**Enhancing Existing Risk Management in National Statistical Institutes by Using Agile Principles**

*UNECE Task Team on Risk Management in the Context of Agile Development*

**Summary**

1. Across the world many National Statistical Institutes (NSIs), along with many other public and private sector organisations, have established approaches to the management of risk in order to help them deliver ongoing business and change initiatives, albeit at varying levels of maturity. Risk management has been a central part of traditional project management and is generally well understood and well embedded. Increasingly, however, NSIs are turning to the use of Agile projects and processes in order to deliver their objectives, particularly but not limited to technological change. As part of the work of the UNECE High Level Group for the Modernisation of Official Statistics several NSIs articulated an emerging tension within their organisations between traditional risk management and operating in an Agile environment.
2. A Task Team was established (see **Annex A** for membership) to develop ways to alleviate these tensions whilst capitalising on the opportunities inherent to Agile project delivery.
3. This paper supplements the UNECE Guidelines on Risk Management Practices in Statistical Organisations by outlining:
4. How NSIs can enhance their implementation of risk management through the increased use of Agile practices and processes and an Agile culture.
5. How an Agile work environment/culture can enable more effective management of risk rather than detract in any way from traditional Risk Management
6. The UNECE Modernisation Committee on Organisational Framework and Evaluation is asked to consider and support the findings of the Task Team and adopt these approaches as appropriate.

**Introduction**

Risk Management in NSIs

1. A risk can be defined as “the effect of uncertainty on objectives”, where “an effect is a deviation from what is expected (positive and/or negative), often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated likely occurrence”.**[[1]](#footnote-1)**
2. NSIs operate in an environment with a number of inherent threats and opportunities, be it threats to statistical quality, data security, capability or general delivery. Many NSIs therefore see risk management as an intrinsic contributor to delivering high value outputs, as well as creating a platform for innovative work. Through the management of risk, organisations seek to minimise, though not necessarily eliminate, threats and maximise opportunities.
3. **Effective Risk management is fundamentally about appropriate decision making.** We all make decisions every single day; some decisions will create threats or opportunities whilst some will mitigate threats. Risk management helps us take decisions which are appropriate to the level of risk we are willing to take.
4. There are many factors which contribute to successful risk management, for example:

* gaining senior management support for risk management and a willingness to invest in and build risk management capability in accordance with best practice standards;
* having a specific and focussed infrastructure to support the management of risk, i.e. a risk management policy, corporate risk register, risk management training and central support;
* having clear risk appetite statements (as explained later in this paper) or tolerances to allow for appropriate decision making in line with the organisation’s expectations;
* developing a positive risk-management **culture** – embeds and supports active management of risks to ensure best decision-making throughout statistical organisations
* taking action to anticipate, treat or tolerate threats and exploit opportunities; in line with agreed appetite levels
* monitoring and reviewing progress, in order to establish whether or not any further action may be necessary, i.e. have we ‘done enough’?;
* treating risks through use of action plans (mitigation), or tolerating (accepting) risk where risks are monitored not managed and contingencies are explicit;
* establishing appropriate escalation processes whereby unmanageable threats are presented to senior leaders who can strategically evaluate and make final decisions regarding treatment or toleration of the threat, taking into account possible consequences.
* effective identification of accountable and responsible product owners who take ownership of any risks.
* ensuring effective contingency plans are in place to support management of realised risks.

