

COUNCIL

Council

AUDIT OF THE OECD'S DIGITAL STRATEGY

Executive Summary

Declassified

JT03424370

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I. OBJECTIVE AND SCOPE OF THE AUDIT

1. The OECD's digital strategy was launched in late 2016 to increase the effectiveness of the Organisation in collecting the data that is available online, integrating the processing of this data by all interested Directorates and quickly publishing its publications online for an extended readership. The purpose of this audit, chosen by the External Auditor after consultation with the Executive Director and the members of the Audit Committee, is to present the strategy that is currently being applied, assess its relevance and identify its financial challenges and risks.

II. OBSERVATIONS AND RECOMMENDATIONS

2. The Digital Strategy is one of the Secretary-General's 21 strategic objectives, proposed to the Organisation for 2016 to 2021, presented at the Ministerial Council Meeting in June 2016.¹ It was officially launched in the Secretary-General's message of 28 September 2015 on how to organise the governance of IT systems and the presentation of the document "Towards a 'Digital OECD' Strategy" at the first meeting of the Digital Strategy Advisory Group (DSAG) on 29 October 2015.

A. The reasons for launching the Strategy

3. The Digital Strategy complements and strengthens the priorities that had already emerged in the context of the *Knowledge Information Management* project (KIM), launched in 2011. It provides a response to the concerns expressed by OECD staff working on the 2014 *Value for Money* project tasked with optimising resources (V4M)². And it also implements the recommendations of consultants commissioned by the Organisation: McKinsey and Ernst & Young, which issued reports in 2012 and 2015.

1. The Knowledge Information Management project (KIM)

4. The KIM project was launched by four Directorates to improve the production and exchange of knowledge within the OECD. It led to the following two main initiatives, which are developed in greater detail in the Digital Strategy:

¹ This is why the main reports on this strategy share a common title: "The OECD Digital Strategy to activate 21 x 21".

² A performance audit of the V4M project was carried out in 2014, and is presented in our report on the administration of the 2013 budget and performance audits.

- Definition of an architecture to structure the lifecycle of content³ produced by the Organisation, from creation to dissemination; the Alpha database will use this architecture, with the capacity to store all the data used by the OECD and not just those for publication;
 - The launch of research into taxonomy⁴, ontology⁵ and semantics in order to define the keywords needed to identify content referring to each area; the aim of such research being to accelerate the discovery of documents online in each field, both within the OECD's database or outside the Organisation.
5. Two other initiatives were indirectly connected to the KIM project:
- the launch of the application to replace Authoring Environment, designed to structure OECD content in order to make it easier to find online;
 - the creation of a collaborative environment, the eShare application, enabling content to be shared easily between the Organisation's Directorates; eShare is scheduled for replacement by *ONE Sec*⁶, which also allows users to communicate with external experts.

2. The Value For Money project (V4M)

6. The V4M project, carried out by the Secretariat between October 2013 and June 2014 to determine potential gains in effectiveness and efficiency in the Organisation, mobilised representatives from all OECD Directorates, working within five working parties, a method which prefigured that used for the Digital Strategy.

7. The Secretary-General's report on the project presents the findings of this work and presents details an action plan for the future. The priorities particularly cover information and digital technologies.

8. The Digital Strategy is the direct response to the V4M report. It implements and adds to the action plan put forward in the latter report for the IT and digital sector.

3. Recommendations by external consultants

a. The McKinsey report

9. After carrying out a survey of IT at the OECD in April and May 2012, the firm McKinsey submitted a report presenting very convincing analyses and recommendations on the governance and organisation of IT and the digital sector, the distribution of costs and the progress to be made in IT services.

10. Proceeding from the observation that the substantive directorates were disappointed at the lack of transparency in the breakdown of IT costs and the insufficient funds to invest in the new applications and new services they wanted, the report recommended creating a steering committee to ensure that IT budget decisions were aligned with the OECD's strategic objectives.

³ "OECD content" is defined as any document produced within the Organisation, whether for internal or external use: reports, statistics, meeting agendas or summary records, or publications such as annual country reports.

⁴ The science of classification.

⁵ The structured representation of a set of concepts and their relations.

⁶ ONE stands for "OECD Network Environment". The application has different modules, as described below.

11. It then observed that the OECD's annual IT budget stands at around EUR 30 million and has been increasing by around 8% per year for the last five years. At 8.4%, the share of IT in the Organisation's total budget is slightly lower than that of other international organisations, where it averages 10.4%, but it remains far higher than in other sectors of the economy (4.5%).

12. However, the distribution of this budget led to two criticisms: first, the share of operational expenses is too large compared to spending on investment, which only accounts for 23% of the total; second, the budget is too fragmented—ITN, which was at the time the department responsible for information, IT and communication, only controlled EUR 21.2 million out of a total of EUR 32 million in 2011.

