



NUI Galway
OÉ Gaillimh



Whitaker
Institute

Effectively Managing Human Resources and Talent in Science Funding Agencies: Lessons, Recommendations and Future Directions

Insights from Ireland, Finland,
Hong Kong, China & New Zealand



Acknowledgements

We sincerely thank the four national science funding agencies who agreed to participate in this international research project: Science Foundation Ireland; Academy of Finland; Research Grants Council in Hong Kong, China; and Science System Investment and Performance in New Zealand.

We are indebted to the interviewees and the employees at the four participating funding agencies who gave generously of their time and insights during interviews and by completing surveys. The data they provided informs our study.

We sincerely acknowledge the funding provided by Science Foundation Ireland for this international research project (grant number: SFI 17/SPR/5334).

How to Cite this Report

Bohle Carbonell, K., McCarthy, A., Holland, D., Virtanen, T., O’Kane, P., Burns, J. and Van Wart, M. (2020). **Effectively Managing Human Resources and Talent in Science Funding Agencies: Lessons, Recommendations and Future Directions. Insights from Ireland, Finland, Hong Kong, China and New Zealand.** Galway, Ireland: NUI Galway Whitaker Institute.

ISBN: 978-1-908358-84-4

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Executive Summary

This report is part of a Science Foundation Ireland (SFI) funded research project exploring the Human Resource Management (HRM) and Talent Management (TM) practices in science funding agencies in a study of Ireland, New Zealand, Finland and Hong Kong, China.

Data collection methods included high-level interviews with the executive team, senior management and those with human resource (HR) responsibility in each funding agency and an anonymised employee on-line survey targeted at all employees. The survey focused on employee perceptions of the effectiveness and impact of HR and TM policies and practices in the participating science funding agencies. Interviews were also conducted with relevant external stakeholders who impact HR policy in the respective agency. Data was collected between March 2019 and March 2020 and sources included 172 respondents to the employee survey and 33 interviewees across the four agencies.

There are differences in how HR and TM is conceptualised and operationalised in each agency, depending on the agency's relationship with its parent governmental department and its degree of autonomy, or otherwise, in HR and TM decision-making. Two agencies are embedded within the relevant government department with responsibility for science (i.e., Science System Investment and Performance (SSIP) in New Zealand and the Research Grants Council (RGC) in Hong Kong, China). Two of the agencies in the study have greater independence and report into a parent government department (i.e., Science Foundation Ireland (SFI) and Academy of Finland (AoF)).

While many employee support and performance-enhancing HR and TM practices are available to science funding agency employees, there is scope to improve the effectiveness of these practices as evaluated by employees.

There are variations in perceptions of the use and appropriateness of talent and talent management in the

different agencies. In all agencies, the majority of employee survey respondents indicated that inclusive talent management practices should be used and exclusive talent management practices should be avoided. Respondents indicated that exclusive talent management should not be used, as it can lead to inequality, exclusion of some staff members, and adverse impacts on motivation. Proponents of the use of exclusive talent management practice pointed to its positive motivational impact and positive career development focus. Those who were not supportive of the term 'talent' being used to differentiate staff tended to point to the adverse impact on team working and to the creation of tensions. There is a strong preference for an inclusive talent management strategy to be adopted for the agencies as the most effective approach rather than an exclusive approach focused only on a cadre of high performers.

The key HR and TM challenges that were raised by managers and employees include the competitiveness of compensation and benefits compared to the private sector, management of different types of employment contracts, employee recruitment, selection and retention, learning and development opportunities, career opportunities, and gender diversity.

We make six recommendations based on our empirical research in the four science funding agencies to guide future HR strategy, policy and practices:

1. HR strategy, policy and practice effectiveness

We recommend that HR professionals play a key role in developing strategy at science funding agencies and ensure their respective organisations are able to respond to changing contextual, organisational, management and workforce needs in order to operationalise the agency's strategy. This should be supported with a clear communication strategy across the organisation, to ensure line managers are fully informed about the various HR policies and trained to effectively operationalise and implement these policies for their staff. We recommend that science

funding agencies put in place a system to ensure regular and comprehensive review and evaluation of HR strategy, policy and practices to ensure they are fit for purpose and responsive to changing contextual, organisational, management and employee needs and requirements.

2. Employer brand and attractiveness

It is clear that most participating science funding agencies are different from other public sector agencies in terms of the skills, knowledge and educational profile of their workforce. We recommend that science funding agencies invest in developing their employer brand. Ensuring an attractive employer brand will help science funding agencies to compete for top talent in what is expected to become a more competitive landscape for knowledge-intensive and highly skilled and talented workers. The agencies need to be cognisant of the new generations entering the workforce in development of their employer brand.

3. The system, responsiveness and limitations of a one-size-fits-all approach to HR and talent

Budget-influenced HR policy can be characteristic of many public sector organisations, where there is much focus on salary and headcount as key KPIs. This one-size-fits-all approach can limit the consideration of other indicators of effectiveness such as agility, development of skills for the future workplace, employee engagement, and planning for external social, economic and technological changes that will impact the workforce. Due to the knowledge-intensive and specialised nature of work in many science funding agencies, centralised Government HR and talent policies that would provide more scope to allow tailoring to particular needs would be welcomed by science funding agency HR leadership.

4. Talent and talent management: Defining terms, determining strategy and ensuring alignment

We observed that the discussion on talent management is at different stages of maturity in the participating agencies. Most agencies see the value in

effectively managing top performers and key talent. However, in many cases, there is a lack of agreement as to what the terms 'talent' and 'talent management' mean, how they should be operationalised, and how they impact human resource management practice. We recommend that science funding agency HR takes the lead in developing a talent management strategy for its workforce which is aligned with public sector guidelines and aimed at helping the agency meet its strategic objectives.

5. Next generation talent, workforce planning and skills development

An issue facing all organisations is how best to manage the new generations who are joining and will join the workforce in the coming years. The science funding agencies need to ensure their HR and talent strategies cater to the changing nature of the workforce as new generations join. It is incumbent on science funding agencies to work strategically on their HR and talent needs and, where possible, influence policy so that relevant central government HR policy adapts to meet the changing needs of the agency and the changing external context.

6. Mobility

Science funding agencies use secondments and rotator contracts for staff mobility. Inter-agency mobility and secondments are important for career development and the development of leadership skills in flat organisations. We recommend that science funding agencies develop, together with other public sector agencies, programmes which continue to enable and enhance these exchanges.



Background to the international research project

Science Foundation Ireland (SFI) funded a research project exploring the Human Resource Management (HRM) and Talent Management (TM) practices in science funding agencies in a cross-national study of Ireland, New Zealand, Finland and Hong Kong, China. The research project is led by researchers at the Whitaker Institute at the National University of Ireland, Galway and more information is available [here](#). The project included associate investigators in New Zealand, Finland and Hong Kong who acted as academic research partners. The international associate investigators played an important role in negotiating research access to the funding agency in their location as well as assisting with the data collection process in each location.

Each science funding agency has been provided with a detailed confidential report containing the findings and recommendations of the empirical research for their particular agency. Each science funding agency has also been provided with a confidential benchmarking report setting out how their HR and TM policy and practice compares to the average benchmark across all agencies studied. The current report aims to provide an overview of lessons learned about the HR and TM practices and landscape in each of the funding agencies examined. This report also sets out evidence-informed recommendations and future directions for HR and talent strategy, policy and practice in science funding agencies.

Report objectives

The objectives of this report are:

1. To set out the science funding agency government department reporting relationship, landscape, and HR and TM policy and strategy stakeholders and influences
2. To provide an overview of the HR and TM strategy in each science funding agency
3. To examine the effectiveness of HR and TM practices as reported by employees
4. To identify the HR and TM challenges in the funding agencies
5. To provide a set of recommendations and future directions for HR and TM strategy, policy and practice for science funding agencies.

This report does not aim to provide a detailed examination of the HR and TM policies and practices that operate within each agency, since that analysis has already been provided to each agency in their individual agency reports.

Data collection, management and respondent demographics

The data collection process involved two key stages:

1. Interviews were conducted between Spring 2019 and Spring 2020 with relevant directors, the HR manager, members of the top management team, and representatives of other relevant governmental departments across the four agencies and countries in the study. We interviewed people in comparable positions across the four settings insofar as was practicable. Detailed information about the number of interviews conducted and the position of the interviewees in each setting is provided in *Table 1*.
2. An employee survey was distributed to all employees in each science funding agency inviting them to provide responses to a number of questions about HR and TM in their agency.

Interviews and interview data coding process

Interviewees were asked to give permission for the interview to be recorded. With the exception of staff from the Academy of Finland, all interviews were conducted in English and transcribed verbatim. The interviews conducted with staff from the Academy of Finland were conducted in Finnish, and subsequently translated by a professional translation and transcription company. Each interview transcript was reviewed by the interviewer to confirm accuracy and provide clarity on any inaudible elements. Our associate investigator partners in Finland, New Zealand and Hong Kong, China confirmed transcript accuracy and provided additional information to clarify country-specific terms, nuances and circumstances.

Interview transcripts were recorded in anonymous format in the project database held securely at NUI Galway. The research project team at NUI Galway then coded and analysed all interview transcripts using the online qualitative data analysis package called Dedoose. The reliability of the interview data coding process was achieved following a three-step process: (i) all coding was checked by a senior project team member; (ii) inter-coder reliability was calculated using Cohen's Kappa; and (iii) a qualitative coding framework and log was maintained to keep track of decisions, refinements and changes that were made during the coding process.

Table 1: Interviewees and positions

	Academy of Finland (Finland)	Science Foundation Ireland (Ireland)	Science System Investment & Performance (New Zealand)	Research Grant Council (Hong Kong, China)	Total
Interviewee in HR position	2	1	2	0	5
Interviewee in leadership position	11	4	2	7	24
Interviewee from external stakeholders (other departments, trade unions)	2	2	0	0	4
Total number of interviews	15	7	4	7	33

Employee survey and data management

The employee survey was issued in Ireland, Finland and New Zealand via the Qualtrics online survey platform, which is GDPR-compliant and secure. In Hong Kong, China, a paper version of the survey was distributed.

The completed surveys from Hong Kong's RGC were scanned and sent to the research team via email. The survey was distributed in hard copy format at the RGC in Hong Kong, China at the request of the RGC. This potentially reduced perceived anonymity of answers as respondents were required to provide the completed hard copy survey to the person collating results. For this reason, the survey data collected at the RGC should be analysed with caution.

