CIOs and direct reports	49% CIOs and other C-level execs
Organisations	71% large	mainly large	probably mainly large
Vendor reps	24%	only CIOs of vendors	probably very few

Appendix 1: Acknowledgement

We wish to thank everyone who participated; the Chair and the Director, Forums Board for approving, and the Deputy President and the Deputy CEO, BCS for endorsing, this experimental survey.

We would also like to thank the chairs of BCS groups who emailed their members on our behalf:
- Business Change SG
- Business Information Systems SG
- Consultancy SG
- Elite
- Forums (incl CMA)
- Socio-Technical SG

YPG was invited to participate but due to their very busy schedule were not able to.

Appendix 2: The process we used

This experimental Delphi survey was carried out by the MFSP with three rounds:

Round 1 asked BCS members from several groups (see appendix 1) to write in their top 3 issues: In your considered professional opinion, what are the top 3 issues regarding IT management that could have significant implications for the IT profession - and that are unlikely to go away within 12-18 months – where BCS should take a position and, hopefully, make a difference?

178 respondents – the majority were Elite members - submitted 516 issues or topics. We analysed and combined these into common issues that resulted in a list of 60 – see appendix 5 (pp 8, 9).

Round 2 asked respondents to rank their top 10 of the long list of 60 items. 180 responded to Round 2, 98 from Round 1 respondents and 82 new entrants. We calculated the overall ranking by adding the rankings of all the respondents, multiplying each by the inverse of the number of respondents to get a weighted rank. The items were then sorted by the weighted rank - see appendix 6 (pp10 to 12) and the top 15 went into Round 3.

Round 3 asked respondents to rank these top 15 issues. 195 responded to Round 3, 130 had responded previously and 65 were new entrants. The final list of the top items is deemed to be the "wisdom of the crowd" of 325 BCS members who responded and is shown on page 2.

Appendix 3: The makeup of the respondents to this survey

In total 325 people responded, most participated in more than one round. The demographics of c234 respondents who provided details are:

My 'status':							I work for:			
I = IT prof	O = 35 or older	W = working	P = practitioner	M = manager	M = BCS member	U = UK based	E = employer	C = commercial org	V = IT vendor	C = large corporate > 250 staff
87%	93%	91%	60%	77%	96%	94%	78%	71%	24%	71%
B = business person	Y = under 35	R = retired or semi-retired	C = consultant	W = worker	N = not BCS member	N = not UK based	S = self employed	P = public services or charity or academia	U = user org	S = SME < 250 staff
13%	7%	9%	40%	23%	4%	6%	22%	29%	76%	29%

Appendix 4: Recommended improvements if BCS adopts for 2010

Process: Assuming BCS decides to adopt the Delphi method for 2010, we strongly recommend that the HQ survey department runs it, which we couldn't organise in 2009 because the MFSP timescale did not match the available resources of the survey department.

Tools: We recommend that an appropriate survey tool is used and not Excel, which we used out of expediency. Several respondents suggested Survey Monkey; one respondent suggested using Google Moderator.

Timing: We recommend that the period mid-June to late-August is avoided for obvious holiday absence reasons!

Target groups: Unfortunately, YPG was not able to participate in this experiment. The view of our 'young professionals' need to be included in future.

The long list: Nearly all the respondents were happy with the long list. However, a handful felt that some items significantly overlapped others. This is doubtless true. Also there is was a feeling that the topics were not at the same level of granularity. We share this view. For example, 'operations & service delivery' is clearly a much broader topic than storage. We will consider a pre-list of the enduring issues and only seek additional issues in Round 1.

Appendix 5: Long list of 60 topics after Round 1

	Topics collated from respondents' inputs	*Round 1*
1	Ageism in IT	1
2	Agility of IT	4
3	Aligning IT with business	6
4	Applications - development	9
5	Asset management; Legacy; upgrading	13
6	Benefit/value ROI from IT / data-information - maximising / demonstrating /realisation (related to IT governance)	20
7	Budget/cost/funding: reduction, justifying, management (with or without recession): see later items ref productivity and recession	18
8	Business change, transformation (incl M&A) and culture change	12
9	Business-user requirements; user acceptability and usability; expectations	7
10	Collaboration tools & techniques	2
11	Communicating, relating, engaging with the business - collaboration, understanding	12
12	Compliance & regulatory factors	5
13	Consumer IT	3
14	Convergence; mobile technology; mobile/remote working	6
15	Cybercrime: fraud - e-attack	4
16	Data/information exploitation: growth, reuse; Business intelligence	12
17	Data/information security, risk, compliance, governance, 'protection'	23
18	Enterprise architecture, architecture: SOA	4
19	Ethics, ethical systems; trust, behaviour	5
20	Financial markets	1
21	Frameworks, methodologies; standards	3
22	Global, international, globalisation	5
23	Green IT; Sustainability; Climate change; Carbon trading	9
24	Information products	1
25	Innovation: IT adding to business; balancing with IT governance	3
26	Integrating, partnering, with the business: IT being seamless part of business	5
27	Internet	4
28	INTER-organisation, businesses/ 'systems'/complexity	4
29	INTRA-organisation complexity (federal, distributed): managing IT across internal boundaries	4
30	IT governance: investment decisions, business case, and prioritisation etc: See benefits/value above.	26