13. It therefore recommended rebalancing the budget by reorganising IT services, to secure economies of scale, by reducing the share of payroll costs (which came to 50% at the time of the survey), by outsourcing some of these activities, and by reducing the cost of overlapping IT applications and those that are too broad for current needs or designed in-house instead of being bought on the market. This reduction in operating costs was expected to free up funds for investment in projects selected for their alignment with the OECD's strategic objectives, the speed of their return on investment and their ease of implementation.

b. The Ernst & Young report

14. The work carried out by the firm Ernst & Young in 2015 benchmarked the Organisation in terms of digital performance against other public and private entities: the OECD ranked among the average ("proficient") for digital service, whereas it aspires to an "advanced" or "leading" position in this field.⁷

15. The authors also suggested several avenues for improvement, which were subsequently incorporated into the Digital Strategy:

- increasing content availability;
- making it easier to find content;
- recruiting more contact points and creating communities;
- enabling access to information at any time, from anywhere, on any device;
- delivering targeted, formatted "experiences".

B. The method applied

1. The restructuring of the departments responsible for IT services

16. The launch of the Digital Strategy was preceded by the restructuring of the Executive Directorate and IT services which was adopted on 5 February 2015.

17. The former department responsible for information, IT and communication, EXD/ITN, was abolished and replaced by EXD/DKI, the Digital, Knowledge and Information Service, whose name clearly declares its new vocation: the role of the new entity is no longer defined by its mastery of

⁷ The Ernst & Young ranking distinguishes between entities which are "non-digital" (i.e. which have neither digital strategy nor technology), "basic" (with isolated digital initiatives, non-user-focused), "proficient" (use of some applications without interconnection), "advanced" (with an official strategy and measurement of its results) and "leading" (best practices are in force; innovation is managed).

information technologies but by the assistance it is responsible for providing to the substantive directorates in the design, pooling and search for online digitalised information and the processing and public dissemination of OECD research.

18. EXD/DKI resulted from the merger of three of EXD/ITN's former divisions, responsible for infrastructure services and engineering (ISE), client services (CS) and digital practices and solutions (DPS), with the division responsible for knowledge and information services (KIS), which came partly from the former operations service (EXD/OPS).

19. The part of the fourth division of EXD/ITN which was responsible for resource management services (RMS) was incorporated into the Programme, Budget and Financial Management service (EXD/PBF), since it was responsible for applications used in the OECD's internal management instead of the processing of information that allows the substantive directorates to fulfil their mission. This team was therefore intentionally attached to both EXD/HRM and EXD/PBF to increase co-ordination between those services.

20. The former operations service, moreover, (EXD/OPS), has lost its second division, which was responsible for buildings, logistics and services (BLS), and has now been attached to the Conference, Security and Infrastructure service (EXD/CSI). This move allowed the Organisation to close EXD/OPS and reduce the number of services in the Executive Directorate from five to four, simplifying the management of the Directorate and generating savings.

Table 1: the role of the divisions of the digital, knowledge and information service (EXD/DKI)

Name of division	Role of division
Infrastructure services and engineering (ISE)	<ul style="list-style-type: none"> - maintenance and upgrade of systems and telephone networks and workstations - security and continuity of the activity - development of infrastructure (multimedia services and cloud computing);
Client services (CS)	<ul style="list-style-type: none"> - support for the systems used by internal and external clients - call centres - support and management of the applications OLIS and, subsequently, ONE - office automation, microcomputers, mobile telephony; - management of mail service and of centralised and decentralised printing service.
Digital practices and solutions (DPS)	<ul style="list-style-type: none"> - development of digital solutions for the production of statistics and data management - multi-channel distribution of the Organisation's output and management of public policy expert networks - management of digital production (workflows)
Knowledge and information services (KIS)	<ul style="list-style-type: none"> - management of the discovery, storage and sharing of information - management of archives (computerised and in document form) - research into semantics and taxonomy

Source: External Auditor, based on information supplied by the Secretariat

2. The adoption of new digital and IT governance

21. The message of the Secretary-General on 28 September 2015 referred to above explains the new governance introduced for digital, directly inspired by the recommendations of McKinsey and the V4M project model.

22. The strategic objectives were outlined and submitted to the Secretary-General by the Digital Strategy Advisory Group (DSAG⁸), chaired by the Executive Director and composed of OECD directors and one manager of a Part II programme.

23. The Digital Strategy Working Group (DSWG), chaired by the EXD/DKI Head of Service (EXD/DKI) and composed of experts from various directorates, proposes to the DSAG a selection of projects to launch in line with the strategic objectives, the order of priority and the level of financing to be allocated to each one. It met every quarter.

24. The IT Co-ordination Group (ITCG), also chaired by the DKI Head of Service, "recommends and implements specific IT policies" that depend on the Digital Strategy. It suggests, for example, which technical standards to adopt, which purchases to make, the components of new workstations.

25. Furthermore, eight "digital practice working groups" have been launched to work on the management of content, dissemination, evidence, knowledge, networks, operations, resources and work.

26. The digital practice working groups have involved around 200 officials drawn from 19 directorates and services at the OECD, who have investigated certain subjects in over thirty workshops and inter-group meetings. This work and dialogue led to the design of the projects specific to the Digital Strategy.