Respondents answered questions on the following HR and TM issues:

- Availability and effectiveness of HR and TM practices in their funding agency
- Employee HR outcomes including job satisfaction, career satisfaction, wellbeing, workload and intention to leave
- Talent management approach, practices and strategy
- Perceived future HR and TM challenges
- Demographic information

Table 2 provides information on the response rates in each agency.

Table 2: Employee survey response rates

	Total	Academy of Finland (Finland)	Research Grant Council (Hong Kong, China)*	Science Foundation Ireland (Ireland)	Science System Investment & Performance (New Zealand)
Number of employees in agency	337	139	58	90	50
Number of survey responses	172	67	10	60	35
Response rate	52%	48%	17%	72%**	70%

* The survey was distributed in hard copy format at the RGC in Hong Kong, China. This potentially reduced perceived anonymity of answers. For this reason, the survey data collected at the RGC should be analysed with caution.

** At SFI, the survey was distributed to 83 employees, excluding interns and staff on maternity leave.

Employee survey respondent demographics in each agency

Table 3 presents the employee survey respondent demographics in each agency.

Table 3: Respondent demographics

	Academy of Finland (Finland)	Research Grant Council (Hong Kong, China)*	Science Foundation Ireland (Ireland)	Science System Investment & Performance (New Zealand)
Age				
< 25			3%	6%
25-34	3%	20%	23%	29%
35-44	28%	60%	40%	14%
45-54	24%		13%	23%
55 or over	24%	10%	7%	14%
Gender	69% female	50% female	66% female	60% female
Highest educational attainment				
Secondary education	5%		5%	6%
Bachelor or equivalent	8%	50%	12%	29%
Master or equivalent	21%	40%	18%	37%
PhD or equivalent	45%		51%	17%

	Academy of Finland (Finland)	Research Grant Council (Hong Kong, China)*	Science Foundation Ireland (Ireland)	Science System Investment & Performance (New Zealand)
Organisational tenure				
< 1 year	6%	30%	23%	17%
1-2 years	12%	10%	13%	23%
3-5 years	9%	20%	23%	29%
6-10 years	12%	20%	15%	14%
11-15 years	12%		12%	
> 15 years	28%			
Role tenure				
< 1 year	15%	30%	27%	20%
1-2 years	15%	10%	27%	17%
3-5 years	12%	10%	18%	29%
6-10 years	9%	30%	8%	20%
> 10 years	28%		7%	
Contract type				
Permanent	67%	50%	43%	86%
Contract/temporary	10%	40%	20%	6%
Secondment/rotator			15%	3%
Fellowship	2%		7%	
Role				
Professional	66%		38%	60%
Administrative/clerical	9%	50%	13%	17%
Middle management	3%	40%	17%	6%
Senior management			13%	6%
Full-time contract	73%	90%	75%	83%

Percentage of missing responses not listed.

* The survey was distributed in hard copy format at the RGC in Hong Kong, China. This potentially reduced perceived anonymity of answers. For this reason, the survey data collected at the RGC should be analysed with caution.

The largest proportion of employee survey respondents are aged between 35 and 44 years at the Academy of Finland (28%), Science Foundation Ireland (40%) and the Research Grants Council (60%) while the largest proportion are aged between 25 and 34 in SSIP in New Zealand (29%). Females represent about two-thirds of respondents at the Academy of Finland, Science Foundation Ireland (40%) and SSIP in New Zealand while there is an equal spread of male and female respondents in RGC.

At the Science Foundation Ireland and the Academy of Finland, half or nearly half of respondents hold a PhD, whereas at the Research Grants Council half of respondents hold a bachelor's degree, and in Science System Investment and Performance the highest educational award indicated by the largest proportion of respondents is a master's degree.

Organisational tenure (the duration of employment in the agency) is generally lower in RGC, SFI and SSIP: 30% have worked in RGC for less than one year and 10% have worked for 1-2 years; in SFI, 23% have worked for less than one year and 13% for 1-2 years; and in SSIP, 17% have worked for less than one year, and 23% for 1-2 years. At the Academy of Finland, a larger proportion of the respondents (40%) indicated that they worked for more than 10 years at the Academy.

Role tenure (the duration in the current role or job) is likewise generally lower for SFI and SSIP, with 54% of respondents in the SFI indicating they are in their current role for less than three years and in New Zealand, 37% indicate they are in the current role for less than three years. By contrast, 28% of respondents from the Academy of Finland indicate their role tenure is over 10 years. In RGC, 40% indicate they are in the role for less than three years and another 30% indicate they are in the role for between six and 10 years.

The majority of employee respondents in the Academy of Finland, SSIP and SFI are in permanent positions. However, the distributions is more varied at SFI than at other agencies. At RGC, respondents were nearly equally split between permanent and contract positions.

The significant majority of respondents work in a full-time capacity across all four agencies.

Based on an overview of the demographics in each funding agency, a number of similarities and differences are evident:

- Three of the four science funding agencies tend to have a higher proportion of female employees.
- A significant proportion of employees in the science funding agencies hold master's degrees and PhDs, apart from RGC, where the majority hold BSc qualifications.
- At the Academy of Finland, a larger proportion of respondents has worked for the agency for more than 15 years while the organisational tenure for respondents in the other three agencies is much lower (typically below 5 years).
- At the Academy of Finland, a larger proportion of respondents has held the same job or role for more than 10 years; at the other agencies, respondents' role tenure was shorter.
- A significant majority of staff in the four science funding agencies work on a full-time basis.

Science funding agency: Reporting and government department alignment and influence

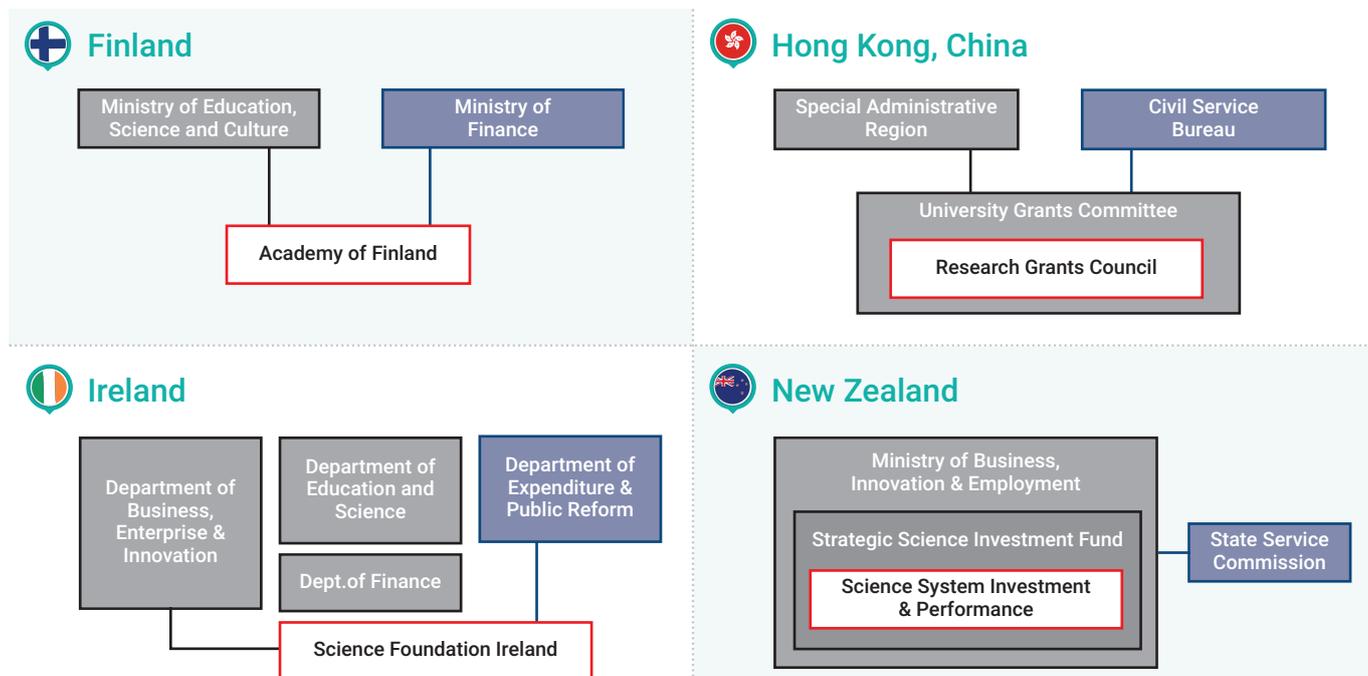
Figure 1 depicts the reporting relationship and broader government department alignment structures in which each science funding agency is embedded. Key 'parent' governmental departments are indicated with a black-outline box. It is useful to examine the relationship between government departments and the funding agencies, as that relationship can directly impact HR and TM decision-making within each agency.

Science Foundation Ireland and the Academy of Finland have a similar government department alignment in terms of the department they report to. They report into a key 'parent' governmental department (indicated by the black-outlined boxes and lines for accountability and reporting, budget decisions and selection of top leaders). However, they remain an independent agency. On the other hand, the Research Grants Council in Hong Kong and Science System Investment and Performance in New Zealand are embedded within parent units and government departments. Being located within the parent unit or government department results in stronger influence from the parent organisation on all aspects of the science funding agency, including its HR and TM policies and practices.

In terms of HR policy influences on the science funding agencies, *Figure 1* presents other relevant government departments that impact HR decision-making in the agency (indicated by the blue-outlined boxes and lines in *Figure 1*).

Across all four agencies, HR and TM practices are influenced by a government department with responsibility for public and or/civil service HR and TM (indicated by the blue-outlined box and lines in *Figure 1*). In Ireland, the SFI is impacted by the Department of Public Expenditure and Reform and its policies including staffing and pay scales. The Academy of Finland is likewise influenced by the Ministry of Finance in relation to its HR policy, while the State Service Commission impacts SSIP in New Zealand, and the Civil Service Bureau impacts RGC in Hong Kong, China.

Figure 1: Science funding agency: Reporting and government department alignment and influence



Note: Black-outlined boxes represent government departments/units. The red-outlined box is the participating science funding agency. Black lines indicate stakeholder relationships which influence funding, structure, and content of research programmes. Blue lines indicate departments that exert external influence on agency HR and TM practices.

HR and TM strategy: Insights from management interviews

This section provides an overview of the HR and TM strategy, policy and practice in each of the four funding agencies as reported from the interviews with relevant managers and stakeholders. There are differences in how HR and TM is conceptualised and operationalised in each agency, depending on the agency's relationship with its parent governmental department and its degree of autonomy or otherwise in HR and TM decision-making. This section addresses the key themes that emerged from the interviews. Indicative quotes are presented from interviewees to provide insight into each agency's HR and TM strategic, policy and practice approach. The quotes are coded to provide anonymity in terms of the interviewee's identity.

