

**Driving performance from a distance: exploring performance  
management in the context of virtual teams**

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A research article submitted to the Gordon Institute of Business Science, University  
of Pretoria in partial fulfilment of the requirement for the degree of Master of  
Business Administration.

01 December 2020

## DECLARATION

*I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.*

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01 December 2020

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## **COVER LETTER**

1 December 2020

To whom it may concern

### **RE journal selection motivation - Human Resource Development Quarterly**

The Human Resource Development Quarterly is published by Wiley and is categorised as HRM&EMP by the Association of Business Schools academic journal guide 2018 with a ranking of 2. According to the Clarivate Analytics Journal Citation Reports, the journal had an impact factor of 3.688 in 2019. Furthermore, the journal is SCI indexed.

Human Resource Development Quarterly specialises in the field of Human Resource Development (HRD). Research in this journal focuses on human resource development issues and provides a link between the application of theory and practice in the field of HRD. Additionally, the journal publishes work that focuses on HRD theory, research and evaluation of HRD interventions and contexts.

This research article explores performance management in the context of virtual teams and falls within the area of HRD, as it investigates how managers drive performance in virtual teams. The research contributes empirical research to literature to gain insights into how current performance management theory is being practiced in an organizational context, specifically in the context of virtual teams. Therefore, the Human Resource Development Quarterly was regarded as best suited for the publication of this research. The article follows the journal's author guidelines and I will be listed as lead author followed by my supervisor.

Yours sincerely,  
Lutfiyya Moosa



## **ADDITIONAL NOTES**

This research article abides by the author guidelines outlined in the Human Resource Development Quarterly journal, except that it is 2 pages over the journal's specified page limit. However, at 10 000 words, the word count is still in adherence to the precedent set by past, qualitative research studies that have been published in the journal. As an example, the sample journal provided in Appendix B has a word count of 11 800 words. Nevertheless, consideration will be taken prior to submitting this article to the journal. The number of quotations used in the findings section will be reduced and the reference list will be made more concise, to adhere to the specified 35 page limit.

## **CHAPTER 2 : LITERATURE REVIEW**

### **2.1 INTRODUCTION**

This chapter begins with a literature review that provides a contextual background of the study, through insight into the various academic theories and debates around the practice of performance management (PM). The history of PM and theories from a traditional viewpoint are explored to illustrate how academic discourse has advanced PM into more developmental practices. Thereafter, the construct of virtual teams is introduced and an analysis of established virtual team literature is provided, prompting an argument into why PM may be of particular importance in a virtual team context. Finally, the implications of using PM practices within a virtual team are highlighted, illustrating the research gaps that exist in both PM and virtual team literature. This literature review is used to further refine the research problem and informs the research questions that the study seeks to explore.

### **2.2. PERFORMANCE MANAGEMENT**

#### **2.2.1. Traditional drivers of employee performance**

The study of employee performance within organisations has been a subject of interest to academics dating back over a hundred years ago, with performance appraisal (PA) appearing in many early studies (DeNisi & Murphy, 2017; Aguinis, 2013; Pulakos, Mueller-Hanson & Arad, 2019). Early studies focused on PA as a means to measure and evaluate an employee's strengths and weaknesses, usually by an authority figure utilising formal rating systems on an annual basis (Aguinis, Joo & Gottfredson, 2011). Subsequent studies began evaluating these rating systems and uncovered flaws in the rating criteria (Thorndike, 1920; Ilgen, Barnes-Farrell & McKellin, 1993), suggesting that rating tools alone were not the best measure of performance. This led to further studies around employee's perceptions of fairness and their reactions to appraisals (Taylor, Tracy, Renard, Harrison & Carroll, 1995). Eventually, researchers recognised that PA practices were more complex in nature and could not be conducted in isolation. Rather, PA should be explored in the context of a complex environment whereby managers obtain and process information about employee performance and find ways to motivate them (DeNisi & Murphy, 2017). Coens and Jenkins (2000) even called for the abolishment of PA and suggested that

employee improvement initiatives were more effective when combined with a work climate, systems and processes that support them.