27. The method adopted mirrors that of the V4M project, but this time associating all the constituent parts of the OECD, including the Part II programmes and in particular the International Energy Agency and the Nuclear Energy Agency, in accordance with the recommendations of the External Auditors, and with an increased number of working groups.⁹

3. The consultation of delegations and Member country experts

28. Only Secretariat officials were invited to take part in the working groups mentioned above, but the Member countries were consulted through a very detailed questionnaire sent to 27 349 recipients (members of the delegations and substantive committees; external experts working with these committees) between 7 May and 8 June 2015. It generated 4 964 responses, including 3 303 complete responses, i.e. 12% of the total, which is high for this type of questionnaire, which was rather long and complex, making the task more difficult for the respondents

29. The purpose of the questionnaire was to identify the needs of the Organisation's users. It helped to establish some concrete conclusions which supported the recommendations already suggested by the V4M project and by the consultants at McKinsey and Ernst & Young.

⁸ Digital Strategy Advisory Group (DSAG), Digital Strategy Working Group (DSWG) and EXD IT Co-ordination Group (ITCG).

⁹ Recommendation No. 2, concerning the V4M project, in our report on the administration of the 2013 budget and performance audits: "Preparation of future biennial reports on efficiency gains should involve the Organisation's Part II programmes (such as the International Energy Agency and the Nuclear Energy Agency).

Table 2. Excerpts from the responses of Member country representatives invited to respond to the questionnaire, May-June 2015

It is hard to find documents on OLIS, for all categories of users.
All user categories are interested in all content; external experts are very interested in OECD meetings.
It is hard to find documents, especially when you're not in the office (on a smartphone or tablet): there are no alerts for useful new documents; useful information is hard to extract from a document and to download; it is not formatted for smartphones and tablets. There are too many different points of access for information (OLIS, OECD Communities, EMS ¹⁰).
It would be a good idea to have a single search engine with a more precise filtering system.
Documents should be easy to download, should include links to other documents, be exportable to other applications, and include abstracts.
Documents concerning meetings should be tagged so that they are easy to find; they should be clearer and more concise. The list of participants in meetings should be included, with the photo, job title and background of experts taking part. Standard lists of delegates should be circulated, like the ones that exist for ambassadors and their deputies.
Specialists working in the same field need to be able to work in shared spaces that are more user-friendly than the Clearspace ¹¹ application. It would make sense to offer training in how to use this application.
The OLIS, OECD Communities and EMS applications should be merged.

Source: External Auditor, based on information supplied by the Secretariat

C. Provisional results of the Strategy

1. The Strategy has been defined

30. On 21 November 2016 the DSAG adopted a document entitled "OECD Digital Strategy"¹² which represents an interim report summarising the results of all the work carried out by the different groups discussed above.

31. This pertinent document starts with the observation that new digital technologies have changed external expectations of international organisations and created new conditions for the dissemination of information.

32. Clients of international organisations, governments, non-governmental organisations and the public, expect a constant dissemination of transparent information that they can use for all kinds of different needs.

33. Political decision-makers in particular need the most up-to-the-minute information, tailored to their needs and released more quickly and more frequently.

¹⁰ Event Management System (EMS): event management application.

¹¹ This application has a number of synonyms: Clearspace, JIVE, EDG, OECD Community.

¹² OECD Digital Strategy. DSAG Discussion Draft V1.0

34. The main players in digital information, "like Uber, YouTube, Amazon, Netflix and Airbnb", are determining the new rules of the game and traditional players have to adapt.

35. The reputation of the OECD is based on its ability to express policy opinions on the basis of established facts. It has to adapt to the new environment, using the new flows of digital information available to enrich its analyses and give its partners easy access to knowledge and data, while maintaining quality control.

36. The Organisation's recent shift towards "more open, accessible and free" data is just the first step. The OECD must become the "global policy platform" or it will be just one of many contributors to a platform owned by someone else.

37. To this end, the OECD needs to:

- use digital to work better,
- work with more "big data" and non-conventional information ("smart data")¹³,
- improve the organisation of the results of its work ("knowledge") and the sharing of those results,
- facilitate the co-ordination and management of projects and other cross-directorate work,
- connect with greater numbers of experts and networks outside the Organisation,
- measure the impact of its work and of the implementation of policies inspired by its recommendations,
- share its data with other partners, as is already being done with the statistical information system.

2. The themes and objectives of the Strategy have been specified

38. The document outlining the Strategy sets out three themes:

- Agility: the Organisation needs to work in cross-functional teams; the data-processing cycle time must be shorter; non-sensitive information must be shared automatically;
- Effectiveness: the OECD's knowledge assets (i.e. the results of its research) must be classified; intelligence on users and usage must be improved to help target recommendations and present them in new forms, e.g. online policy simulators.
- Inclusiveness/engagement: the Organisation needs to communicate with wider networks of correspondents (both internally and externally) and use tools that simplify the exchanges of information between them.