Academy of Finland (Finland)

At the Academy of Finland (AoF), there is an ambition to move towards a more strategic approach to HRM. This move is supported by conducting audits of the agency's departments' competencies, and discussions with internal and external stakeholders. The focus of this work is on examining what future funding programmes and activities AoF will be engaged in to benefit Finland's scientific research community, industry and society. The focus of this calibration to a more strategic approach to HR also aims to establish the consequential knowledge, skills and abilities required by AoF to effectively achieve its objectives.

"But clearly in recent years, the talent development and HR development have become more important. So we talk very much about developing the competence of the staff, learning, new ways of learning, collaboration, more flexible utilisation of the competence in the state, and so on. So there's been quite a big change. [...] Now [HR] should be a more strategic partner to management and to the supervisors, in terms of talent development." (Interview ID 34, AoF)

HR processes such as training and development and performance management are more closely tied to the agency's strategic goals. For example, staff are encouraged to create long-term developmental goals and to explicitly connect these individual developmental goals to the goals of the agency.

"So there would be the goals of work that may come from the management or from the state or in the context of the work community or focused on the individual himself [...]. And then they would be linked to development, a plan would be made on a short term and a long term [basis], for example, from one to five years, and then there would be learning goals that would be monitored." (Interview ID 20, AoF)

In line with greater cross-departmental collaboration and the drive for a more strategic approach towards HR, there is a greater emphasis on learning on-the-job. Such a perspective on learning acknowledges the different ways in which employees acquire new skills and knowledge. However, learning on-the-job is more difficult to plan, manage, and evaluate compared to off-the-job training initiatives such as, for example, leadership development programmes.

"So there are training days as one indicator, and we've been discussing that now in traditional training, so learning takes place within networks to a large extent, by learning at work, in different kinds of seminars, but even in our forthcoming performance agreement [with the Ministry of Education, Science and Culture], training days is one example of what we're monitoring. The number of training days has gone down, since people no longer go only to traditional training." (Interview ID 26, AoF)

There is currently no explicit talent management strategy for managing high-potential employees in the Academy of Finland. Employees would prefer any such strategy to be inclusive, as this would be in line with the organisational and national culture of Finland (more details on TM below). One of the HR opportunities that was identified in the manager interviews in AoF is greater inter-agency mobility as key developmental opportunities for staff aligned with their strategic HR objectives. However, there are challenges associated with the financial consequences of sending someone to another agency, and finding a fixed-term replacement for the seconded/hired-out employee.

“The idea is also that the sending agency pays the civil servant’s salary. But in practice, there’s also money involved. You can’t think that an agency lets a person go without having to replace him. They probably have to replace him and then sort of pay a double salary, so there’s money involved there as well. The agency pays the sending agency for the work effort. There are all the possibilities and processes, so it’s possible in that regard, but the possibility is being used very little now.”

(Interview ID 34, AoF)

Research Grants Council (Hong Kong, China)

HR decision-making in the Research Grants Council (RGC) is largely determined and operationalised by the Civil Service Bureau (CSB) which determines its HR strategy, policy and practices. The limited scope for HR decision-making and lack of autonomy means there are few tools managers at RGC can use to engage staff members, deal with skill shortages and determine HR strategy. Most employees at RGC are civil servants in an administrative position. Therefore, they do not differ much from employees at other agencies, and thus there is less need for HR practices to be tailored to RGC’s situation.

“Because we will follow the HR strategies of the civil service, we do not, because we are a tiny department and we do not establish our own HR strategy, then for the contract staff we also follow the guidelines of the CSB in recruiting contract staff.” (Interview ID 12, RGC)

An area where leaders at RGC have more control over is the recruitment process of non-civil servant contract staff (NCSC). Several types of NCSC roles exist, for example, retired civil servants can be employed on a contract basis. These retired human resources bring expertise and skills regarding administration and civil service functioning and thus are seen as a key contract resource and demand for them is high. Other contract staff come from the private sector and the challenge is the time needed to adapt to and learn the complexities of the civil service system and the work environment at RGC.

“As civil service staff, the working experience with government is more rich. And they have more structured training [to work in the civil service system]. So when I have a team which most of them are NCSC staff, we have to put a little bit extra effort to guide them to work along with the government guidelines on procurement, on event management, on other things.” (Interview ID 14, RGC)

Contract staff are recruited by the RGC for a fixed-term period to support the panels reviewing the research grants proposals and their contract ends once the task is complete. For tasks which are not seasonal but part of the day-to-day activity of RGC, civil servant posts are created and filled. Unfortunately, this process can take a long time, creating workload issues at the agency. Thus, it is a balancing act between ensuring there is a sufficient cadre of experienced, highly qualified civil servants and fixed-term contract staff to allow RGC to manage the workload and deliver new services the state requires of them.

“So far I think it [the HRM system] has worked well. So far, there’s no instance where I have to say I can’t do this review because I don’t have the people or I’m going to have to start this new scheme 2 years later because I don’t have the people. So far I have delivered. So despite all the troubles that I mentioned, we can still deliver results with contract staff, post retirement staff, agency staff, we still manage.”
(Interview ID 18, RGC).

Science Foundation Ireland (Ireland)

A key principle in Science Foundation Ireland's (SFI) approach is a strong desire to connect the HR strategy to the agency's business strategy. Such an integrated and aligned approach is beneficial, as it should drive a focus on developing a workforce with the requisite knowledge, skills and abilities to deliver the organisation's strategic and operational goals.

"We are launching our new SFI five year strategy, the 2020 to 2025 strategy. So in the past the people strategy, or the HR strategy, was part of SFI strategy but it wasn't at the core of it. So for this year in consultation with the strategy team, we are building out a pillar where people will be very much at the centre. We're really trying to focus on the culture, high performance and enabling us to be capable and set up from an organisational perspective to meet our goals, for the next five years" (Interview ID 1, SFI)

Managers at SFI indicate that due to the relatively small size of the agency, SFI is not always able to offer long-term career development and career opportunities to all its staff members. Therefore, there is an expectation that staff may leave SFI for opportunities elsewhere. SFI believes its staff are sought-after by other national and international agencies due to the skill development and career opportunities they get at SFI. The challenge is providing a balance between external and internal opportunities and the employee survey indicated that the lack of permanent positions is a concern for employees.

"And some of that higher turnover by the way will always be there, it has to do with the fact that we have high performing staff who are in demand in both the public and private sectors. [...] So you know we just need to, we live with that, and I'd rather work with very, very excellent people who turn over maybe every five years than with a bunch of people who are average and stay forever. I'd much prefer to have the former rather than the latter. So that's going to be a challenge." (Interview ID 41, SFI)

The interview findings indicate that managers at SFI find the development of a performance appraisal management system that is effective across the organisation is a challenge. One of the key challenges is meeting employee expectations of performance ratings and performance evaluation and there was some confusion around language and terminology. SFI recently modified its performance rating system to better differentiate it from the rating system it uses to grade research proposals. Both systems used 5-point rating scales but with different descriptors attaching to each point. The following quote sets out the issue that had to be overcome:

"One thing and a big challenge is, when our staff are reviewing external grant panels they also use a five point scale. But a five point scale in their grant review process, a three means that you are not being funded. You are not meeting expectations and then you're not being funded. [But] in our [HR performance management) process, a three rating means that you're doing a really good job, and you're meeting all expectations. It is raising a lot of difficulty within the organisation, because people cannot separate and I can understand why." (Interview ID 1, SFI)

SFI is actively building its employer brand with the goal of assisting with recruitment and enhancing the employee experience. To ensure a high-quality recruitment process, SFI partnered with an outside vendor to increase the quality of its communication with potential candidates and applicants. In addition to this, it is offering interview training to managers. Further along the employee life cycle, the training offering is being streamlined to ensure that training is valuable to its employees and adds to SFI's strategic objectives. One of the key objectives of the

employer branding project is building awareness of what SFI does, the nature of its work, and career and learning opportunities within the agency.

“To really help SFI brand itself from a talent perspective. The feedback has also been that a lot of people don’t fully understand what it is to work in SFI, what it means to work in a funding agency. So we are trying to again as part of the strategy connect those dots. And make people feel connected to the organisation, of what the organisation is achieving. So we’re doing that through a variety of channels.”
(Interview ID 1, SFI)

Science System Investment and Performance (New Zealand)

Science System Investment and Performance (SSIP) is part of New Zealand’s Strategic Science Investment Fund, a unit within the Ministry of Business, Innovation and Employment (MBIE). SSIP is thus embedded within MBIE and relies on MBIE’s HR department for its HR strategy, policy and practice. In addition, at a more general level for the public service, HR practices are developed by the State Service Commission (SSC). The advantage of this larger embedded structure is unified HR practices and scale. Having a more unified HR strategy and set of HR practices stops governmental departments competing against each other for employees. However, smaller specialised units, such as SSIP, can experience centralized HR solutions as less than ideal, especially if their employees’ skills and expertise requirements are specialised and if the nature of work requires particular expertise and skillsets. This is the situation SSIP is confronted with.

“The government will put in rules to stop the government getting departments competing. So they standardise all that so they remove all the competition. Unfortunately we are not in that same pool.”
(Interview ID 19, SSIP)

Recently, the performance-related pay system has been adapted. However, the changes were less favourable for SSIP than for the larger workforce at MBIE. The impact of the new pay system on employees’ motivation and performance are yet to be seen, but challenges are expected.

“That’s [the move away from performance-related pay] really good for some parts of MBIE. But I think it’s quite demotivating for the highly skilled, highly professional science industry oriented people whose career has been based on performance, key performance metrics etc. So I find it’s demotivating for the team.” (Interview ID 19, SSIP)

Nevertheless, SSIP also benefits from a talent management (TM) system developed by SSC and elements of which are currently being implemented by MBIE’s HR department. Managers regularly meet to discuss the performance and potential of employees, and consider which opportunities are available to further develop employees. These discussions are supported through continuous conversations managers have with their staff around career aspirations and performance. This information is used to place employees on a **3x3 talent map**. These talent maps are discussed among leaders, and opportunities are sought to develop staff in accordance with their position on the talent map. The system relies strongly on the availability and ability of managers to support the development of staff. This creates discrepancies in employee experiences based on their line manager, as voiced by some of the survey respondents.