Agile in NSIs

1. Agile delivery has its roots in software development as an approach where requirements and solutions evolve through collaboration between self-organising, cross-functional teams. It promotes adaptive planning, powerful/ strategic development, continuous improvement, and encourages rapid and flexible response to change. Some common techniques associated with Agile include the use of Scrum, Kanban, Continuous integration, burn-up/down charts, etc. Agile focuses on the delivery of fit-for-purpose solutions early and often, thereby releasing value at the earliest opportunity, and learning from fast feedback to meet customer needs.
2. **Agile practices inherently reduce risk.** For example, tackling change and development in a series of ‘sprints’ helps ensure continuous feedback and alignment with customer expectations. This in itself mitigates risk, allows for a greater level of risk to be tolerated and manages the biggest risk any initiative can face – the risk of non-delivery. It has also been recognised that some Agile ‘ceremonies’ (daily stand-ups and sprint planning etc.) are essential to assurance but they can be focussed within teams and lack wider stakeholder engagement.
3. NSIs are organisations underpinned by technology; we have therefore seen the increasing use of Agile delivery both in terms of systems and tools but also the increasing use of Agile techniques in wider project delivery. In a rapidly changing world NSIs are delivering large amounts of change, particularly around digital and technology transformation, this focus on change and technology enabled transformation has led to an increase in Agile as a culture within NSIs.

**Perceived tensions between traditional Risk Management and Agile**

1. A number of organisations who have an increasing maturity in both Risk Management and the use of Agile have recognised some common tensions which arise, outlined below. The manifestation of these tensions is by no means universal but it is useful to recognise that they can exist. Even if organisations are not experiencing these issues at present they may be likely to arise in the future.

*Agile thinks risk management is ‘out-of-date’*

1. Some Agile practitioners see explicit risk management as unnecessary, instead delaying the management of risks until they manifest into issues and subsequently managing those through the natural ‘sprint’ progression. Wider than this an Agile culture also encourages trust and empowerment to teams, allowing the regular prioritisation of activity and constant consideration of flow. Some Agile practitioners see this approach as at odds with traditional risk management which can be focussed on preventing potential problems rather than concentrating on the task at hand.
2. Risk management can also appear as being layered with levels of reporting and assurance which are counter to Agile working. For example, risk management models sit alongside a risk repository, taxonomy and scoring matrix (usually managed through an electronic risk database). Experience across organisations has seen Agile projects seeking to limit using such an experience base and instead using an informative workspace and appropriate conversation forums. This limits the ability of the organisation to consider the entire risk horizon, the impact of cumulative risk, and the corporate memory contained within the organisation’s risk repository.
3. However, Agile does take account of the balance between costs and benefits of risk treatment. This can avoid overlapping cycles in decision making processes and reporting if decisions around the treatment of risk are taken as and when they arise.

*Risk management thinks Agile is weak on assurance*

1. There are concerns, challenges and observations in achieving assurance in Agile projects. An Agile way of working focussed on sprints, shorter term planning and the devolution of trust can increase nervousness of senior leaders in terms of strategic alignment and delivery. Agile teams will highlight the advantages of being empowered to deliver, to change focus, to shift resource and to deliver the here and now to ensure incremental progress.
2. However, scale this up to an organisational level. As NSIs we face many risks in a modern world, be it maintaining the security of the data entrusted to us, the ability to keep pace with rapid changes in technology and society or the impact of the continuing global pressures of public finances. At a macro level we cannot afford to ignore or fail to mitigate these risks. Additionally, at a micro level we face risks around the capability of our people, the quality of our statistical outputs and the vulnerability of our systems and processes all of which should be identified, understood and mitigated in order to ensure success.
3. Agile is sometimes not considered to be an effective approach to the management of strategic level risks due to its short term horizon and connection to the operational level. However, in an agile environment there are lessons to learn for the effective management of the most strategic risks facing statistical organisations.

*Short Term Planning vs Long Term Planning*

1. Public sector organisations need to plan for the longer term. A public organisation must consider the use of public money, the strategic direction for the organisation and how it will impact on society. Agile delivery environments have been seen to struggle with this longer term focus, with many of their processes and techniques engaged with the here and now.
2. On the other hand traditional risk management has been perceived as having too strict a focus on hard deadlines. Whilst this can help mitigate risks to delivery in order to enable time, quality and cost targets to be met it can also lack the flexibility needed in a rapidly changing situation. The nature of an Agile environment means a focus on incremental progress towards an overall goal, which can help deal with a complex environment, but can also be at odds with the need to sometimes focus on hard deadline delivery. NSIs have developed ways to work through this tension, for example by setting longer term deadlines (e.g. a census day) and using Agile in smaller sprints to get there.
3. It must also be recognised that often risk management is heavily weighted towards the consideration of risk as a negative, rather than the wider consideration of opportunity risks, particularly in organisations with a more embryonic risk management approach. An Agile environment, by contrast, is more focussed on the recognition of risks as opportunities and being adaptive to take advantage of these. If risk management is to be recognised as a helpful decision making tool, it should be regarded as an enabler to deliver rather than a barrier to success.