39. These themes are developed in ten key objectives.

3. A portfolio of projects has been launched within the framework of the Strategy

40. The working parties on digital practices presented eight reports proposing a series of projects to implement under the strategy, with the required timetable and budget for each one. The DSAG, which looked at the status of the working parties' research at its meetings, postponed some in order to keep spending within the Strategy's global budget (see below).

¹³ Big data consists of extremely large data sets that cannot be easily processed by traditional information management tools or databases. Smart data are data that are extracted from big data, retaining only information that is relevant for a given context, such as the OECD. See Annex 2 for examples of big data.

4. The relevance of the approach

41. The ambitious definition the OECD has given its Digital Strategy is persuasive because the development of digital technologies carries a risk that the Organisation will lose some of its current influence, while offering it the potential to leverage its efficiency.

42. The Organisation currently holds an almost monopolistic position as advisor to governments in all their fields of intervention, and this could be threatened if other international organisations with a more general role, or universities or private firms were to extend their capacity for research and the rapid production of policy advice by choosing to exploit the potential of the digital sector with greater ambition. It is therefore important for the OECD to demonstrate its agility by quickly acquiring the competitive advantages of digital technology.

43. The method it has adopted appears to be the right one, largely for the following two reasons: first, co-operation by all the entities of the Organisation will ensure that the directorates and Part II programmes are used to working together; and consultation of all stakeholders helps the OECD to adapt to the actual needs of its partners. In this way the OECD rightly fine-tuned the approach implemented for the V4M project

44. It is regrettable, however, that strategy documents make no mention of the list or opinions of specialised digital and IT experts who were consulted as to the relevance of the many reforms that are being launched at the same time and the level of urgency of these reforms.

45. As mentioned above, the Secretariat did indeed consult external consultants before beginning this work. It co-operates with the IT research centre of a US university¹⁴ and with the IT and digital directorates of several international financial institutions, in order to inform its digital transformation. It has signed several contracts with the consultancies Gartner, Ernst & Young and Magellan, which give their advice on such issues as the Organisation's cloud computing policy, business impact analysis (BIA) of the reforms under consideration and service management solutions. It compares the OECD's performance to those of other entities with Gartner.

46. A summary of these opinions should be included in the documents circulated to the members of the working parties (DSAG, DSWG and practice working groups).

Recommendation No. 5. The External Auditor recommends that the opinions of external digital experts consulted by the Secretariat be circulated to the members of the working parties (DSAG, DSWG and groups on digital practice) to provide them with additional assurances regarding the relevance of changes.

D. Risks associated with the Strategy

1. Assessment of risks by the working parties

47. Each of the reports produced by the eight working parties on digital practices ends with a paragraph on "problems, risks and challenges". The wording of these conclusions is brief and abstract: it identifies the various categories of problem or risk but does not provide any indication of which solutions are being considered to counter them, and where such indications exist, they are only vague.

¹⁴ The Center for Information Systems Research (CISR) at the Massachusetts Institute of Technology (MIT).

48. The report on the management of dissemination, for example, identifies a need for "a clear distribution of roles between PAC and EXD¹⁵".

49. It would make sense for each report to include a precise list of the measures proposed to counter the risks presented by each sector, following the example of the Organisation's Risk Register. The most important risks identified under the Strategy should, moreover, be added to the Register.

Recommendation No. 6. The External Auditor recommends that (i) the list of measures recommended to address each risk identified under the Strategy be specified, and (ii) the main risks be incorporated into the OECD's Risk Register.

2. Financial risks and challenges

a. Different documents have different presentations of the Strategy's costs and revenues

50. The documents produced by the different specialised working parties (DSAG and DSWG) present significantly different costs and revenues for the Strategy, with calculation methods that are not described in sufficient detail.

51. It is likely that when these documents were presented to the relevant working parties, each evaluation was accompanied by explanations given orally to describe the exact content of the calculation. In addition, the evaluations have evolved over time, as the working parties have advanced in their work, which has yet to be completed. The External Auditor has also received explanations which provided further clarification; these are described below. It would nevertheless be advisable for all future documents for the working parties on the Digital Strategy to present financial evaluations in the same way, stating the time period applicable and distinguishing between the investment costs and revenues and the operating cost and revenues.¹⁶

Recommendation No. 7. The External Auditor recommends that the assessments of the Digital Strategy's cost and revenues be presented consistently in the documents distributed to the specialised working parties, stating the period covered and the nature of the spending and revenue concerned.

b. The evaluation of the cost of the Strategy is not complete

52. Operating costs for the whole of the 2017-2018 biennium amount to an estimated €39 575k, approved by the DSWG at its meeting of 22 April 2016, on the basis of the eight working parties mentioned above.

¹⁵ The Directorate for Public Affairs and Communications and the Executive Directorate.

¹⁶ Build and Run.