Much of the research around employee performance within organisations is narrowly focused on the way PA tools are designed and structured in terms of their format and ratings as well as how PA may be used for compensation purposes in traditional teams (Brown, O’Kane, Mazumdar & McCracken, 2019). PM is a more recent term used by academics to refer to a “wide variety of activities, policies, procedures, and interventions designed to help employees to improve their performance” (DeNisi & Murphy, 2017, p. 421). From this, PA would be seen as just a small component of PM, which has evolved to include continuous feedback, goal setting, training and reward systems (DeNisi & Murphy, 2017).

### **2.2.2. The evolution of performance management**

New ways of working and an increasing need for team collaboration have stimulated a shift in performance management practices to take on a more holistic approach (Brown et al., 2019). Cappelli and Travis (2016) highlight that organisations have to change the way they view performance management, because of a greater need for team collaboration and agility that is driven by rapid innovation and disruption. Employee development and coaching and informal, frequent feedback to promote organisational agility are being favoured over quantitative approaches to performance management (Cappelli & Tavis, 2016; Cappelli & Tavis, 2018). PM practices have evolved to become more developmental in nature and are being used by managers of traditional teams to engage, develop and ultimately, drive performance within their teams (Brown et al., 2019; Pulakos et al., 2019).

PM has been defined as “identifying, measuring, and developing the performance of individuals and teams and aligning performance with the strategic goals of the organization” (Aguinis, 2013, p. 2-3). This definition is closely aligned to Human Resource Development (HRD) practices, which focus on improving both individual and group performance, developing individual’s competencies and skills as well as enabling their personal growth to ultimately improve organisational effectiveness and performance (Hamlin & Stewart, 2011). Developmental PM practices in a traditional work context have been explored extensively in literature, with academics focusing on elements like goal-setting, feedback, coaching and motivation to improve

employee performance (Aguinis, 2013; Werner, 2017; Cappelli & Tavis, 2018; Brown et al., 2019).

### **2.2.3. The impact of developmental PM on organisational success**

Although Denisi and Smith (2014) argue that there is no evidence to show that developing the performance of individuals will lead to improvements in organisational performance, Aguinis, Joo and Gottfredson (2011) motivate that PM improves firm level performance by aligning individual performance to business goals and helping them to fulfil strategic objectives. Hence, developmental PM practices stand as an important aspect of HRD to aid in the ongoing development of both individuals and teams, driving their performance and ultimately advancing the strategic objectives of the organisation (Adhikari, 2010; Aguinis et al., 2011).

### **2.2.4. The performance management process**

Developmental PM processes have been discussed in the literature with various models and frameworks explored in an attempt to shift away from narrow PM practices of the past and improve employee productivity (DeNisi & Smith, 2014; Aguinis, 2013). Aguinis (2013) developed the Performance Management Process which include elements to identify specific stages of ongoing PM, namely prerequisites, performance planning, performance execution and performance assessment. In addition to the elements highlighted by Aguinis's (2013) process, Cascio (2014) iterates that effective PM processes should involve elements like communicating expectations regularly, providing immediate feedback and developing employees to maximize their performance. Similarly, DeNisi & Smith (2014) have developed a framework that includes inputs like motivation, actions, results and evaluation to drive outputs like employee performance and satisfaction. By using elements from the PM process, managers can drive performance in both individuals and teams by finding a way to incorporate and align these interrelated components (Aguinis, 2013). Academic discourse will be discussed in light of the developmental PM stages identified.

### **Prerequisites and Performance Planning**

The understanding of an organisation's strategic objectives and knowing how an employee's job aligns to its mission and goals, has been identified as a prerequisite step in the PM process (Aguinis, 2009). The literature suggests that aligning

employee goals closely to business strategy is an important step and can ultimately improve organisational performance (Lee, Lee, & Wu, 2010; Biron, Farndale & Paauwe, 2011). Leading on from this, goal-setting has been explored extensively in literature to enable planning and set expectations in traditional, face-to-face team settings (Rodgers & Hunter, 1991; Aguinis et al., 2011; David, 2013). Furthermore, Latham and Locke's (2006) well accepted, goal-setting theory has indicated that goal-setting promotes greater employee motivation and a higher level of employee performance compared to goals that are unclear. However, academics have noted that in practice, there are challenges (Pulakos & O'Leary, 2011) and have raised questions around the extent to which managers employ goal-setting practically to drive performance (Pulakos & O'Leary, 2011).