“So [managers] are using the talent map to assess that talent. And therefore where do we focus [the employees] development? And so it builds into those conversations that they’re having on a regular basis. So we ask people at least twice a year “you need to be having those conversations with your people” so it’s at mid-year and you’re looking forward [...]. So the ability piece is very much built into that potential because people could have aspirations and don’t really have the ability so that becomes a different conversation.” (Interview ID 9, SSIP)

Cross-agency mobility is also an issue at SSIP. It is perceived as a good instrument for career development and a flexible solution to recruitment challenges. However, the challenge lies in its implementation. A replacement has to be found for the team member who temporarily leaves for another team and this creates consequential work issues. Contractors cannot easily be hired to deal with temporary workload problems, as there are limitations to the number of contractors who can be hired.

“So if someone is ready to [take a more senior role], we think they’re ready to progress to a manager role within one or two years. Actually we want to give them that experience now. So actually if there’s a secondment kind of opportunity comes up with a manager in another branch, from SSIP. Then we encourage them and speak to them and sort of help them kind of to grow really.” (Interview ID 38, SSIP)

This section highlights that a number of different key strategic HR priorities are evident across the different national funding agencies. All agencies’ HR strategy and decision-making is impacted to some extent or another by the prevailing influences of other relevant government departments. New Zealand has a bespoke talent-mapping scheme.

HR and TM practices in science funding agencies: Availability and perceptions of effectiveness

This section of the report describes employees’ perceptions of each agency’s (i) general HR practices and (ii) talent management practices. This section provides information on the extent to which the practices are perceived by employees to be (i) offered or available to them and (ii) effective.

Employees were asked about their perception of the availability and effectiveness of HR and TM practices.

- HR and TM practice **availability**: HR practice was assessed using a 5-point Likert scale (1= not offered to them at all, 2 = offered to a small extent, 3 = offered to some extent, 4 = offered to a good extent, and 5 = offered to them to a great extent). TM practice availability was assessed using a 3-point Likert scale (1 = TM practice is available, 2 = TM practice is not available, 3 = I don’t know if the TM practice is available).
- HR and TM practice **effectiveness**: Those who perceived that a HR or TM practice was available/offered to them to some extent, to a good extent or to a great extent, were then invited to evaluate its effectiveness using a 3-point Likert scale (1 = not effective, 2 = somewhat effective, and 3 = effective).

HR Practices

Performance-enhancing HR practices:

- Training and development
- Pay and rewards
- Performance management
- Participation and autonomy

Employee support HR practices:

- Employment security
- Work-life balance
- Grievance management

The data are analysed in three ways.

- First, the extent to which HR and TM practices are available to survey respondents across each agency are examined (see column 2 in *Table 4* and *Table 5*).
- Second, we looked at differences in HR and TM availability both within and across the science funding agencies (see column 3 and 4 in *Table 4* and *Table 5*). We calculated the standard deviation (a measure of spread) in responses for each HR and TM practice. To determine if the differences in availability of HR practices across the agencies are significant, we conducted a statistical test (analysis of variances (ANOVA)). Significant differences across funding agencies identified by our ANOVA analysis are identified by a 'Yes' in column 4 in *Table 4* and *Table 5*. Differences in perceived effectiveness ratings were not analysed using ANOVA due to low sample size rendering such analysis neither feasible nor meaningful.
- Third, for those respondents who reported that the HR or TM practice is available to them, the extent to which they are perceived to be effective is set out (see columns 5-7 in *Table 4* and *Table 5*).

The overall effectiveness numbers suggest that science funding agencies should focus on improving the effectiveness of HR practices. The country-specific benchmarking report provided directly to each agency gives further insights on where efforts should be focused within their particular agency based on the data.

Table 4: Availability and perceived effectiveness of HR practices

HR Practices	Proportion perceiving it to be available	Range of perceived availability	Significant differences in availability between agencies?	Proportion perceiving it to be effective	Proportion perceiving it to be somewhat effective	Proportion perceiving it to be not effective
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Performance-enhancing HR practices

Training and development						
The opportunity to receive training and attend courses and workshops	87%	80% - 94%	Yes	44%	52%	4%
The opportunity to develop new skills and knowledge for my current job	84%	70% - 93%	No	45%	52%	3%
The opportunity to develop new skills and knowledge for possible future positions	73%	67% - 81%	No	49%	49%	2%
Support in planning my future career development	54%	40% - 66%	No	54%	46%	
Pay and rewards						
A fair salary and benefits	78%	74% - 90%	Yes	49%	47%	4%
A competitive salary and benefits	70%	61% - 90%	Yes	49%	48%	4%
Performance management						
The periodic evaluation of my performance	92%	83% - 95%	No	44%	53%	3%
A fair evaluation of my performance	86%	83% - 100%	Yes	46%	51%	3%
Motivating performance appraisals/meetings	72%	69% - 75%	No	50%	48%	2%

HR Practices	Proportion perceiving it to be available	Range of perceived availability	Significant differences in availability between agencies?	Proportion perceiving it to be effective	Proportion perceiving it to be somewhat effective	Proportion perceiving it to be not effective
Participation and autonomy						
The opportunity to take responsibility for my own tasks	90%	88% - 100%	No	44%	52%	3%
Challenging work	89%	80% - 100%	No	44%	52%	4%
The opportunity to do my work in my own way	83%	60% - 87%	No	47%	52%	2%
The opportunity to participate in decision-making processes related to my work	76%	70% - 84%	No	49%	50%	1%
Employee support HR practices						
Employment security						
Certainty on keeping my job	79%	67% - 86%	No	46%	52%	2%
An employment contract that offers job security	65%	60% - 80%	Yes	49%	49%	2%
Work-life balance						
Flexible work hours	78%	40% - 88%	Yes	47%	51%	2%
The opportunity to work part time if I need to	68%	10% - 87%	Yes	46%	52%	2%
The opportunity to organise my work schedule so that I can fulfil my family and non-work obligations	79%	40% - 91%	Yes	46%	52%	2%
Grievance						
An opportunity to express grievances	77%	60% - 82%	No	48%	52%	
An opportunity to raise personal concerns	77%	60% - 80%	No	37%	59%	4%
A fair grievance process	76%	70% - 78%	No	48%	51%	1%

Table 5: Availability and perceived effectiveness of TM practices

TM practices	Proportion perceiving it to be available	Range of perceived availability	Significant differences in availability between agencies?	Proportion perceiving it to be effective	Proportion perceiving it to be somewhat effective	Proportion perceiving it to be not effective
Mentoring or buddying	70%	40% - 92%	Yes	35%	62%	3%
Secondments (external in other organisations)	49%	10% - 76%	Yes	37%	56%	6%
External coaching	47%	10% - 66%	Yes	43%	54%	1%
In-house development programmes	47%	10% - 71%	Yes	33%	53%	15%
Cross-functional job assignments	45%	20% - 60%	Yes	41%	55%	4%
Internal coaching	44%	36% - 60%	No	35%	63%	1%
Stretch assignments	42%	37% - 48%	No	57%	38%	6%
External development programmes	35%	30% - 51%	Yes	45%	52%	2%
Job rotation (within the organisation or agency)	34%	8% - 60%	Yes	29%	62%	7%
Graduate development programmes	26%	7% - 63%	Yes	55%	41%	5%
High potential development schemes	17%	6% - 31%	Yes	41%	45%	14%
Succession planning	16%	12% - 20%	No	30%	56%	15%

HR and TM practices: Availability

Table 4 and *Table 5* demonstrate that, in general, survey respondents indicate that performance-enhancing HR practices are more available to them compared to employee support HR practices and most TM practices. Two performance management practices, the periodic evaluation of performance and a fair evaluation of performance, receive some of the highest scores in terms of HR practices employees report to be available to them. Two participation and autonomy related HR practices receive high availability scores: the opportunity to take responsibility for own tasks, and challenging work. The opportunity to receive training and attend courses and workshops also scored highly in terms of availability.

Based on a Chartered Institute of Personnel and Development (2006) talent management (TM) scorecard, we framed the survey responses around the availability and effectiveness of twelve specific TM practices. Compared to the previous section, this section focuses on practices that are considered to stimulate the development of talent. *Table 5* indicates the availability and effectiveness of the TM practices across the four agencies. The TM practices that are perceived to be most available to employee respondents are: mentoring or buddying, secondments, external coaching and in-house development programmes.

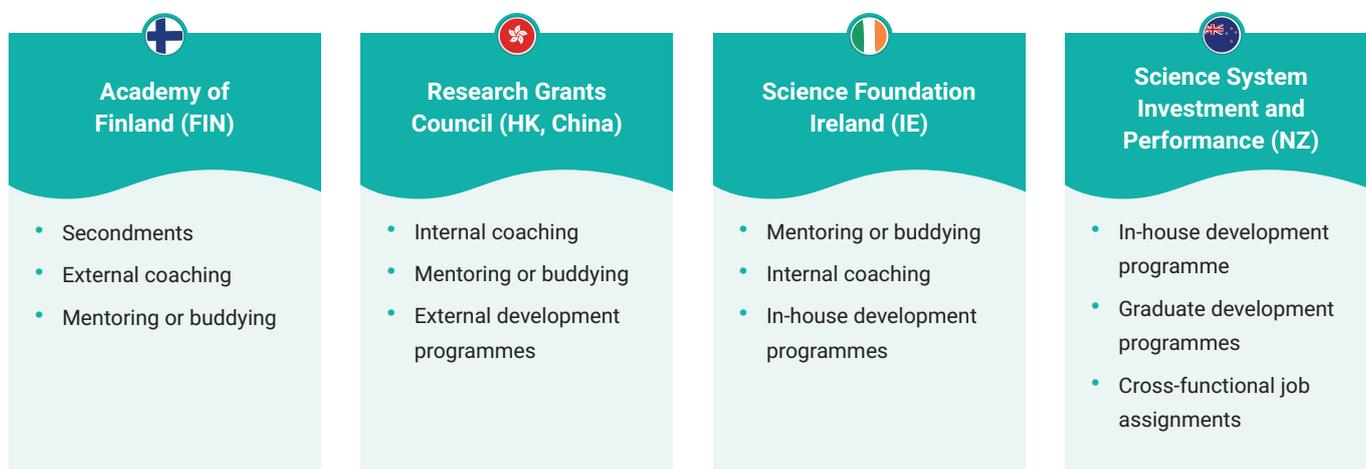
For each agency, we looked at their highest-ranked HR practices based on respondents' assessment of their availability, and listed the top three ranked available HR practices in *Figure 2*. *Figure 2* indicates that each agency has a somewhat different set of HR practices which are perceived to be most available to employees.