Table 3. Operating costs for 2017-2018 in digital and IT (in €k)

Working group	Number of projects	Amount
1. Content	1	688
2. Dissemination	4	424
3. Evidence	1	1 699
4. Knowledge	8	5 143
5. Networks	2	2 664
6. Operations	6	22 768
7. Resources	4	4 220
8. Work	3	1 969
Total	29	39 575

Source: External Auditor, based on information supplied by the Secretariat

53. The Strategy's investment costs have been provisionally finalised for 2017 only. They amount to €8 175k, of which €4 779k corresponds to payroll costs and €3 396k to non-payroll costs. The investment costs for 2018 will only be finalised at the end of 2017.

54. An initial estimate of €15 911k for investment costs during the whole of the 2017-2018 biennium was presented at the 22 April 2016 meeting of the DSWG. The total build and run outlay for the Strategy can therefore be calculated as follows:

- €47 752.4k (€39 577k + €8 175.4k), taking account of finalised costs only (run costs for 2017 and 2018 and build costs for 2018); or
- €55 488k (€39 577k + €15 911k), which also includes the initial, provisional estimation of all build costs for 2017 and 2018.

c. The risk that appropriations will be insufficient to finance the whole of the Strategy during the 2017-2018 biennium

55. The Strategy was launched in 2016, in the middle of a biennium, and the 2017-2018 PWB allocated no further appropriations for its funding.

56. The chief part of the Strategy is financed with appropriations from the digital service (EXD/DKI), which manages output area 6.3.4 Digital, Knowledge and Information under output group 6.3 Corporate Services of the Programme of Work and Budget (PWB).

57. The rest of the Strategy is financed by various services—finance (EXD/PBF), conferences (EXD/CSI) and communications (PAC)¹⁷—which have not received additional grants for this purpose either. These services do not face any major problems financing the Strategy.

58. Table 4 below shows Part I appropriations financed by assessed contributions for output area 6.3.4 rising by just 1% in 2017-2018 compared to the previous biennium. These Part I appropriations represent over 60% of total appropriations available for output area 6.3.4 but they are falling as a proportion of the total because of the increase in three types of revenue:

¹⁷ And by some Part II directorates and programmes mentioned below in the context of a specific project.

- the modest amount of voluntary contributions shown in Tables 5 and 6 below (€484k in 2017-2018 instead of €116k in 2015);
- income from internal and external billings to Part I directorates, Part II programmes and the OECD's external partners by EXD/DKI for IT services, which are up by 18% and 20% respectively; and
- the different forms of cost recovery for Part II programmes and programmes financed by voluntary contributions, concerning very specific projects, which are up by 37%¹⁸.

59. This increase in voluntary contributions, services billed and income from cost recovery has helped to finance the Strategy. The three revenue categories planned under the 2017-2018 PWB added 11% to the EXD/DKI budget, and there have been cost reductions in some projects and the discontinuation of others that had initially been planned.

60. The cost reductions were obtained by asking every division in EXD/DKI to make a contribution. As a result five projects initially planned, with a total estimated cost of €1,619k, have been abandoned.

61. There is a risk, therefore, that appropriations will be insufficient to fund the Strategy, if some projects turned out to be more cost-intensive than expected and if the Organisation wanted at a future date to launch some of the projects that have been abandoned.

62. Given the significance of the Strategy to all the Organisation's partners, the possibility of increasing the share of voluntary contributions in its financing does not seem far-fetched, since these contributions currently only fund a derisorily small fraction of the total (0.08% in 2017-2018) which is used for specific projects. The Organisation could either ask Member countries, non-Member countries or foundations for voluntary contributions to fund part of some Strategy projects directly, or allocate to the Strategy a certain percentage of the voluntary contributions paid to some substantive directorates if those directorates were particularly concerned by it. Such a move would require careful consideration by the programmes and directorates involved in the working groups on the Strategy.

Recommendation No. 8. The External Auditor recommends that consideration be given to ways to increase the amount of voluntary contributions financing the Digital Strategy.

Table 4. Financing of the digital service (EXD/DKI) under the PWB, 2015–2018 (in € k)

	2015	2016	Total 15-16	2017	2018	Total 17-18	% change 17-18/15-16
Part I o/w CIBRF investment appropriations	18 051	18 147	36 198	18 000	18 658	36 658	1%
	1 830	1 805	3 635	1 470	1 834	3 304	-9%
VCs	116	-	116	304	180	484	+317%
Internal billings	3 784	3 784	7 569	4 468	4 480	8 948	+18%
External billings	377	346	723	433	437	870	+20%
Chargebacks	4 462	4480	8 941	5 927	6 350	12 276	+37%
Total	26 791	26 756	53 547	29 132	30 103	59 235	+11%

Source: External Auditor, based on information supplied by the Secretariat

¹⁸ The rates charged for internal and external cost billings and cost recovery (chargeback) are being updated—in a move which must be welcomed, in the light of the importance of these revenues to the digital service.