New ways of working may mean that employee goals are aligned to specific projects and don't necessarily reflect traditional, top-down organisational goal-setting and this is an area worth exploring in PM (Cappelli & Tavis, 2016). Guzmán, Ramos, Seco and Esteban (2012) point out that virtual teams are prone to a higher risk of role ambiguity if goals are unclear. Understanding goal setting and the alignment of goals to match business strategy could provide insights into how the prerequisite and performance planning stages are conducted in the context of virtual teams to drive performance (Brown et al., 2019), when face-to-face interaction is limited. Jimenez (2017) also encourages practitioners to explore how new technologies are being leveraged to clarify team member's goals.

### **Performance Execution**

Performance execution involves the employee acting on the developmental plan in an attempt to produce the results and behaviours discussed during the planning phase (Aguinis, 2013). Motivating employees through ongoing feedback and coaching are regarded as important aspects of the execution process and have been explored in traditional contexts (Aguinis, 2013; Baker, 2010; DeNisi & Smith, 2014). This is consistent with the developmental approach to PM, where feedback, training and coaching are regarded as important elements to improve employee performance (Brown et al., 2019). Ongoing coaching in a traditional work setting has been emphasised to sustain and improve high performance and achieve organisational goals (Ellinger, 2014; Werner, 2017). Open and ongoing feedback has been noted as a characteristic of an ideal PM system, whereby consistent, two-way

communication between a manager and employee occurs (Aguinis et al., 2011), while both negative and reinforcing feedback have been promoted as a way to motivate and increase an employee's performance within an organisation (Latham & Locke, 2006; Baker, 2010).

Despite literature exploring feedback and various sources of feedback, there is a lack of research investigating feedback in virtual team settings, and a call is made for more research to explore PM and feedback, whereby positive and negative feedback is provided virtually (Brown et al., 2019). Brown et al. (2019) also believe that there is potential for researchers to explore a developmental PM approach in virtual contexts. With new ways of working in mind, Cappelli and Tavis (2018) support more developmental PM practices, like ongoing feedback and coaching in environments where there is a need to be more agile.

### **Performance Assessment and Review**

In this stage, the employee and manager evaluate the outcomes and behaviours agreed upon (Aguinis, 2013). A face-to-face review meeting is then conducted between employee and manager in a formal setting whereby feedback is given to the employee on their performance (Aguinis, 2013). Performance assessment (PA) has been explored extensively in the rich history of PA studies, with academic debates suggesting that PA may be counterproductive (Bouskila-Yam & Kluger, 2011; Coens and Jenkins, 2000). Some authors have also focused on assessment tools like competency-based evaluations and the balanced scorecard to effectively align strategy to individual and organisational goals (Nankervis & Compton, 2006; Chan, 2006; Catano, Darr, & Campbell, 2007), but others argue that the impact of evaluations on employee performance has not been proven objectively (Franco-Santos, Lucianetti & Bourn, 2012).

Holtbrügge, Schillo, Rogers and Friedmann (2011) point out that it is more difficult to monitor the performance of employees in virtual teams because of the lack of face-to-face interaction. Cappelli & Tavis (2018) suggest that as the nature of work changes, PA could be dropped in favour of continuous, informal feedback. Additionally, Nudurupati, Tebboune and Hardman (2016) indicate that in a digital environment, it may be more important to include performance evaluations from stakeholders across the business to better gauge employee performance. There is

a gap identified in literature around investigating evaluation practices in new work settings (Bititci, Garengo, Dorfler & Nudurupati, 2012; Melnyk, Bititci, Platts, Tobias & Andersen, 2014) and in exploring if traditional performance ratings hold true in an environment where there is limited opportunity to observe performance (Brown et al., 2019) . Further studies are also needed to investigate tools leveraging technology to conduct PA, when face-to-face interaction is difficult and these may prove important in aiding PA initiatives as new ways of working emerge (Brown et al., 2019; Jimenez et al., 2017).

This section highlights the extent to which PM has being explored in literature, with specific stages outlined and explored to drive employee performance within organisations. However, a limitation of PM research is that it has been conducted in traditional team settings, where employees are based in the same location as their peers and managers. Researchers identify a gap in PM literature around understanding how managers practice the elements of PM in a real-world context (Brown et al., 2019; Brown & Latham, 2018; Pulakos et al., 2019; Eaidgah, Abdekhodae, Najmi & Alireza, 2018). Furthermore, a call is made for research into understanding how managers can drive performance in team settings and different contexts (Pulakos et al., 2019), particularly within the context of virtual teams (Brown et al., 2019; Hill & Bartol, 2016; Liao, 2017).