**A future approach to Risk Management in an Agile Environment in NSIs**

1. It is clear that the Agile approach to delivery is being used more and more within NSIs and can prove challenging in some cases. During times of accelerated change in technology and data we need to find a way through the challenge of embracing Agile delivery while also managing in a risk filled environment and providing assurance and confidence around successful delivery.
2. **This paper outlines how Agile should not be seen as being at the expense of risk management but rather as an enabler for the more effective management of risk.**
3. A mutual understanding across NSIs of the challenges we face in this area and how we can deal with them will help us all be more successful. There are clearly opportunities for the consideration of a risk management in an Agile environment. To achieve such benefits we should ask questions such as:

* How can we embrace Agile delivery while still maintaining the right level of assurance and confidence around successful delivery?
* How can risk management and Agile collaborate in order to ensure successful delivery?
* How can NSIs enhance their implementation of risk management best practice in a way which is suited to an Agile culture?
* Can we define principles for risk management in the Agile context so we know what the priority activities are when implementing an Agile project?

To address the questions above, the Task Team has built on experience from across NSIs to develop an approach. This approach is based on a series of principles which, if adopted, will help NSIs enhance their management of risk by taking advantage of Agile work practices and principles. The focus is on using risk management in an Agile environment in order to help the organisation deliver and to take decisions in line with risk appetite. Further guidance for NSIs on risk management is available from the UNECE ‘Guidelines on Risk Management Practices in Statistical Organisations’.

*PRINCIPLE 1: Define your appetite for risk, and make it real*

1. A fundamental principle of Agile delivery is the focus on meeting customer needs and a fundamental principle of risk management is providing assurance that an organisation understands and mitigates the threats to delivery. In order to allow an organisation to understand the needs of its customers and also provide assurance when needed to manage risk, the definition and agreement to use risk appetite levels is essential.
2. Traditional approaches to the definition of risk appetite focus on simple descriptions of appetite across different business dimensions, or even for the organisation as a whole. For example an organisation may state it is ‘averse’ to risk around information security, or ‘cautious’ around financial risk. These simple statements of appetite may give a broad indication but are open to interpretation (one person’s ‘cautious’ is another person’s ‘actively seeking’) and can remain static over a period of time.
3. An alternative approach and one that is more suited to risk management in an Agile environment is to define risk appetite in a way that drives correct and consistent behaviours within the organisation in line with expectations of its senior stakeholders. In order to achieve this, the organisation needs to agree to the behaviours expected at different levels of risk appetite and articulate these specifically as a framework for decision making.
4. The main benefit of this approach is that it sets clear behaviours that are expected at different levels of risk appetite, rather than a series of bland statements open to interpretation. The articulation of behaviours in this way will give clarity to the organisation of the expectations and allow for the risk appetite to cascade and align through the organisation. Risk management in an Agile environment, where risk is focussed on decision making is a key enabler to success. Figure 1 shows an example of a risk appetite statement for a particular type of risk, in this case ‘Data Security’, and how the expected behaviours can be articulated to ensure consistency in decision making.