Table 5: the voluntary contributions under the PWB, 2016–2018 (in € k)

Donor and purpose of the voluntary contribution	2016	2017	2018
Australian Bureau of Statistics, for the Statistical Information System Collaboration Community (SIS-CC)	116		
National Bank of Belgium, for the Statistical Information System Collaboration Community (SIS-CC)		50	50
Fund of the National Institute of Tunisia (INTT), for the third component of the MENA programme assisting Tunisia in the establishment of new infrastructure for the free dissemination of statistics		180	130
Foreign and Commonwealth Office, to strengthen the work of the OECD in combating corruption		74	
Total	116	304	180

Source: External Auditor, based on information supplied by the Secretariat

d. The breakdown of IT appropriations has remained largely unchanged since McKinsey's report

63. Table 7 below presents the breakdown of EXD/DKI's costs by category, which has not significantly evolved since the McKinsey report in 2011:

- the total amount of EXD/DKI's appropriations corresponds approximately to total IT appropriations for 2011, i.e. around €31m (whereas the budget for EXD/ITN alone represented just €21m or thereabouts);
- the share of payroll costs has edged up somewhat, remaining over 50% of the total;
- the share of investment appropriations financed by the CIBRF¹⁹ reserve fund is very low (5.57% of annual outgoings in 2017-2018) and has fallen by 9% since the previous biennium;
- the share of operating expenses other than investment costs funded by the CIBRF has grown by 14%, faster than the average cost increase (11%).

64. Total capital investment costs financed by the CIBRF and non-payroll costs rose slightly less than payroll costs (10.73% compared to 11%).

65. The representatives of EXD/DKI report that following publication of the McKinsey report and prior to the launch of the Digital Strategy there was a drive to outsource staffing services that is still ongoing. Examples include:

¹⁹ Capital investment budget and reserve fund (CIBRF).

- the creation and maintenance of applications, for which a call for tender was launched in 2016, leading to the selection of 34 companies;
- service provision to digital clients services;
- ongoing technical monitoring of critical infrastructure and applications.

66. A call for tender launched in 2013²⁰ to outsource the management of infrastructure (servers, networks, databases and infrastructure-related applications) and all client services was declared unproductive because the financial analysis did not show that pooling these services would generate the hoped-for economies of scale. This call for tender was relaunched in March 2017 for the IT infrastructure only.

67. This drive had a small impact between the end of 2011 (before the McKinsey report) and the end of 2014 (before the launch of the Strategy), since the total number of OECD officials working on information systems rose from 144 to 159 during that period. The results for the following period, from the end of 2014 to 27 April 2017, around the time of the audit²¹, are more significant, since at the latter date this figure was down to just 147.

68. As a percentage of the OECD's total workforce, the results are even more significant: the percentage of IT professionals in total staff fell from 5.09% at the end of 2011 to 4.27% at 27 April 2017. More than 50% of IT professionals work in services outside EXD/DKI.

Table 6: the share of IT professionals²² in the Organisation's workforce

Date	Number of IT professionals	OECD's total workforce	Share of IT professionals in total workforce
31/12/2011	144	2 826	5.09%
31/12/2014	159	3 088	5.14%
27/04/2017	147	3 439	4.27%

Source: External Auditor, based on information supplied by the Secretariat

69. It is surprising that the genuine efforts to outsource that were carried out in accordance with the recommendations made in the McKinsey report are not mentioned at all in the documents on the Digital Strategy, which nevertheless highlights the need to generate operating savings to increase investment appropriations.

70. The Secretariat reports that all the options for subcontracting IT activities have already been examined and implemented, with the exception of infrastructure outsourcing, for which a call for tender has recently been launched, as mentioned above.

²⁰ This call for tender was one of the recommendations made in the report on the V4M project: namely the negotiation of a contract for the outsourcing of IT infrastructure services.

²¹ According to information provided by the Human Resources Management service (HRM) on the total number of officials working on IT-related tasks, including the IT officers of the substantive directorates and the specialised teams in the IEA and NEA.

²² This list includes all officials working within the Job Family of "IT professionals" according to EXD/HRM's statistics. For example this includes videoconferencing specialists.

71. This audit suggests that a detailed status report on the outsourcing of the OECD's IT activities be presented to the DSAG and DSWG, and the potential for future progress monitored by these working groups.

Recommendation No. 9. The External Auditor recommends that a detailed status report on the efforts already made to outsource the Organisation's IT activities and on the potential scope for further developments in this area be presented to the Digital Strategy working groups.

Table 7: breakdown of the digital service (EXD/DKI) budget by type of cost (in KEUR)

Type of cost	2015	2016	2015-2016	2017	2018	2017-2018	% change 17-18/15-16
1. Non-payroll costs (% of annual total)	10 650 (39.75%)	10 533 (39.36%)	21 183 (39.55%)	11 797 (40.49%)	12 380 (41.12%)	24 177 (40.81%)	+14%
2. CIBRF investment costs (% of annual total)	1 830 (6.83%)	1 805 (6.74%)	3 635 (6.78%)	1 470 (5.04%)	1 834 (6.09%)	3 304 (5.57%)	-9%
3. Total for lines 1 and 2	12 480 (46.58%)	12 338 (46.11%)	24 818 (46.34%)	13 267 (45.54%)	14 214 (47.22%)	27 481 (46.39%)	+11%
4. Payroll costs (% of annual total)	14 310 (53.41%)	14 418 (53.88%)	28 729 (53.65%)	15 865 (54.45%)	15 889 (52.78%)	31 754 (53.60%)	+11%
5. Total	26 791	26 756	53 547	29 132	30 103	59 235	+11%

Source: External Auditor, based on information supplied by the Secretariat

3. Risks specific to cloud computing

72. The use of cloud computing deserves particular comment, since it offers both undeniable advantages and specific risks of increased spending and security.