### **2.3. VIRTUAL TEAMS**

New ways of working, spurred on by the digital era introducing electronic mediums and communication tools have enabled distributed work and given rise to virtual teams. Virtual teams comprise of knowledge workers who span over time zones, distance and location and make use of electronic mediums to combine their expertise towards a common goal, thereby increasing their organisation's competitive advantage (Hao, Yang & Shi, 2019). There are different degrees of "virtuality" (Bell & Kozlowski, 2002); in extreme cases of virtual teams, all members work remotely and interact solely via electronic mediums, while other virtual teams may complement the virtual experience with some degree of face-to-face interaction. Kirkman and Mathieu (2005) noted that although electronic mediums like videoconferencing can enhance the richness of communication in a virtual team, it cannot fully substitute for physical, face-to-face interaction.

### **2.3.1. Virtual team benefits**

There are numerous sources in literature exploring the organisational benefits of implementing virtual teams. Some of these include expanding market reach (Prasad & Akhilesh, 2002), taking advantage of time zones (Maynard, Mathieu, Rapp & Gilson, 2012), managing costs and improving delivery of services (Lurey & Raisinghani, 2001), taking advantage of skills and expertise in other countries (Hertel, Giester & Konradt, 2005; Nozari, Najafi, Jafari-Eskandari & Aliahmadi, 2016) and enhancing collaboration (Hertel et al., 2005; Robert & You, 2018).

### **2.3.2. Virtual team challenges**

There are a number of challenges highlighted in literature from an individual to an organisational level. Decreased face-to-face interaction may result in challenges for the individual as they may feel isolated, with unsatisfied social needs (Zhang, 2016) and as a result, may be less trusting (Cascio, 2014). At an organisational level, there is less opportunity for employee interaction and observation, hence it becomes difficult to collect information about performance (Guzmán et al., 2012). A lack of understanding of team objectives and organisational goals due to decreased communication may also occur in virtual teams, causing a higher risk for role ambiguity (Eaidgah et al., 2019). Furthermore, cultural and language barriers as well as time zone differences may exacerbate communication and interpretation problems (Eaidgah et al., 2019; Wildman & Griffith, 2015). Holtbrügge et al. (2011) state that because of the distance that separates team members and their managers, “monitoring and controlling” (p. 212) employees becomes complicated, employees becomes complicated, giving rise to numerous challenges around driving performance in the context of virtual teams.

### **2.3.3. The use of technology in virtual teams**

Technology and virtual tools are seen as an enabler to the coordination of activities in virtual teams as well as a means to communicate, exchange information and manage performance (Hertel et al., 2005). There have been studies to show that virtual tools may increase satisfaction when easy to use (Chi, Chang & Tsou, 2012) and can increase interpersonal trust if implemented appropriately together with processes, policies norms and values (Ford, Piccolo & Ford, 2017). Additionally, Kock and Lynn (2012) have conducted a study to show that a high degree of communication via a range of virtual tools alleviates task complexity, provides coping



mechanisms and aids in the coordination of team activities. However, much of the existing literature focuses on older virtual tools like email and online discussion-boards (Bell & Kozlowski, 2002; Gibson & Cohen, 2003). A gap exists in literature to explore how new technologies are being leveraged to coordinate activities, communicate and clarify goals to aid in effective PM practices and ensure virtual team success (Jimenez et al., 2017).

## 2.4. PERFORMANCE MANAGEMENT AND VIRTUAL TEAMS

### 2.4.1. Challenges around driving performance in virtual teams

Researches agree that the management of virtual teams is exacerbated by the lack of face-to-face contact as compared to virtual teams (Eadigah et al., 2018; Liao, 2017; Brown et al., 2019; Holtbrügge et al., 2011). Liao (2017) motivates that virtual team leaders may need to invest more time in proactively facilitating team processes to improve team performance and highlights a gap in literature to explore management processes that are unique to virtual teams. Eadigah et al. (2019) support this view and believe that it is crucial to understand how managers drive performance in virtual teams as compared to traditional teams, because even though organisational objectives remain the same in both contexts, virtual teams are expected to display higher performance (Wong & Burton, 2000). Hence, it becomes increasingly important to understand how managers are driving their virtual team's performance to overcome virtual team challenges and ensure success.