Figure 2: Top ranked HR practices based on perception of availability



As with HR practices, we looked at the highest ranked TM practices for each agency based on the respondents' perception of their availability. We note that in all agencies except SSIP, mentoring or buddying, and external or internal coaching is perceived to be widely available (see *Figure 3*).

Figure 3: Top ranked TM practices based on perception of availability



HR and TM practices: Availability differences

The nature of differences in the level of HR and TM practice availability reported by employees were statistically tested using the ANOVA statistical analysis technique. The test analyses of the spread of answers within one agency is, on average, smaller or larger than the spread of answers across all agencies. If there is more variation in answers between the agencies than within an agency, it indicates that differences in the level of availability are due to different agencies offering different HR practices (indicated by a 'Yes' in column 4 in *Table 4* and *Table 5*). Where differences exist but are not accounted for at agency level, the differences are due to respondents within an agency indicating different levels of availability (indicated by a 'No' in column 4 in *Table 4* and *Table 5*).

For 8 of the 22 HR practices in *Table 4*, the spread in employee responses regarding the availability of HR practices is due to differences *across* funding agencies. These eight practices are listed in *Figure 4*. The differences in availability of HR practices accounted for by differences across the agencies is most pronounced for work-life balance oriented HR practices. All three elements measuring the extent to which work-life practices are available had a wide range in perceived availability across different agencies. Differences across agencies may reflect national cultural differences or differences in HR policy adopted by the different agencies.

For the remaining 14 HR practices presented in *Table 4*, the differences reported in the range of perceived availability of the practices are due to differences *within* agencies as reported by the employees in the survey. Differences in availability within an agency could be due to a range of factors, such as different practices being offered to different job roles and different categories of employee, tenure duration, or contract type.

Figure 4: Differences in availability of HR practices where differences are accounted for across different agencies

Employment	1. An employment contract that offers job security
Performance Management	2. A fair evaluation of my performance
Pay & Rewards	3. A competitive salary and benefits 4. A fair salary and benefits
Training & Development	5. The opportunity to receive training and attend courses and workshops
Work-Life Balance	6. The opportunity to organise my work schedule so that I can fulfil my family and non-work obligations 7. Flexible work hours 8. The opportunity to work part-time if I need to

As with HR practices, we also investigated if differences in perceived availability of TM practices exist across different agencies or within the agency (see column 4 in *Table 5*). We found that differences in TM availability scores are due to differences *across* agencies rather than within agencies for all but three TM practices: internal coaching, stretch assignments, and succession planning. For most TM practices, differences in perceived availability can be traced back to internal, agency-specific factors within each agency rather than differences across agencies (indicated by a Yes in column 4 in *Table 5*). The differences in perceived availability for most of the TM practices examined are accounted for by variations across agencies. These differences can be accounted for by differences in cultures, maturity of TM within the agency and maturity of TM within central government departments responsible for public servants.

HR and TM practices: Effectiveness

Table 4 indicates that about 37-54% of respondents report the various HR practices to be effective, 46-59% report them to be somewhat effective, and a very small number (1-4%) consider them to be not effective. This indicates that there is significant room for improvement across all agencies in terms of the perceived effectiveness of various HR and TM practices, with about half of respondents indicating that each of the 22 HR practices in *Table 4* are only somewhat effective. While it is important to have various HR practices available to employees, the extent to which they are effective is another matter, and one that requires investment in terms of HR, and line manager time and expertise. We discuss this further in the recommendations section. Interestingly, while TM practices are reported to be available by far fewer respondents compared to the performance-enhancing and employee support HR practices, there are higher levels of perceived effectiveness of many of the TM practices for those to whom they are available.

Table 5 summarises information about the effectiveness of TM practices across the four agencies. The majority of respondents considered that TM practices were only somewhat effective. A small proportion of respondents for whom TM practices are available report them to be effective or somewhat effective, though availability is much more limited than that reported for HR practices in *Table 4*. *Mentoring or buddying* is the top TM practice in terms of availability (70%). In addition, a large proportion of respondents also consider it to be somewhat effective (62%) or effective (35%).

Our analysis indicates many TM practices are not widely available within the funding agencies.

Talent management as a distinct HR dimension in science funding agencies

Talent management is a particular dimension of human resource management, focused on the identification, management and development of high-potential, top performers and those in key leadership roles. Talent management as a HR concept has a longer tradition of use in the private sector than in the public sector. There is more varied experience of talent management approaches and practices in public sector organisations. To understand if and how talent management is implemented and experienced in the science funding agencies, we assessed the extent to which the term 'talent' is used in each agency, and employees' assessment of the appropriateness of the TM strategy deployed.

Interpretation, meaning and use of the term 'talent'

When asked what the term 'talent' means in their agency, employee respondents and interviewees indicated that it can be defined in numerous ways and includes desired attitudes, behaviours, knowledge and skills. *Table 6* provides a summary of how employee and manager respondents from the different funding agencies interpret and understand the term 'talent' and what it conveys.

Both employees and management consider that talent refers not only to current performance levels, but also to future potential performance. At SSIP (New Zealand), it is made explicit that talent is related to skills to advance to new and more senior roles. At AoF (Finland), the definition of talent includes a personal ambition towards achieving higher performance levels.

Table 6: Talent interpretation and meaning according to employees and managers

	 Academy of Finland (Finland)	 Science Foundation Ireland (Ireland)	 Science System Investment & Performance (New Zealand)	 Research Grant Council (Hong Kong, China)
Employees	Talent means to have expertise and experience and demonstrate enthusiasm for the job. Talent is associated with specialist knowledge in a field.	Talent refers to current high performance and future high performance. It also relates to leadership skills, proactivity, and the ability to maintain relationships.	Talent refers to people in specific roles who have the skills and motivation to advance their career within their field.	Talent means to have expertise, perform at a high level, and be of value to the organisation.
Managers	Motivated specialists and experts <i>“Enthusiastic, hungry, motivated.”</i> (Interview ID 24)	Agile, focus on continuous learning, motivated <i>“Top talent is the kind of people who can respond to [changing circumstances] and be continuously learning and changing and evolving to meet that. That’s the kind of talent you want to have. They’re passionate about what they do and they can flex and change.”</i> (Interview ID 11)	Capability and development <i>“It’s around the staff and the capability that they have and that they want to develop as well [...] if they were able to offer them the opportunities to develop their talents.”</i> (Interview ID 10)	High-flyers and high performers <i>“High flyers [...] those guys who may be excellent in many aspects, he may be picked out so [while] there may be an average of 10 years from SEO to CEO, he may need only 7 years.”</i> (Interview ID 3)

Table 7 provides further information as to employees’ perceptions of the appropriateness of using the term ‘talent’ within HR policy and practice in the agency to differentiate performance levels.

In the Academy of Finland, a strong majority (70%) of employee respondents indicated that the term and notion of talent should not be used in HR policy and practice in the agency. Where respondents proffered reasons for their answers, they tended to refer to the tension between the potential differential or elitist connotations associated with talent, and the ethos and culture of equality that prevails in Finnish culture. 13% indicated it should be used to differentiate staff and 17% provided no answer to the question.

In Science Foundation Ireland, 43% of employee respondents indicated that the term and notion of talent should not be used in HR policy and practice to differentiate performance in the agency while 32% believe it should be used, so there are more mixed views in SFI. Proponents of the use of the term ‘talent’ pointed to its motivational impact and positive career development focus. Those who were not supportive of the use of the term ‘talent’ to differentiate staff tended to point to the adverse impact on teamworking and the creation of tensions.

In SSIP in New Zealand, 40% indicate that talent should not be used to differentiate performance and 11% indicated it should while 45% did not answer the question. Again, for the 40% indicating that talent should not be used, the key themes to emerge as to the reasoning for the response refers to issues of unequal treatment and teamworking.

Table 7: Employee perceptions of the appropriateness of the use of the term 'talent' to refer to high performers within HR policy and practice in agencies

	Yes - use the term 'talent'		No - do not use the term 'talent'		No response
	% agreeing	Indicative reason why	% agreeing	Indicative reason why	
 Academy of Finland	13%	<i>"It helps to create a differentiated workforce, uncover talents ('expertise') that is currently not visible, and provides for a way to single out true leadership skills. It has to be used properly and be backed up with effective policies."</i> (Employee survey respondent)	70%	<i>"It creates inequality between employees. This is not the Finnish way of doing things. Talent is also hard to measure. Personal development plans are more suitable."</i> (Employee survey respondent)	17%
 Research Grants Council	10%	No explanations provided	60%	No explanation provided	30%
 Science Foundation Ireland	32%	<i>"It motivates staff members as their expertise and work is recognised. It allows for better career development, especially if talent identification focuses on potential. It needs to be properly managed in order to avoid negative consequences and feeling of resentments for those not classified as talent."</i> (Employee survey respondent)	43%	<i>"It excludes certain staff members, potentially creating tension within teams. In addition, SFI is not able to meet expectations that may arise where talent is correlated with remuneration or career progression."</i> (Employee survey respondent)	25%
 Science System Investment and Performance	11%	<i>"It motivates staff members as their expertise and work is recognised."</i> (Employee survey respondent)	40%	<i>"It leads to elitism with unequal distribution of advancement opportunities. In addition, it reduces the importance of team performance."</i> (Employee survey respondent)	45%

Talent management approach and effectiveness

An important consideration with regard to talent management is if an inclusive or exclusive approach should be taken and how this approach is perceived by employees. The approach to talent management can be exclusive, inclusive, or a mixed approach and can be formal or informally deployed. In an exclusive approach, differentiated HR practices exist for high performing employees based on their current or future contribution potential to organisational performance. Job function and individual performance are used to determine an employee's contribution. With an inclusive TM strategy, all employees are considered to contribute to current or future organisational performance and therefore represent talent. No differentiation is made based on current performance, performance potential, or job function. A *mixed* TM strategy combines elements from the exclusive and the inclusive strategy and is generally focused on leadership potential.

Employees were asked for their opinion about the deployed talent management approach (see *Figure 5*) and its effectiveness (see *Figure 6*). In all agencies apart from RGC, exclusive TM is reported to be practiced by the highest

proportion of respondents. The majority of respondents from RGC indicated that a mixed approach towards TM was used (however, RGC had only 10 respondents, so the sample size is low).

Respondents who answered that their employer is using an exclusive approach towards TM did not perceive it to be effective (see Figure 6). On the other hand, those respondents who considered that their employer is using an inclusive approach towards TM perceived it to be effective. This pattern of results holds for all agencies, apart from RGC.