73. The OECD already uses various cloud services, especially in human resources management. The directorates sometimes use their own budgets to pay for these services to meet their specific needs, without necessarily informing EXD/DKI.

74. Greater use of these services would offer the following advantages;

- a response to the growing demand for services from the substantive directorates, which outstrips the storage and computational capacity of the Organisation's servers;
- investment savings, by using *cloud* suppliers' servers and databases, instead of buying new ones;
- access to preconfigured databases (such as *Microsoft SQL Server*) that meet the needs of the directorates;
- flexible of usage, since the Organisation can call on considerable computational capacity or extensive storage for a specific period only;
- technical security, since the *cloud* provider is responsible for backing up its storage capacity to prevent any loss of data.

75. Recourse to this method is costly, however, regardless of provider²³ and prices may rise in the future. Furthermore, the cloud presents particular risks for the security of the Organisation's information, since the data concerned will be stored on external servers, some of which will be located in countries whose intelligence services are explicitly authorised under recent legislation to look at private data.

76. The Organisation has therefore decided to opt for a hybrid cloud system involving the use of all Microsoft's public cloud services for some requirements, and an internal or private cloud, specific to the OECD, for others.

77. To manage the security risks posed by the cloud, the OECD has set out a cloud policy, adopted on 9 May 2017, which requires the approval of the ITCG (Information Technology Co-ordination Group) for any new use of the cloud.

78. The explanations provided to the External Auditor are partial and not set out in writing. And massive use of the *cloud* could lead to a high level of outsourcing of IT teams, which will hamper decision-making and might make recourse to the cloud on this scale irreversible.

79. On this particular issue, therefore, it would seem advisable for the Secretariat to mobilise the external expertise referred to above to add further light to the working groups' analyses of the Strategy, before any major decision is taken on the deployment of new cloud-based services.

4. Risks posed by failure to adhere to the schedule

80. Although the Digital Strategy is one of the 21 projects to be implemented by 2021, each of its constituent projects is designed for completion by the end of 2018, i.e. the end of the current biennium.

81. A status report on these projects is given at DSAG meetings.

82. Just two delays have been observed in respect of the initial timetables:

- ONE Members & Partners replaced OLIS on 12 April 2017, and not in January 2017;
- the ONE STOP SHOP which was to offer the Organisation's staff a single service portal from the end of 2016 will not now go live slightly later than planned.

83. The following applications, however, have recently been or soon will be deployed on the following dates, in compliance with the planned schedule:

- Grants Management, since 10 April 2017, after being piloted in four directorates since November 2016;
- A workstation usable from tablets and smartphones (Mobile Workspace) since 19 April 2017, after being tested by 300 users);
- ONE Author on 15 June 2017, after being tested by main Directorates from February to May.

84. The specialised working parties can therefore be said to be in control of the timetable for implementation of the Strategy.

²³ In addition to Microsoft's Azure system, the Organisation looked at the prices of SAP, which provides its integrated management software, and whose Appliance service provides both servers and software adapted to specific purposes.

5. Risks to security and respect for privacy

85. Achieving the goals of the Strategy will directly increase the risk of intrusion into the OECD's databases and applications, for the following reasons:

- the databases and applications will be interconnected;
- they will be accessible from any place and any device (tablet, smartphone, laptop);
- they will be accessible to a far greater number of people;
- it will be possible for many experts to take part in meetings of working parties and committees from outside the Organisation;
- as mentioned above, cloud computing will mean that some database and servers will be outsourced.

86. These risks of intrusion do not threaten the same consequences for the OECD as for a country or private company, since the OECD owns no industrial or military secrets and is only marginally exposed to commercial competition.²⁴ On the contrary, the vast majority of its data is intended to be published and circulated as widely as possible.

87. Nevertheless, the OECD intends to ensure that its information is securely protected, the inviolability of its data is guaranteed by its diplomatic immunity, and it will fight intrusions into its information systems which can disrupt its work in many ways, notably:

- the dissemination of private data contained in the Organisation's databases;
- the dissemination of data that are not ready for release, which could compromise the reputation of the OECD,
- the modification of data belonging to the Organisation and the storage and dissemination of these altered data, which further aggravates the risk mentioned in the preceding bullet point;
- the circulation of preparatory work ahead of the OECD's negotiations with non-Member countries, candidates to accession or G20 Members,
- the circulation of preparatory work by the Secretariat for all meetings within the Organisation (Council and committees) which would restrict the Secretariat's freedom of thought and movement.