**Figure 1: Example Risk Appetite Statement**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Risk Type: Data Security* | | | | |
| **Averse** | **Minimal** | **Cautious** | **Open** | **Actively Seeking** |
| * We avoid losing the trust of our respondents arising from a loss or disclosure of data but recognise our business depends on access to and processing data which carries inherent security risk. * We have clear governance and processes for data security. The Board regularly discuss security issues. * We understand the appropriate level of cyber security around all data sets and invest in the highest priority areas. * We review our security policies and accept a level of risk around lower risk systems and data but recognise data loss has the ability to cause significant reputational damage to the organisation. * We allow for appropriate access to data for staff in order to allow the organisation to deliver its programme of research, development and analysis. * We are willing to consider access for approved researchers to linked admin data. | | | | |

*PRINCIPLE 2: Identify threats and opportunities*

1. Risk management in an Agile environment remains important to identify both threats and opportunities. However, the approach to this identification should be clearly linked to the organisation’s objectives, the decisions it needs to take, and its defined risk appetite. Risk identification can follow these steps for individuals within the organisation:

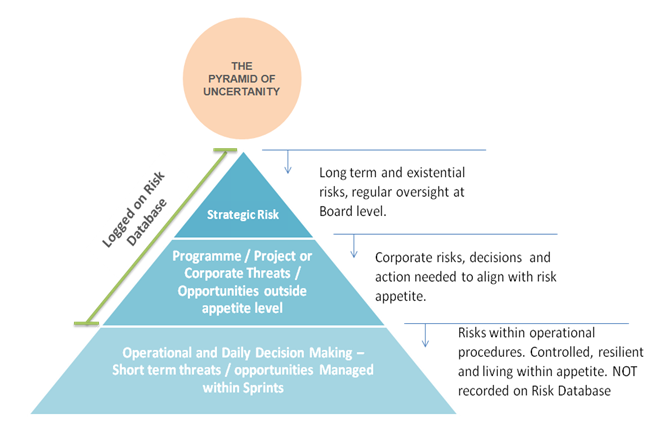
* The business plan or project plan articulates the deliverable
* Decisions need to be made to ensure successful delivery (to get from A to B as effectively as possible)
* Align the decision you make to the risk appetite which relates to the activity
* Decisions which create threats or opportunities outside appetite require someone to take responsibility, to document on the corporate risk system, and to manage
* If you make a decision to achieve delivery which creates a threat above or beyond the risk appetite, you must then choose to either treat the risk, or tolerate it
* If you choose to treat a threat or opportunity, you must provide evidence of what you are doing to decrease the threat to within the appetite level.
* If you choose to tolerate (accept) the threat, you must document the threat on the risk register.

1. These steps should help to ensure that risk management is integrated into delivery and is not a separate process from the day to day operations of the organisation. They are also useful in ensuring the 'right' (true and honest) threats or opportunities are identified, so effort can be focussed on the true threats to delivery rather than documenting generic 'non' threats to provide false assurance. The diagram at figure 1 illustrates when and how threats/opportunities can be recorded or escalated (also related to Principle 3).
2. It should be recognised that this principle can be followed whether an organisation is operating with an Agile approach or not. However, it is the understanding of risks as opportunities as well as threats which demonstrates a more mature approach to risk management and this is particularly relevant in an Agile environment. Agile is focused on delivery and therefore exploiting opportunity risk to allow for quick delivery, to deliver incremental improvements and to meet customer needs is important. A shift of focus from mitigating threats (stopping bad things from happening) to exploiting opportunities (making good things happen) is fundamental to risk management in an Agile environment.

*PRINCIPLE 3: Deal with threats and exploit opportunities at the most appropriate level but document and escalate if necessary*

1. In order to support an Agile environment it is important for risk management to create an environment where decisions are taken at the right level, where staff are empowered and able to address threats and opportunities quickly and without having to follow an overly prescriptive process. Figure 2 shows a ‘Pyramid of Uncertainty’ demonstrating the level of oversight for each level of risk. The pyramid shows that a large number of daily decisions will be risk-based, they should not all be logged on a corporate system or wrapped up in layers of governance. Risk management in an Agile environment is where decisions should be taken quickly in line with risk appetite and only formally recorded when wider action needs to be taken to mitigate the risk or exploit the opportunity.