#### 2.4.1.1. Performance management and virtual team literature

Hertel et al. (2005) developed the Lifecycle Model of virtual team implementation in Figure 1 to outline critical management tasks to be considered in the implementation of virtual teams, which includes five key phases.



*Figure 1.* The Lifecycle Model of virtual team implementation. Adapted from “Managing virtual teams: A review of current empirical research”, by Hertel, G., Geister, S., & Konradt, U, 2005, *Human Resource Management Review*, 15, p. 69.

Looking at the stages of the PM Performance Management Process as identified by Aguinis (2013) and drawing parallels to Hertel et. al’s (2005) Lifecycle Model, Phase A aligns to Prerequisites, Phase B aligns to Performance Planning, Phase C and D align to Performance Execution, Phase D aligns to Assessment and Review and Phase E aligns to Performance Renewal. Since PM is viewed holistically as a “wide variety of activities, policies, procedures, and interventions” (Murphy & DeNisi, 2017, p. 421) that drive employee performance and because these stages align closely to the activities within the lifecycle model of virtual teams, PM may be seen as a critical component in driving performance within virtual teams.

It is worth noting that Hertel et. al’s (2005) Lifecycle Model was devised for a project team that collaborates for a short period of time and disbands after project completion. As a result, there is little focus on ongoing performance management and performance evaluation as a driver of performance in the context of a long-term, virtual team set-up. Hence, an integrated virtual management and performance management model that outlines the elements of PM to be used by virtual team managers would be beneficial.

In recent years, Eidigah et al. (2016) conceptualised the Integrated Visual Management (IVM) model to combine PM with visual management (VM) tools and continuous improvement (CI) processes in a traditional setting. The IVM outlined three elements namely, performance planning and implementation, performance measurement and VM and finally, performance evaluation and CI (Eidigah et al., 2016). Eidigah and Abdekhodae (2018) went on to test this framework in a virtual setting and found it to be successful to systemically improve team performance. However, although the model includes the element of feedback, it lacks other developmental PM elements like coaching and motivating the team to achieve expected goals. Additionally, the role of the manager has been excluded from the model (Eidigah & Abdekhodae, 2018).

Despite PM being explored extensively in literature, these studies have been conducted in traditional team settings, where employees are based in the same location as their peers and managers. Little is known around how managers practice the holistic elements of PM, as identified in the literature, in a real-world context (Brown et al., 2019; Brown & Latham, 2018) or how teams are managed for performance when there is a lack of face-to-face contact (Liao, 2017). Furthermore, virtual tools and communication mediums to aid PM have not been given much attention in literature (Brown et al., 2019) and there is a gap in understanding how new technologies can aid managers in driving performance within their teams (Jimenez, 2017). There is value for both managers and practitioners in understanding how employee performance is driven by managers in these geographically dispersed teams.

## **2.5. CONCLUSION**

PM is seen as a developmental and iterative process, in which managers first work with their teams to set goals and expectations that are aligned to organisational strategy. Thereafter, a developmental plan is set for the team and performance is evaluated and reviewed before finally, rewarding performance and adjusting expectations accordingly. Driving performance in virtual teams can be challenging and is exacerbated by the lack of face-to-face contact in these new work environments. Exploring how managers drive performance in virtual teams, aided by the use of electronic tools, may result in the development of a practical framework for managers to set expectations, motivate, develop and evaluate employees to drive team performance, ultimately resulting in organisational success.

## **CHAPTER 4: RESEARCH METHODOLOGY**

The purpose of this chapter is to describe the proposed research methodology and design employed in this study including the population, unit of analysis, data gathering and analysis process and limitations. The research questions used in the study were grounded by the literature review conducted in Chapter 2. Eighteen, in-depth, semi-structured interviews were conducted with managers who drive performance in their virtual teams. The qualitative interview data was then analyzed using thematic content analysis to gain further insights and ultimately, develop the conceptual model that emerged from this study.