31	IT industry	3
32	Law and IT; intellectual property	4
33	Management of IT	8
34	New technology; technology refresh	2
35	Non-IT professional, people; end users	6
36	Offshoring	4
37	Open Source	3
38	Operations & service delivery - service management: data centre - infrastructure efficiency, virtualisation; Change control	17
39	Organisation, competency, existence of IT department; policy; Future role	10
40	Process management/engineering; efficiency; Holistic approach	7
41	Productivity and other improvements; more 'bangs per buck'	15
42	Professionals, professionalism, qualifications: (role of BCS)	9
43	Programmes, projects and project management, governance	20
44	Recession: affect of: specific budget/costs; survival	19
45	Recession: getting ready for end of (see below for surviving recession)	8
46	Recruitment & retention; team size, shortage	11
47	Risk management	12
48	Security, backup/disaster recovery, privacy (business continuity), survivability - incl emails	17
49	Skills, competency, adequacy, gap, re-skilling, training	28
50	Social Media, Web 2.0	5
51	Society and IT; Social & economic development (international & national level)	4
52	Sourcing: outsourcing and offshoring	12
53	Staff management, motivation & moral; career, recognition	8
54	Storage	1
55	Strategy - integration of IT strategy with business strategy	9
56	Telecoms; connectivity (see mobile and remote working, above)	4
57	The Board, top management and IT	6
58	The Cloud, SaaS, PaaS, IaaS, IT utility	22
59	UK Government & Parliament	3
60	Vendors/stakeholders - multiple, suppliers - conflict; supplier/vendor management; procurement	8

Appendix 6: Long list ranked in Round 2; the first 15 were offered to Round 3

Round 2 ranking	Round 1 alphabetic sequence	Topics	Number of people who ranked this
1	3	Aligning IT with business	78
2	17	Data/information security, risk, compliance, governance, 'protection'	77
3	6	Benefit/value ROI from IT / data-information - maximising / demonstrating /realisation (related to IT governance)	74
4	55	Strategy - integration of IT strategy with business strategy	69
5	8	Business change, transformation (incl M&A) and culture change	60
6	7	Budget/cost/funding: reduction, justifying, management (with or without recession): see later items ref productivity and recession	58
7	30	IT governance: investment decisions, business case, and prioritisation etc: See benefits/value above.	57
8	49	Skills, competency, adequacy, gap, re-skilling, training	52
9	11	Communicating, relating, engaging with the business - collaboration, understanding	50
10	48	Security, backup/disaster recovery, privacy (business continuity), survivability - incl emails	50
11	25	Innovation: IT adding to business; balancing with IT governance	48
12	23	Green IT; Sustainability; Climate change; Carbon trading	47
13	42	Professionals, professionalism, qualifications: (role of BCS)	45
14	16	Data/information exploitation: growth, reuse; Business intelligence	42
15	58	The Cloud, SaaS, PaaS, IaaS, IT utility	41
16	15	Cybercrime: fraud - e-attack	38
17	43	Programmes, projects and project management, governance	37
18	41	Productivity and other improvements; more 'bangs per buck'	35
19	2	Agility of IT	34
20	9	Business-user requirements; user acceptability and usability; expectations	34
21	26	Integrating, partnering, with the business: IT being seamless part of business	33
22	57	The Board, top management and IT	33
23	12	Compliance & regulatory factors	32
24	44	Recession: affect of: specific budget/costs; survival	32

25	38	Operations & service delivery - service management: data centre - infrastructure efficiency, virtualisation; Change control	31
26	39	Organisation, competency, existence of IT department; policy; Future role	31
27	19	Ethics, ethical systems; trust, behaviour	30
28	53	Staff management, motivation & moral; career, recognition	30
29	14	Convergence; mobile technology; mobile/remote working	26
30	47	Risk management	26
31	28	INTER-organisation, businesses/ 'systems'/complexity	23
32	60	Vendors/stakeholders - multiple, suppliers - conflict; supplier/vendor management; procurement	23
33	52	Sourcing: outsourcing and offshoring	22
34	5	Asset management; Legacy; upgrading	21
35	18	Enterprise architecture, architecture: SOA	21
36	33	Management of IT	21
37	1	Ageism in IT	19
38	40	Process management/engineering; efficiency; Holistic approach	19
39	29	INTRA-organisation complexity (federal, distributed): managing IT across internal boundaries	18
40	**37**	Open Source	18
41	21	Frameworks, methodologies; standards	17
42	50	Social Media, Web 2.0	17
43	34	New technology; technology refresh	16
44	35	Non-IT professional, people; end users	16
45	45	Recession: getting ready for end of (see below for surviving recession)	16
46	**46**	Recruitment & retention; team size, shortage	16
47	10	Collaboration tools & techniques	15
48	36	Offshoring	15
49	32	Law and IT; intellectual property	14
50	4	Applications - development	13
51	22	Global, international, globalisation	12
52	59	UK Government & Parliament	12

53	27	Internet	11
54	51	Society and IT; Social & economic development (international & national level)	11
55	56	Telecoms; connectivity (see mobile and remote working, above)	9
56	13	Consumer IT	7
57	54	Storage	6
58	31	IT industry	4
59	20	Financial markets	1
60	24	Information products	1

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