**Figure 2: The Pyramid of Uncertainty**

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1. However, in order to provide assurance around the management of risk an organisation should still evidence those decisions being made which create threats or opportunities above or below the risk appetite level.
2. As demonstrated in Figure 2, there will be a large number of decisions taken on a daily basis within any organisation, these will in themselves be mitigating risks and exploiting opportunities. It is important that these decisions are taken as close as possible to where the impact will be, both in time and location within the organisation. In an Agile delivery environment these will be identified and addressed through the sprint process. Therefore, risk management in an Agile environment should focus on only logging threats or opportunities as formal corporate ‘risks’ if:

* Reasonable mitigation to try to manage the threat/opportunity can be evidenced, and
* The threat/opportunity isn’t already someone’s job, or an established process is in place to manage the threat/opportunity, and
* The threat or opportunity is outside the organisation’s risk appetite

**Conclusion**

This paper, and the work of the Task Team which supported its development, has surfaced a number of common issues across NSIs around the application of risk management and the advantages of operating in an Agile delivery environment.

It is clear that risk management is evolutionary and different organisations are at different levels of maturity. For those organisations which have implemented a risk management approach following international best practice, the principles in this paper can be used to accelerate from these foundations and grow maturity to that of a high performing organisation.

At **Annex C** is a maturity model which demonstrates the behaviours which would qualify an organisation to achieve differing levels of maturity against various dimensions. These include, Risk Appetite, Risk Culture, Agile Delivery and Risk and Agile Resource. This model has been developed by the Task Team to help organisations understand the journey and the positive steps at each stage.

What we have shown is reconciliation between risk management and Agile to make sure risk management is fundamentally about effective decision making, to take advantage of Agile delivery as a process which inherently reduces risk, and to exploit Agile practices for better risk management.

In a rapidly changing world and within an environment of multiple emerging threats and opportunities NSIs can exploit these principles in order to ensure their continuing success.

The work of the UNECE Task Team on Risk Management in the Context of Agile Development uncovered many similar challenges being faced by NSIs from across the global community. With the data revolution this community of organisations is facing unprecedented change and opportunity.

In order to continue to help each other succeed in this challenging environment the members of the Task Team have agreed to continue to work collaboratively. This work will focus on practical application, further considering case studies and the maturity model and helping each other implement the principles outlined in this paper.

Should the contents of this paper be approved, it is proposed that the Task Team will reconvene in the New Year to develop this work further. It is also suggested that a follow-up workshop of the wider community is held to consider both the outcomes from this task team and other priority areas, including developing a register of the highest level risks which are common across NSIs and considering whether these can be managed collectively for mutual benefit.

**Annex A: Membership of the Task Team**

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**Annex B: Case Studies**

**CSO Ireland: How Agile management practices are impacting positively on risk management. CSO’s Household Survey Development Project (HSDP)**

The purpose of the HSDP is to create a new household survey environment to meet additional national and international needs for a wider range of social statistics. The key aim of this modernisation programme of related projects is to develop an efficient integrated system for household surveys across multiple collection modes thus enabling the CSO to deliver on the expanding requirements for social statistics in a cost effective and timely manner.

For example one of the sub-projects in this overall programme of projects is the Computer Assisted Telephone Interviewing (CATI) project which involves the outsourcing of interviewing for waves 2-5 of the QNHS (Labour Force survey) to an external call centre.

The HSDP has and remains a very significant modernisation programme for CSO, spanning several years in terms of delivery and involving significant numbers of staff and management from both the IT side and business side of the Office.

Agile project management has been employed extensively during the HSDP to maximise delivery of desired outcomes. For example daily Agile scrums and regular Agile sprints maximise achievement of deliverables. Agile management has ensured that active and dynamic management of project risks happens and so risks that have potential to impact development progress are dealt with as they arise.

Agile practices ensure project teams are suitably empowered to drive deliverables but this is matched with regular assurance processes to most senior managers to ensure overall desired corporate direction is achieved.

Agile management practices have and are significantly enhancing the risk management on our HSDP.

**ONS UK: How Agile practices and appropriate decision making were a catalyst to delivery. RRM’s Scheduling and Workflow Mechanism.**

The Response and Respondent Management system (RRM) was looking to integrate a scheduling and workflow mechanism that would be strategic to the entire office.