#### **4.1. CHOICE OF METHODOLOGY**

The literature review that underpinned this study highlighted a gap in PM literature, particularly in exploring how managers drive team performance a virtual context. Brown et al. (2019), Brown and Latham (2018) and Liao (2017) indicated that most studies have been focused on performance management in traditional workplace settings, where managers have direct, face-to-face interaction with their subordinates. The literature review highlighted the gap in understanding how managers drive performance in teams and additionally, in more collaborative and virtual contexts.

The interpretivism philosophy seeks to explore “the way humans attempt to make sense of the world around them” (Saunders & Lewis, 2012, p. 134). Similarly, Willis (2009) detailed interpretivism as a way to understand reality that is unique to each participant’s views and contexts. This study focused on understanding how managers drive performance in virtual teams and since the approaches to PM differed across managers and their teams, freedom of interpretation was allowed for managers to explore unique findings according to their own reality. Hence, the interpretivism philosophy was applied to this study.

Exploratory research is defined as “initial research conducted to clarify and define the nature of the problem” (Zikmund, 2000, p.54). Saunders and Lewis (2012) assert that exploratory research is suitable to discover information about a problem that may not be well understood. Furthermore, Edmondson and Mcmanus (2007) explain that an inductive approach is best used when little or no previous theory exists for a respective research topic or if the topic represents “new phenomena in the world”, and agreed that it was well suited in virtual team studies. Hence, an explorative, inductive approach was deemed the most suitable strategy to adopt due to the limited number of empirical studies on performance management within virtual teams.

Qualitative research is consistent with an inductive approach and allows for discovery and a deep understanding of an under-researched problem (Glaser & Strauss, 2009). Doz (2011) suggests that qualitative research allows one to gather “rich data” (p. 586) from managers practicing in the field of business and subsequently, allows the researcher to develop conceptual maps that lead to theory

building. Furthermore, Doz (2011) argues that there is a need for qualitative research in the field of International Business, where there is global collaboration. Globalisation and increased mobility have resulted in companies servicing customers in multiple countries throughout the world with resources located in different continents, regions and time-zones (Jimenez et al., 2017; Zakaria, 2017). To service the needs of a global customer base, many organisations rely on virtual teams that are geographically dispersed, but make use of communication tools in order to collaborate (Zakaria, 2017; Zakaria et al., 2020). Managers had managed team members based across different continents and regions, supporting the selection of the qualitative research method for this study.

A mono-method of data collection was used to provide consistency and rich data, as the study employed singular method of data collection that was qualitative in nature (Collis & Hussey, 2014). This also warranted the selection of semi-structured interviews as a means of collecting data and gathering information from managers, who were regarded as experienced in managing their virtual teams (Bryman & Bell, 2011). Furthermore, semi-structured interviews allowed for a deep-dive into manager's lived experiences into how performance management was being used to drive of performance within their virtual teams. Open-ended questions were used to encourage the development of rich data and prevent guiding the managers' answers (Edmondson and Mcmanus, 2007).

In-depth interviews with managers who had experience managing performance in virtual teams were used to gather information for this study. Individual, semi-structured interviews were useful to create a sense of comfort and confidentiality for participants and allowed detailed perspectives to be gathered. Since managers of virtual teams were distributed across distance, locations and time-zones (Hao, Yang & Shi, 2019), all interviews were conducted via zoom calls, in order to maintain consistency of the interview technique. A cross-sectional study was undertaken, as the study was representative of the topic at a particular point in time (Creswell & Cresswell, 2017). This approach was considered appropriate for this study as the data was collected on a once-off basis between a set time period and there was no need to follow up or monitor results over a prolonged time frame.

## **4.2. POPULATION**

An important step towards achieving the aim of this research involved obtaining the views of managers who had experience managing performance in virtual teams. The inclusion criteria for the study were managers who belonged to large private sector companies (250+ employees) and had experience managing team members who were geographically distributed and not based in the same location as themselves. Since virtual teams were defined as knowledge workers who span over time zones, distance and location and make use of electronic mediums to communicate (Hao, Yang & Shi, 2019), the population consisted of managers, specifically knowledge workers, who had experience managing virtual teams across various industries, anywhere in the world.

## **4.3. UNIT OF ANALYSIS**

The unit of analysis provides an indication of who or what will provide the data for a research study and provides the level of aggregation (Zikmund, Babin & Carr, 2013). The unit of analysis for this study was the lived experiences of managers who manage performance within virtual teams. Individual's responses were articulated through managers' experiences around managing performance in virtual teams, which were collected through in-depth interviews.