Figure 5: Perceived TM approach currently in use (formally or informally)

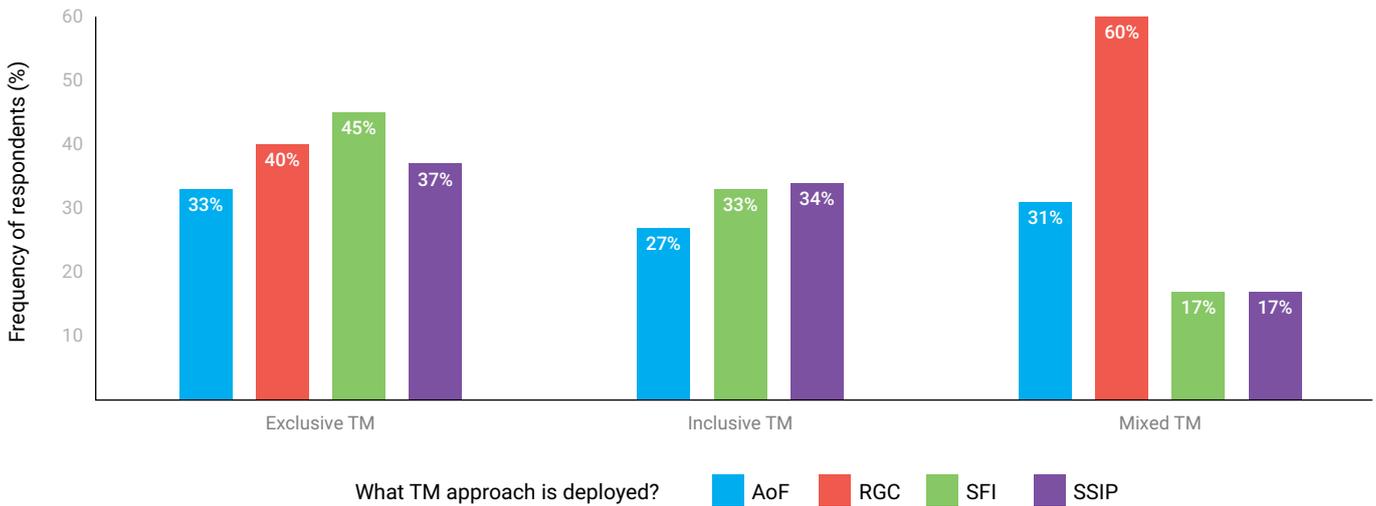
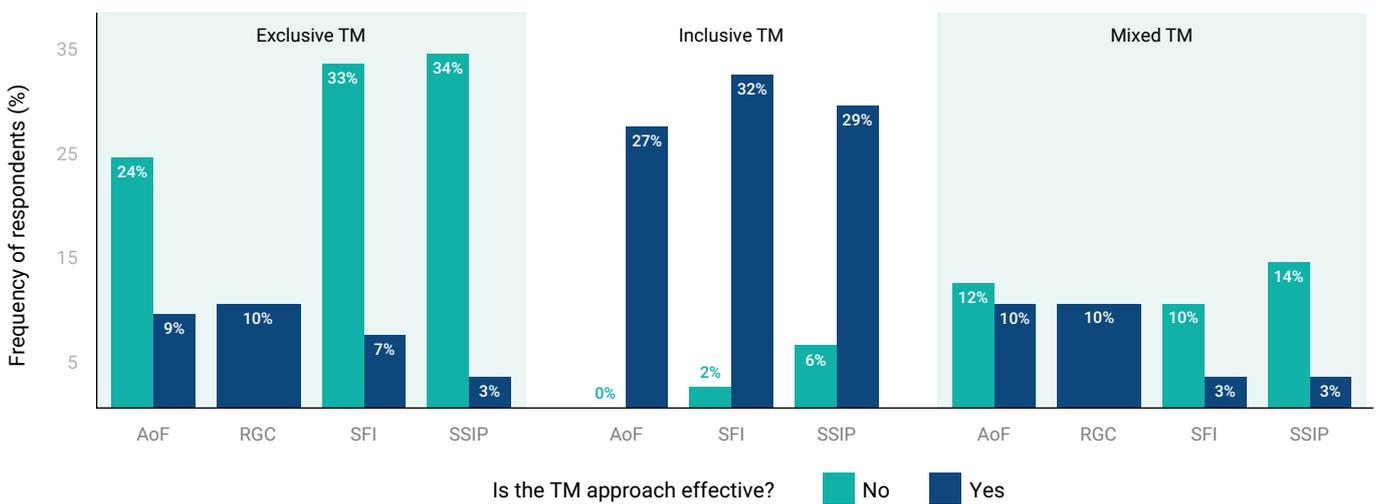


Figure 6: Effectiveness of perceived TM approach currently in use



Combining the information received from the interviews and the employee survey data, it is apparent that in most agencies an *informal exclusive TM* approach is in use. This means that while the official HR policies and practices are in line with an inclusive TM approach, certain top-performing employees are offered developmental opportunities not available to others. The goal of these informal practices is to further develop top-performing and high-potential employees in preparation for more senior roles. It is often done by providing access to exclusive training opportunities or assignment to strategic project or work opportunities. The following quotes are indicative of the existence of bias in training and opportunities for certain employees.

"Someone who's good, he's given even more nice tasks and nice things. [...] There are those favourites in every profession." (Interview ID 31, AoF)

"There is also a lack of transparency in what training opportunities are available and what is being offered to other colleagues throughout the organisation" (Survey respondent, SFI)

"I think you know it's a danger that it can happen. You know one thing turns into somebody being championed over others." (Interview ID 39, SFI)

*"Opportunities for development here are only available to those considered "worthy", which is often a very subjective view. There is very little innovation in attitudes towards staff in conventional roles."
(Survey respondent, SSIP)*

"So we look at everyone and we look at even some of and people you know are solid performers. And doing a really great job. But actually there's something, they have aspirations to progress. But what's kind of holding them back." (Interview ID 38, SSIP)

At SSIP, the TM approach is mainly supported through two tools: regular conversations between manager and staff member and talent-mapping exercises where managers in a unit discuss where their team are classified in a 3x3 talent matrix. The idea of this TM approach is that every employee has aspirations and potential. Through conversations and review of performance, managers learn about their employees' aspirations and potential. These are then plotted on a talent map. The talent map helps leaders match employees with the appropriate development opportunity. While this approach is implemented for all employees, a sign of inclusive TM, respondents noted the important role the manager plays in developing their talent. Therefore, the perceived effectiveness of the TM approach depends on the skills of the manager.

"These opportunities are dependent on a supportive manager and also taking initiative to find opportunities of managers." (Survey respondent, SSIP)

"But it is all reliant on managers having good conversations." (Interview ID 9, SSIP)

"They encourage you to find what you find interesting and where you might want to go. My manager is willing to help me get there but it's up to me to put in the effort to figure out where I want to go and what I want to learn during my time here." (Survey respondent, SSIP)

The perception that their employer is using an exclusive approach to TM is often contradictory to the public sector ethos of openness, fairness and equality of opportunity for all. This ethos can create tensions with any HR practices that could be conceived of as favouritism or providing a differentiated opportunity for a certain cadre of the workforce. Nevertheless, while an exclusive approach is not intended, respondents have the perception that not everyone is given the same access to development and promotion opportunities. This misalignment can result in higher levels of disengagement, potentially increasing turnover, and decreasing the value of the employer brand.

*"The quality of work should be talked about and excessive competition between employees should be avoided."
(Survey respondent, AoF)*

"Terms like these [talent and talent management] are not inclusive - we should be looking at mechanisms to ensure that all employees reach their potential with the organisation." (Survey respondent, SFI)

"Giving opportunities to some staff and not others simply fosters resentment." (Survey respondent SSIP)

While TM takes different forms in the four agencies under investigation, it is acknowledged that managing the knowledge, skills and potential of employees is important. Every agency has developed its own processes to manage talent. A core part of TM is training and development opportunities. However, the effectiveness of TM depends on its integration with the overall strategy of the agency, the intent with which TM is pursued, and employees' perception of it.

"Talent development has always been there in slightly different forms." (Interview ID 29, AoF)

"I think talent management and actually giving it a real focus is a priority." (Interview ID 37, SFI)

HR and TM challenges in science funding agencies

The management interviewees and employee survey respondents were asked to identify any HR and TM challenges facing their organisation.

Challenges identified by managers

One of the challenges most frequently cited by managers across all four agencies is the limited scope regarding **compensation and benefits** (pay and reward), particularly the salary they can offer and the lack of financial incentives they can give for high performance standards.

"I think there's always this challenge about matching ambition. So we want [staff] to be ambitious, but matching their ambition with resources is I think their biggest challenge and our biggest challenge. We'd like to be able to do that but there's a gap between ambition and available resources so managing that in a realistic way seems to be a significant challenge." (Interview ID 36, SFI)

The severity of this problem depends on how strongly the agency is embedded within the public sector. For example, at the RGC, HR practices are fully managed by the Civil Service Bureau. This strongly limits RGC's leadership in terms of salary for core staff and contract staff and speed of promotion. On the other hand, AoF has more flexibility to set salaries based on the complexities of the role and tasks. However here also the Ministry of Finance intervenes to limit salary increases and there is central oversight to ensure against 'wage drift'. If an agency is seen to have greater wage drift than the norm, there are adverse impacts for their budget.

Managers in the agencies use other non-monetary reward options. For example, allocation of team vouchers for desired team performance, reworking job titles to better signal the strategic importance or nature of the role, participation in strategic and high-profile projects, or access to exclusive learning and development opportunities.

Another challenge experienced by some science funding agencies is managing different staffing **contracts**. Fixed- or short-term contracts provide flexibility to the agency, allowing it to vary its workforce depending on its workload and skill needs. However, such contracts create a number of challenges: (i) retaining talent when staff in contract positions are offered permanent opportunities outside of the organisation, (ii) retaining the institutional and corporate knowledge of those leaving, and (iii) establishing fair HR practices for all employees. This staffing contract challenge is more prevalent in SFI and RGC. In both agencies, creating permanent positions is regulated by another government department. Therefore, managers at these two agencies cannot simply offer permanent positions to excellent staff on fixed-term contracts. Fixed-term contracts are also used at AoF. However, based on the interviews, they seem to create fewer challenges. This could be due to the lower proportion of fixed-term staff members at AoF (19%) compared to SFI (c. 30%).

“In terms of fixed-term employment, which is really one of the most painful HR issues that we have had in this organisation and it creates unbearable situations for us, when people are changing all the time, so we can’t get any continuity in terms of the work of those who remain here either. We’ve been talking about these pathways towards permanent tenures. So could the academy, since the legislation makes it possible that if a person has been working for a long time in a fixed-term employment relationship, that is, for over a year, he can be made permanent. You don’t have to have an open application process, if he’s done his job well. So now during the past year, there have been several cases, where fixed-term employees have been made permanent.”