There was a threat to delivery of RRM, as this was needed for a forthcoming survey, but early indication was that the work was potentially too much for the time available (or else workarounds would be costly).

An Agile approach meant that its implementation had been put off, as the team always prioritised value, and this was never the most valuable thing at earlier stages. Then there was a significant strategic shift - RRM stopped being the long term strategic solution for that component of the system, and it was given a limited lifespan.

Although this was disappointing to the team, it meant the scheduling and workflow mechanism no longer needed to be strategic - they could implement something quickly and easily that just did the job. Being strict about prioritising by value (an important agile concept) postponed the decision and sure enough the landscape changed in the time of the postponement so that when the decision had to be made it became much more achievable.

**Istat case study showing how Agile management practices are impacting positively on “territorial bases” web system (basi territoriali).**

**Territorial Bases System (**[**TBS**](http://basiterritoriali.istat.it/)**)**

Purpose of the project

The purpose of the TBS was to create a new system to update via web the territorial basis by municipalities. The key aim of this project was to develop an efficient system, with a limited number of accesses (more or less 8500 municipalities), to update the territorial basis for Census. The whole system, reachable through authentication, is divided in two separated areas, Front Office accessed by municipalities and Back Office, accessed by Istat Personnel.

After a short description, on the home page there is a login/password box. After authentication, for security reasons, the Responsible of Municipality of territorial bases had to fill in a form with his data to associate a Municipality to a physical person.

The main implemented features for the Front End are:

1. A download section with one or more PDF file with the territory map, an application to modify these files, an Access MDB with 2-3 tables;

2. An upload section where to put the modified files;

3. A documental area that contains the software manuals and user guides, legal documents, and a movie with the operating instructions;

4. An area with history files related to the territorial basis of the last Census (2001).

Software application and documental area are common. Other materials are specific for each Municipality.

The Back Office area contains a monitoring system to trace all operations referred to each Municipality.

Relationship between Istat’s Census Department and ICT Department

The project owner was the Istat’s Census Department which played the client role. The ICT Department supplied this service and the project manager belonged to ICT Department.

Main critical issues of the project

This project presented some critical point, summarized in: limited time to deliver, no margin for error, due to the compliance with current regulation for Census and the involvement of 8500 municipalities.

Advantages to use agile approach

To mitigate risk of failure, Agile project management has been employed extensively during this project to maximise delivery of desired outcomes. Not only weekly meetings were held to verify together, client and supplier, each system release, but also the project manager obtained a resource (programmer) from Census Department, for 5 weeks, to work in his team. In this way, the customer had his own/assigned person to monitor the progress of the project and to actively contribute at the job development. The supplier engaged the client to share the responsibility of each deliverable. As consequence, the strong collaboration between Departments made impressive the speed and the quality of releases.

Comparing agile and traditional methods of project management, there is no doubt that Agile enables collaboration among structures. Moreover, traditional PM doesn't take in account that often customers change requirements during the project. In fact, during the deployment phase, the client really understands the potential of the system and asked for new features. As well known, change requests are often very expensive. Agile method mitigates this risk.

For Istat, this is a good example of successful project, carried on through an Agile approach.