## **4.4. SAMPLING METHOD AND SIZE**

Non-probability, purposive sampling was used in this study. Saunders and Lewis (2012) state that this form of non-probability sampling can be used when the complete list of the population is unavailable and if no statistical inferences are needed to be made from the sample. The inclusion criteria for the study were managers, particularly knowledge workers, belonging to large private sector companies with experience managing performance of team members who were not co-located.

Purposive or judgement sampling was used as a non-probability sample selection technique and judgement was exercised to select sample participants for the study (Zikmund, 2003). Deliberately selecting participants was useful to determine a sample that could offer valuable insights into the research questions, based on their diverse experiences (Denscombe, 2010). The criteria for selection was followed to find the sample that best fit the study and ensured a variation of participants, to

capture unique perspectives and promote reliability of the study. Diversity of participants were deliberately sought out through specific dimensions like role, industry, gender, managerial level and the size of the team that participants had managed directly. Industries that the sample were chosen from included media and broadcasting, financial services, IT, consulting services, real estate, construction, mining and the automotive industry. The sample consisted of nine executives, one senior manager and eight middle managers, whose virtual team size ranged from two to 10 direct reports, to ensure a fair representation of management experience.

Saunders and Lewis's (2012) recommend a sample size of between 15 and 25 for a heterogeneous population. Green and Thorogood (2009) support this view and maintain, "little that is new comes out of transcripts after you have interviewed 20 or so people" (p. 120). For this reason, 18 managers were selected to gain adequate depth of the data. A summary of the demographics of participants is provided in Table 1.

**Table 1**  
*Summary of Participants*

Participant	Job title	Industry	Duration in role	No. of direct reports	Gender	Managerial level
1	Financial Manager	Media	2 years	5	Male	Middle
2	Snr Financial Manager	Consulting Services	1 year	8	Female	Senior
3	Supply Chain Strategy Manager	Automotive	2.5 years	2	Female	Executive
4	Solution Owner	Financial Services	18 months	2	Male	Middle
5	Governance Manager	Financial Services	2.5 years	4	Male	Middle
6	Chief Strategist	Financial Services	6 years	5	Male	Executive

7	VP And Regional Head: Africa	Consulting Services	4 years	10	Male	Executive
8	Project Manager	Financial Services	18 months	8	Female	Middle
9	Engineering Manager	Constructi on	3 years	4	Female	Middle
10	Head of Security	Financial Services	5 years	6	Male	Executive
11	Head of Sales	Real Estate	18 months	5	Male	Executive
12	Audit Partner	Financial Services	9 years	8	Male	Executive
13	Director	Financial Services	9 months	4	Male	Executive
14	Head of Governance	Financial Services	1 year	4	Female	Executive
15	Marketing Group Executive	Financial Services	10 months	4	Male	Executive
16	Head of Projects	Chemical	15 years	2	Male	Executive
17	Finance Manager	Education	1 year	4	Female	Middle
18	Tax Manager	Mining	2 years	4	Female	Middle

#### 4.5. MEASUREMENT INSTRUMENT

Given the qualitative nature of the study, in-depth semi-structured interviews with open-ended interview questions were used as a research instrument to allow respondents to communicate their experiences, feelings and opinions. Pre-determined, open-ended questions were asked from an interview guide (see Appendix C), which served as a structured data collection tool. Participants were encouraged to elaborate on their responses to provide rich insights and additional questions were asked to dive deeper into constructs (Collins & Hussey, 2014).



#### **4.6. DATA GATHERING PROCESS**

Eighteen, semi-structured interviews were conducted over a three-week period with participants on a one-on-one basis via the Zoom Video Communications tool since the sample population was globally distributed. Although the interviews did not include direct face-to-face communication, the video feature was used to allow the researcher to observe the body language and appearance of respondents during the interviews (Saunders & Lewis, 2012). By using Zoom video calls for all participants, consistency of the interview technique was maintained and ensured individual focus. This ensured that the thoughts of participants were gathered with ease and control, as compared to a group interview (Denscombe, 2010).