(Interview ID 30, AoF)

Another challenge cited by the science funding agency managers who were interviewed is the lack of **gender diversity** in the agencies. Across the surveyed sample, females are the dominant gender employed in the agencies (see *Table 2*). In some agencies, the larger female employee base creates challenges in ensuring continuity of service and retention of knowledge when a number of staff may take maternity leave at the same time. It is important also to investigate gender balance at different levels of seniority across the organisation.

Challenges identified by employees

In addition to the challenges listed above from the interviews with managers, employees referred to a number of HR and TM challenges in their agencies. *Table 8* provides an overview of the challenges reported by employees (see column 1) and provides indicative comments for each key challenge (see column 2).

Table 8: Challenges perceived by survey respondents

Theme	Indicative quote from employee surveys
Recruitment, selection and retention	<p><i>“Recruiting and retaining good staff members due to competition from other organisations that can provide more attractive remuneration, progression opportunities or working conditions.”</i></p> <p><i>“We have had some amazing people leave who would have helped deliver [the agency’s] strategic vision. It seems that management realise too late the talent that is walking out the door.”</i></p> <p><i>“Talented staff move on if the opportunities are not available or provided.”</i></p>
Learning and development	<p><i>“I think the organisation does prioritise staff development but sometimes due to staff work pressures they are not able to avail of these opportunities.”</i></p> <p><i>“The best expert in the field may not be the best team leader. Training team leaders in a leadership role is very important [...]. They must also have sufficient time resources to lead, develop and coordinate the team.”</i></p>
Career opportunities	<p><i>“No career paths have been created within the organisation. If you want to progress in your career you have to move outside the organisation.”</i></p> <p><i>“The organisation is at risk of losing talented people because HR’s career progression is slow.”</i></p> <p><i>“The difficulty is, for example, that the organisation does not have much opportunity to progress. Tasks are pretty much the same, and there cannot be too many managers either.”</i></p>
Loss of organisational knowledge	<p><i>“Losing excellent talent (and their knowledge) due to short term contracts and little progression.”</i></p> <p><i>“There are several retirements in the organisation. How does tacit knowledge transfer? How do we engage new, younger professionals?”</i></p>
Budget	<p><i>“Limited budget available for staffing.”</i></p> <p><i>“Cutting staff and performing the same tasks with fewer people also poses big challenges.”</i></p>

Theme	Indicative quote from employee surveys
Equality and diversity	<i>"Diversity and inclusion, getting a more reflective cross section of [the country's] society in leadership/upper management roles."</i>
Organisational culture	<i>"The expert organisation must be able to provide sufficient freedom for the experts. This can be achieved through mutual trust, which will build up over time."</i> <i>"Working from home was difficult until COVID-19 happened. A risk-averse culture."</i>
Market forces and employer attractiveness	<i>"Will become harder to retain and attract qualified staff in a competitive employment market."</i> <i>"In practice, salary cannot be raised regardless of performance. If we want top-level expertise from outside the [agency], [it] should have competitive salaries compared to other organisations."</i> <i>"Salary bands for some roles need to be re-examined and improved to meet the marketplace and inflation."</i> <i>"The private sector and other government agencies offer many perks, including more flexible working hours/working remotely."</i>

For some of the challenges identified, such as financial rewards, pay and promotion schemes, the agency has limited tools and scope to change the prevailing policies. The HR and TM area where agencies tend to experience most freedom in determining policy and practice is in the design of training, learning and development opportunities.

Effectively managing HR and talent in science funding agencies: Lessons, recommendations and future directions

This international research project has drawn on empirical insights gathered from 33 interviews and 172 employee surveys in science funding agencies in Finland, Hong Kong (China), Ireland, and New Zealand. The bulk of the data was gathered before the outbreak of COVID-19. This section of the report sets out key lessons learned, recommendations and future directions for effectively managing human resources and talent in national science funding agencies based on our data analysis and key learnings across the four agencies.

Many science funding agency employees are highly qualified, have an advanced degree or a scientific background and hold a PhD (see *Table 2*). In AoF and SFI, this high proportion of employees with advanced degrees has given rise to the perception that all staff at science funding agencies are high performers and that the agency is staffed with the best educated people. While the share of employees with an advanced scientific background is low at RGC, the civil service enjoys a high reputation and hence attracts high performers. Consequently, the perception also exists within RGC that it is staffed with high performers and the best educated people.

"We have a house full of ambitious top talent, capable of development and willing." (Survey respondent AoF)

"I mean we rigorously take the very best people." (Interview ID 41, SFI)

Thus, the science funding agencies believe that they have done well in their HR recruitment strategies to date. Future recruitment of highly educated and skilled employees will be impacted by a range of factors, some internal to the agency, including employer brand, and others external, including market forces outside of the agency's control (such as private sector organisational attractiveness). Based on the research gathered in this international research project, we set out hereunder some key recommendations for science funding agencies to help ensure that they continue to be seen as an employer of choice by prospective employees. We also focus on a number of recommendations to better engage and more effectively manage their current employee cohort.

HR strategy, policy and practice effectiveness

The findings of this international research project indicate that, while many employee support and performance-enhancing HR and TM practices are available to science funding agency employees, there is considerable scope to improve the effectiveness of these practices as evaluated by employees (see *Table 4* and *Table 5*).

There are a number of possible explanations as to why the effectiveness of HR and TM practices have received lower effectiveness evaluations. One is that HR policies and practices might be poorly communicated to employees or to some groups of employees. HR can address this issue by reviewing the communication strategy employed across the organisation. Another possible explanation is the potential implementation gap between the HR policies that are available and how they are enacted. The role and impact of line managers is critical in the context of HR policy and practice implementation: line managers can significantly influence how espoused HR policy is enacted and subsequently experienced by employees. It is important to ensure that line managers are fully informed about the various HR policies and are given training to effectively operationalise and implement them for their staff.

A third possible reason for lower effectiveness ratings of various HR and TM practices is that the practices and policies are not as effective as they should be in terms of their content and design. Some of the agencies in this study (e.g., SFI) are actively reviewing their HR strategy and suite of HR policies and practices. This is important work to ensure policies and practices are fit for purpose and are reviewed for their relevance, appropriateness, and agility to cater for changing circumstances and contexts. The COVID-19 outbreak and consequent government mandate to work remotely where possible is an example of a significant context change that will impact HR policy and practice with regard to working from home and remote working HR policies. We recommend that science funding agencies put in place a system to ensure regular and comprehensive review and evaluation of HR strategy, policy and practices to ensure that they are fit for purpose and responsive to changing contextual, organisational, management and employee needs and requirements. Another reason is lack of time. Based on interviews, it is suggested that employees do not have sufficient time to take part in some TM practices, which would adversely impact effectiveness. In some cases, workload and inadequate staffing were cited as reasons impacting lack of participation in some HR and TM practices such as training and development.

Employer brand and attractiveness

We recommend that science funding agencies invest time in developing their employer brand. It is clear that most participating science funding agencies are different from other public sector agencies in terms of the skills and knowledge of their workforce. This difference needs to be better communicated to the labour market to widen the pool of candidates and attract top talent.

Many of the large private sector knowledge-intensive organisations have invested substantially in their employer branding and employee value proposition to attract top talent over the past number of years. They are also offering attractive perks and benefits which can include free food and refreshments, greater flexibility and autonomy, time and space for creative thinking, gym and health benefits, fast career progression pathways, and attractive salary and financial benefits. A couple of the agencies are starting to work on their employer brand and we encourage them to continue this work and ensure they identify and leverage the benefits of working for a science funding agency, which should help to positively impact their employer brand and attractiveness.

“They do know it intrinsically, but when we set up a brief with the, you know a head hunting company. One of the things I like to do is stress what the advantages are. And one of the advantages is that overview. The other advantage is that you have incredible networking opportunities. Because you dip into every sector imaginable. You sit on boards, you manage contracts. You know I think we’ve got forty odd institutions. So that from a career development point is one of our biggest selling points.” (Interview ID 19, SSIP)

"I'm over with [partner] this afternoon, we are working on our employer value proposition. To really help SFI brand itself from a talent perspective." (Interview ID 1, SFI)

As one interviewee from SFI states: "There will be fewer people in the job market and employees will be fighting for talent, so the biggest challenge is maybe how successful the government will be as an employer." Ensuring an attractive employer brand will help science funding agencies to compete for top talent in what is expected to become a more competitive landscape for knowledge-intensive and highly skilled and talented workers. In the AoF context, there isn't a lack of talent in terms of well-qualified (e.g., PhD) applicants, given the supply of PhD in the labour market and in training currently in universities. However, AoF should ensure that its employer brand focuses on provision of challenging jobs with good levels of autonomy as well as opportunities for career progression for this highly skilled workforce.

The system, responsiveness and limitations of a one-size-fits-all approach to HR and talent

Given that the science funding agencies we examine here are part of the broader public sector landscape, they are heavily influenced by the public sector HR system and policies. The broader system is frequently criticised for its slow pace and lack of responsiveness in dealing with real-time HR and talent issues and challenges. For example, in times of economic growth and full employment, science funding agencies can struggle to offer attractive terms and conditions compared to private sector organisations. However, the science funding agencies often do not have the scope to change salary offerings and can be required to strictly follow pay scale policy though it may not be high enough to attract talent. This is an issue that was raised in Finland, New Zealand and Ireland.

"In recent years, what's been the most visible thing has been this, let's say, budget-influenced HR policy. I think it's wage drift monitoring and wage drift punishment, if you can call it that. You technically calculate the wage drift in the agencies, which means salary changes that in some way exceed the revisions in the collective agreement on an individual level. The agencies have been put into order, and those that have the highest wage drifts have been punished by reducing their budgets. This is quite a strong policy, and to be frank, a very bad policy. It doesn't take the reasons into account at all for each ministry for using their own resources." (Interview ID 22, AoF)

"It's more of a challenge to manage exceptional people within the constraints of a public service given the salary caps and no bonuses and no share options and so on, than it is in the private sector but actually you can still do it so you just have to be clever about it." (Interview ID 41, SFI)

Budget-influenced HR policy and strategy decision-making can be characteristic of many public sector organisations. However, budget-dominated HR policy is challenging, as the consequence is that the focus and attention is on salary and headcount as key KPIs at the expense of examining other indicators of effectiveness such as agility, development of skills for the future workplace, employee engagement, and planning for external social, economic and technological changes that will impact the workforce.