**Annex C: Multi-Dimensional Maturity Models**

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| --- | --- | --- | --- | --- | --- |
|  | **Maturity Level 1** | **Maturity Level 2** | **Maturity Level 3** | **Maturity Level 4** | **Maturity Level 5** |
| **Risk Appetite Maturity** | Simple statement of appetite | Statement of appetite across different business dimensions | Appetite statements underpinned by more detailed expectations for how the organisation should behave in order to live up to appetite | Appetite used as part of daily and strategic decision making. Appetite tolerances are challenged objectively at board level using existing behaviours as metrics | Appropriate decision making inherent within all decision making. Organisation-wide unconscious competency at evaluating risk decisions based on appetite to achieve strategy |
| **Risk Culture Maturity** | Employees, managers and leaders are aware that risk management is something that should be done, but do not understand why or how.  Communications material on risk exists, but not fully read and understood by all employees. | Risks often not aligned to the objectives of the business area or Directorate.  Awareness of the need for good risk management – but may not have fully bought in to the concept.  Understand the theory and processes behind formal risk management, but may think of risk as a compliance tool/tick box exercise, not as a tool for real business improvement.  Understand organisational activity to date, including senior management, Strategic Risks and existence of risk policy statement, Risk Framework/guidance and training programmes  They understand who to contact for further support. Training is sought by, and for, key people.  Understand, some of the key risks to the organisation and to their area. Understand there are formal procedures that need to be implemented, but not yet implemented them all (lack of skills or commitment).  Low understanding or risk literacy. Risks are not formally identified or recorded. Organisation is reactive to threats and miss opportunities | Employees, managers and leaders know how to identify, assess, address, monitor and report risk in a consistent, structured manner, in line with guidance.  Real ownership for risk and actions exists.  Management at all levels in the organisation have a clear understanding of how risk should be managed and they act in accordance with this.  Management at all levels have visibility of the work they oversee, and have the skills to interpret and challenge what they see in order to expose risk.  Key employees are aware of the need to manage risks with partners and have the skills and knowledge needed to manage these risks.  All information asset owners have received basic training and understand:  Risks identified and recorded but little action taken to truly mitigate threats or exploit opportunities. | In addition to level 3, employees:  Effectively manage those risks owned by or shared with partners, and can confidently press this point with partners.  Ensure the Department communicates effectively on significant risks to the public which arise in their area.  Formally review the effectiveness of all aspects of their risk management activity.  Senior management are actively engaged in broadening their horizons on risk through participation in internal events and training.  The organisation is increasingly seen as an example of best practice across government.  All information asset owners and managers are aware of the importance of managing information assets effectively and appreciate the benefits of doing so and the risks if they  Decision making closely aligned to organisational appetites Threats / opportunities outside appetite recorded and accepted or tolerated  Proactive risk management. | In addition to level 4, employees:  Embedded and long-term partnership working regimes and relationships evidenced.  Use risk management to spot opportunities as well as threats.  Senior management are actively engaged in broadening their horizons on risk through participation in external events.  Have key employees who probably, either have professional qualifications in risk management or who have track record for a proactive approach in this area, with an appetite for ongoing learning. These people are listened to.  High profile individuals, such as Director Generals, noted for speaking at seminars on risk.  Key risk champions or managers have skills to lecture and train other employees.  The organisation is recognised as a centre of excellence and expertise across government and globally.  All employees at all levels are aware of the importance of managing information assets effectively and appreciate the benefits of doing so and the risks if they get it wrong. |
| **Agile Delivery Maturity** | Plans fixed up-front. Delivery is made with infrequent ‘big bang’ launches. | Delivery teams holding the common Agile meetings (daily stand-ups, sprints and sprint planning, etc), and low-level risks are dealt with here. But it's still fairly superficial - at this level the overall/high level plans are still largely fixed, and launches are still infrequent. So the low level use of Agile hasn't impacted the higher levels yet | Launches/deliveries are much more frequent and value builds incrementally. It is accepted some risks/issues/concerns/uncertainties filter up from the delivery teams and do influence the higher level plans. | Organisation to be delivering value incrementally. Big bang launches are largely a thing of the past. Feedback from users, customers and the market is regularly used to reshape plans. | Management of uncertainty is built into all delivery plans and processes; teams (and the organisation) continually tests assumptions and hypotheses; value is delivered continuously and reaction to what's delivered is fed back into the delivery process. |
| **Risk and Agile Resource Maturity** | No risk management team or Agile expertise employed by organisation | Specific risk management team in place, as well as Agile experienced teams in place | Risk management team and Agile teams collaborate regulary | Combined qualified, trained and experienced Agile and risk management network | Risk and Agile expertise formally part of all board decision making structure |

1. Guidelines on Risk Management Practices in Statistical Organisations, UNECE., [↑](#footnote-ref-1)