88. The Strategy's working parties are very aware of these risks and mention them frequently in summary meeting records and the summary reports of the eight working parties on digital practices.

89. The measures taken to counter this major risk fall within the remit of the internal audit, which has included the security of the OECD's information systems on its programme for 2017.

6. Technical difficulties

90. The working groups on digital practices even cast doubt on the feasibility of some projects, such as the high-performance calculations required by the experimental lab Smart Data Sandbox.

²⁴ In terms of the circulation of publications, it competes with other international organisations and public and private bodies that also sell or freely distribute their publications in the Organisation's areas of interest.

91. Another difficulty relates to the proliferation of ‘migrations’ from one application to another at the launch of new projects, which runs the risk of losing some data held in old applications and new tools failing to function properly.

92. This risk is exacerbated by the fact that the migrations concern applications that are used every day such as email exchanges, the management of staff pay and the management of voluntary contributions.

93. To guard against these risks, the Organisation decided to:

- store payslips produced in the old system for 24 months and to include the option to reproduce old payslips using the new application;
- retain MAGIC as an archive and to test the new application on the first 500 voluntary contributions that have been entered into it—which led to the observation that there were very few problems;
- ensure that OLIS continues to operate alongside ONE Members and Partners until the end of November 2017, in accordance with the request of one of the delegations.

94. The increased use of remote meetings is likely to create very different kinds of organisational issues. Firstly, these meetings increase the complexity of meeting management: interpreters may have to cope with imperfect sound quality; if a vote is held, it must be secure (or forbidden); the duration of meetings must be reduced.

95. Secondly, switching to remote meetings may risk encouraging the people who normally take part in these meetings to take part only remotely instead of travelling, hence avoiding journeys that may be very long and costly. Such a change would prevent the informal exchanges that normally take place behind the scenes and would lessen these meetings' productivity.

96. These risks, which have already been mentioned above, were avoided at the first remote meetings organised by the OECD. They necessitate the establishment of precise rules for remote meetings, and the training of session chairs, initiatives which were identified by the specialist working groups (DSAG and DSWG).

7. The extent of changes in working methods and change management

97. The main barrier to applying the Strategy is a psychological one: traditionally the Organisation has worked in silos. This tradition is the reason for the proliferation of databases and applications specific to certain programmes and directorates that the Organisation is now looking to integrate. This explains why the OECD has 143 digital applications, without counting some applications used only by the statisticians, and hence not included in the inventory.

98. A good example of the difficulty in introducing cross-functional applications can be seen in the time it has taken to launch the OBMR application. This tool has been available since 2015 but its use is not mandatory. It was designed to permit the decentralised budget management of each directorate.

99. For several years, the growing number of horizontal projects has aimed to encourage the Organisation's different entities to work together. As stated above, the method adopted to drive the Strategy, which was modelled on that used for the V4M project, strives to achieve the same objective. The working groups' reports refer frequently to the risk that is inherent in the Organisation's culture of working in silos. EXD/DKI took this into account by organising experimentation periods and specific training before launching new applications.

100. These initiatives should be encouraged and systematised.

8. The importance of co-operation with the Member countries

101. Some of the Strategy's projects directly concern the Member countries, insofar as they aim to assist the work of the substantive committees, which supervise all the OECD's research, and to extend the Organisation's networks to all experts linked in some way to these committees.

102. The ONE platform, which has just been launched and which will be completed in the coming months, embraces every aspect of these committees.

103. As stated above, the Member countries were consulted before the creation of ONE by means of a questionnaire—ONE for Members (OLIS Renewal), and seven ONE training sessions were organised for their benefit, as well as practical demonstrations to the delegations.

104. The delegations were recently sent a questionnaire to obtain their feedback after the launch of ONE. The ten responses received show that the delegations are aware of the launch of the Strategy, have taken part in the training courses in order to improve their knowledge of the Organisation's applications, already use ONE Members and Partners and have many suggested improvements to make to it.

105. MANAGE, another ONE module, was designed to help the delegations to manage access to ONE by national experts, whose number is set to rise substantially if the OECD's policy of network expansion is a success: the difficulties encountered by the delegations in accommodating and assisting a growing number of national experts was already identified in the 2014 performance audit of horizontal projects.

106. If the network expansion drive is to be a success, it will require the co-operation of national governments to promote the mobilisation of their experts: a real risk for the Strategy is political nervousness on this point.

107. Accordingly, this risk is identified in the report of the Network management working group, which does not, however, present a response to it.

108. It would be advisable to involve the delegations in the development of the Strategy by setting up a working group allowing them to explain the ways in which they would like to improve the ONE Members and Partners application, to track the changes made as a result of their suggestions, to keep them informed and consult them on the next stages of the Strategy and to give their opinions thereon.

109. **The External Auditor suggests that delegations be allowed to explain the changes they would like to see made to the applications relevant to their work, and, to track the implementation of the measures taken in response to their requests and the developments of the Digital Strategy through a consultation process to be defined by the Secretariat.**