Policy approaches that aim for public sector HR standardisation are common. However, such a focus on a one-size-fits-all approach limits flexibility to cater to particular circumstances and contexts and is raised as a concern by the science funding agencies. There is a need for greater flexibility to respond to the dynamics and context of professionals faced with comparisons with the private sector on pay, opportunities, and the employment package.

"I think one of the fundamental things that bedevils us is that we get seen as a normal part of MBIE, with normal recruiting, normal management needs. Whereas, I don't think they, the centre, really gets that managing technical professionals is different to managing career policy, or other sorts of people. And that sort of puts things ajar from each other day one. And you're always trying to educate and show the quirks so that the system can cope with them." (Interview ID 19, SSIP)

Due to the knowledge-intensive and specialised nature of work in many science funding agencies, HR and talent policies that would provide more scope to allow tailoring to particular needs would be welcomed by science funding agency HR leadership. However, getting the balance right between standardisation and central government public sector HR policy and the need and desire for more localised agency-level HR policy and decision-making will be challenging to achieve in most agencies.

Talent and talent management: Defining terms, determining strategy and ensuring alignment

We have observed that the discussion on talent management is at different stages of maturity in the participating agencies. Most agencies see the value in effectively managing top performers and key talent. However, in many cases, there is a lack of agreement as to what the terms 'talent' and 'talent management' mean, how they should be operationalised, and how they impact human resource management practice.

"Talent seems to be ...confined to a subset of a subset of the wider management. So I don't think we know what we mean by talent. We probably get bits and pieces of it right but I don't think there's any clear understanding. Unless we clearly understand what we mean by these things you know we'll do bits of it reasonably well and it's the join up the dots piece." (Interviewee ID08)

We recommend that science funding agency HR take a key role in developing the strategy within their science funding agencies and ensure their respective organisations are able to respond to changing contextual, organisational, management and workforce needs in order to operationalise the business strategy. Such a strategy would include clear discussion and communication on what is meant by terms such as 'talent' and 'talent management' in the science funding agency. Given the employee survey responses about what talent management approach is more appropriate to the agency, there is a clear employee preference for an inclusive approach that focuses on each employee rather than an exclusive approach focused on a particular group. Such an inclusive approach signifies that development and career opportunities should be made available to all employees. This approach chimes with the common public sector HR ethos and principles of openness, fairness and equality of opportunity. Agencies need to determine how to effectively manage talent in their context and for the achievement of their organisational strategy and goals. It is also critical to ensure that any such strategy is communicated with employees and understood and consistently operationalised by managers at all levels of the organisation.

In New Zealand, there is specific use of a talent map and grid (the 3x3 grid). However, there is limited integration of this process with the performance management system and other HR practices such as workforce planning. In Ireland, likewise, interviewees from the government department responsible for overall public sector HR policy referred to the need for greater alignment between different HR policies and practices and the need for more comprehensive workforce planning across all departments and agencies.

Next generation talent, workforce planning and skills development

An issue facing all organisations is how best to manage the new generations who are joining and will join the workforce in the coming years. Much research and debate is focused on how millennials, Gen Y and Gen Z differ from previous generations and how organisations need to adapt and change their HR, talent and leadership practices and cultures to adapt to the changing generations at work.

"The other challenge is kind of how we create good careers for future generations of people who, you know, where we're happy to go through training and work our way up but people want responsibility from the start so just how we manage the workforce in the future. And it's something that I think all managers should worry about." (Interview ID10)

The science funding agencies need to ensure that their HR and talent strategies cater to the changing nature of the workforce as new generations join. This issue is linked to the employer branding and attractiveness recommendation above. Science funding agencies need to be able to appeal to and effectively manage the new generation of employees, and doing so will require recalibration of existing practices, assumptions and approaches. However, public sector organisations can be slow to change and systemic constraints and perceived bureaucracy can work against innovation and agility (see more under the system issues below). It is incumbent on science funding agencies to work strategically on their HR and talent needs and, where possible, to influence policy so that relevant central government HR policy adapts to meet the changing needs of the agency and the changing external context.

Learning and development investment is necessary to further strengthen and develop employees' knowledge, skills and abilities to effectively operate in the changing workplace with developments such as technology and globalisation. Like all organisations, science funding agencies need to ensure that their employees have the right skill set to execute their current tasks and be prepared for future tasks and job roles. Advances in technology present opportunities for the use of artificial intelligence, for example, and ensuring employees are skilled to leverage these opportunities is key to the learning and development strategy and planning process. Learning and development opportunities can take many forms. However, for these learning opportunities to have the biggest impact on the agency's performance, they should be tied to the agency's strategy. This will also ensure that development opportunities are not organised in an ad-hoc fashion but are planned in a strategic manner. Employees and managers should be held accountable for achievement of short- and longer-term learning and development goals and plans. SSIP in New Zealand has recently introduced a new performance management and learning approach based on continuous conversations between managers and staff. These conversations allow managers to understand the current performance challenges faced by their staff, and their staff's future aspirations in terms of career plans and learning goals. By being up-to-date with employees' potential and aspirations, it is easier to match employees to development opportunities that come up both within SSIP and in other units or organisations. For this process to work, managers need to receive the proper training to conduct these regular conversations and support their team. In addition, they need to have the time to organise and record these conversations.

"It's building a capability within our leaders and managers to have those good quality conversations. And it's not just focusing on a to-do list; it is actually [identifying] where are the gaps, in terms of [fulfilling] aspirations and what plans need to be put in place." (Interview ID 38, SSIP)

Mobility

The topic of mobility was discussed by several interviewees. The discussions were on upward mobility in terms of promotion and lateral or temporary mobility in the form of secondments. The flat structure and small size of the science funding agencies means that upward mobility opportunities can be limited. There are some interesting examples of how agencies are trying to address this challenge. At SSIP, talent boards operate to create an overview of temporary and secondment opportunities within the New Zealand public sector. Opportunities on this talent board are matched with employee profiles for those who are interested in secondment opportunities. This activity is also supported through the talent-mapping and regular conversations process in operation in SSIP.

At SFI, upward mobility is limited by the organisation's size and structure. In order to support their employees' career development, networking with staff from other agencies is supported and encouraged. In this sense, SFI acknowledges that structurally it is not able to offer upward mobility to most of its employees and aims to make its staff highly employable for external opportunities. Similarly at AoF, the flat structure limits the agency's ability to offer career development opportunities to its staff members. In order to provide staff members with opportunities to experience managerial responsibilities and grow their leadership skills, managerial roles are offered to permanent staff members for a fixed time period. This gives employees the opportunity to be in a leadership position. Once the fixed term managerial position ended, the employee returns to their former position.

With regard to external mobility, interviewees from all agencies except RGC have said that they are using secondments as part of their staffing strategy or career development strategy. However, the interviewees also mentioned challenges with secondment implementation. At AoF, salary differences between the host and the parent employer means that it is more attractive for AoF employees to work at other agencies for a fixed time period than for external staff to come to AoF. In addition, there is the risk that the employee will not return to AoF.

"[Existing regulations] don't prevent mobility, and there are a few clauses that encourage you to do it. [...] This possibility is not used very much." (Interview ID 34, AoF)

At SSIP, secondments are considered a good tool for career development. For example, managerial or senior level vacancies which are not filled in time are open for secondees for a fixed term before the position is advertised again. However, for the team secondments are difficult, due to public sector regulation concerning backfilling and the limits of contractors.

"And they're [secondments] a wonderful thing, in terms of they provide an opportunity for one of your staff to go and develop themselves. So a big tick for that. The downside is that you're not allowed to backfill. [...] that would entail hiring a contractor for a short period of time. So although it's wonderful, because we can't backfill, it cripples the benefit." (Interview ID 19, SSIP)

At SFI, secondments are part of the staffing model. Thus, part of SFI's workforce are researchers seconded from universities, primarily tasked with managing large-scale research centres funded by SFI. These employees are officially contracted by a different employer and thus have to follow HR practices from their parent employer. However, SFI ensures that in the workplace and in its processes, it does not distinguish between core staff internal to SFI and external staff. Currently, SFI is revising its secondment model as the large-scale research centres developed into long-term investments, and thus their management needs to be adapted.

"It is something that we work very hard at, at ensuring that there is not a distinction felt between the staff. It is very important that whether you're an intern, or you're a secondment or a fellow that in SFI that you feel part of the organisation, they're integral towards keeping the organisation running. So there's not the distinction." (Interview ID 1, SFI)

An interesting case to examine when looking at secondments is how they are used by the National Science Foundation (USA). In the NSF, secondees are most often established professors in universities. They can serve a maximum of four years in their seconded role in the NSF. During their time at the NSF, they have the possibility of influencing funding programmes. One of the issues that has been raised with this model is the potential for conflicts of interest, notwithstanding contractual obligations to limit the misuse of the position to gain easier access to research funding. The Office of Inspector General, an agency tasked with promoting efficiency and effectiveness and detecting fraud, waste and abuse, has raised concern in 2013¹ and 2016² with regard to the costs of secondees and NSF's internal mechanisms to identify and mitigate conflicts of interest. Another concern relates to frequency of turnover, as secondees at NSF are generally in leadership positions. Thus, while secondees from academia are a valuable tool for science funding agencies to refresh its funding programmes and remain innovative, they bring challenges that need to be overcome.

Given the importance of inter-agency mobility and secondments for career development and the acquisition of leadership skills in flat organisations, we recommend that science funding agencies develop, together with other public sector agencies, programmes which continue to enable and enhance these exchanges. Science funding agencies use secondments and rotator contracts for staff mobility. However, there are challenges to making such mobility

¹ Office of Inspector General. (2013). *Audit of Cost Associated with NSF's Use of Intergovernmental Personnel Act Assignees*.

² Office of Inspector General. (2016). *Follow-Up Review of Cost Associated with NSF's Use of Executive Level Intergovernmental Personnel Act Assignees*, Report # 16-6-001.

programmes work. One of the issues raised is the potential differentiation between permanent and contract staff on secondments or rotator contracts. Another issue is retaining the organisational and corporate knowledge of contract staff. The benefits of mobility are significant, and so it is incumbent on science funding agency HR and relevant policy makers in the broader public sector to work on alleviating the issues that constrain effective mobility programmes. The system needs to incentivise rather than disincentivise mobility. For example, in some funding agencies, if someone leaves the organisation, the organisation effectively “donates” the resource and is left to manage the mobility “merry-go-round” gap that is created. Where this is the case, there is little incentive for organisations to fully engage in mobility programmes, as they will perceive more losses than gains from doing so.





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