Before conducting the interviews, the purpose and objectives of the research were made clear to each participant. A consent form was sent to all participants prior to the interviews and they were expected to sign it before commencement of the interview. Permission was also requested from participants to record the session via the Zoom Video Communications tool. Following this, 11 open-ended, non-leading questions were posed to participants, based off the interview guide which contained questions based on the themes extracted from the literature review. The questions in the interview guide were grouped into various themes that were mapped against the research questions used in this study, namely: 1) performance management challenges; 2) performance planning, development and execution; 3) performance evaluation and 4) technical tools. Theme one examined the challenges that managers faced specifically around driving performance in virtual teams and managers were encouraged to contrast this against their experiences driving performance in a traditional, face-to-face context. Thereafter, managers were asked to delve into how they manage performance virtually, with questions focused around PM practices that emerged from the literature review. Finally, managers were asked to discuss the specific technical tools that enabled them to manage their teams virtually to ultimately drive performance.

The interview guide commenced with a few preliminary questions to ensure that the participants met the inclusion criteria and all participants were encouraged to respond openly and freely, based on their personal experiences managing performance in their virtual teams. Before concluding the interview, an open-ended question was posed to participants to allow them to freely offer any further

information or experiences that they felt inclined to share around the subject, that may have been excluded from the interview questions (Gilham, 2000).

Interviews lasted an average of 45 minutes per person. The duration of the interviews took an average time of 45 minutes per person to conduct, with the shortest interview lasting 30 minutes and the longest interview lasting 70 minutes.

#### **4.6.1. PILOT TEST**

A pilot test was conducted to test the interview guide on selected participants and to ensure that questions were understood and were not leading (Saunders and Lewis, 2012). In doing so, the duration of the interview was assessed and the data was reviewed to evaluate if the questions addressed the objective of the study and conveyed the intended meaning. After reviewing the pilot interview, the order of questions was adapted slightly to allow the participant to ease into the questioning. The phrasing of a few questions was also updated to produce more accurate results and the final, open-ended question was added. The pilot interview helped to streamline the data collection process and reduced the risk of a flawed study (Zikmund et al., 2013).

#### **4.7. ANALYSIS APPROACH**

Thematic analysis is a qualitative descriptive approach and has been described as “a method for identifying, analysing and reporting patterns (themes) within data” (Braun & Clarke, 2006: 79). Thematic analysis involves identifying common threads that extend across the data obtained from a set of interviews and provides a nuanced and detailed account of the data (Vaismoradi, Turunen & Bondas, 2013).

Braun and Clarke (2006) have identified six phases in the thematic analysis process and this was followed throughout the analysis process. To begin with, all data was prepared by transcribing the Zoom voice recordings using an automatic transcription tool called Otter.ai in a consistent manner to gain familiarity with the data. Each transcription was reviewed, while listening to the interview recording to ensure all data was correctly transcribed and to correct any mistakes made by the software. Notes collected were also used to convert observations into words (Bowen, 2008).

After the transcriptions were finalized, initial coding was done on Excel, using open coding on the data set in a systemic manner to generate initial concepts from data

(Strauss & Corbin, 1998). Meyer and Avery (2009) demonstrate how Excel does not need to be viewed as a “number cruncher” (p. 91) for use in quantitative research and can be extended as a data analysis tool in qualitative research. Meyer and Avery (2009) further illustrate how Excel functional like logical operations, tracking functionality and conditional formatting can be utilised as helpful features to manipulate qualitative data and significantly aid the coding process.

Codes were created using “in-vivo” coding on the data to capture the manager’s terminology (Strauss & Corbin, 1998). Second level categories (code groups) were then defined by reviewing codes, finding similarities and differences across the participants’ responses and comparing and clustering initial codes. Thereafter, a thematic analysis was conducted to identify, analyse and report patterns or themes within the collected data (Maguire & Delahunt, 2017). Themes were then reviewed and checked against each other to develop thematic maps, before analysing them and refining the detail of the theme. Conditional formatting on Excel was used to colour code and order data into both categories and themes (Meyer & Avery, 2009). All categories were also named, counted and rank ordered. Each interview took approximately three hours to analyse in full, following Braun and Clarke’s (2006) six-step process.

Following the inductive approach to data analysis, 160 unique codes were generated across 18 interviews. This enabled various themes to emerge from the data, even though they may not have been directly related to the research questions or considered previously from the literature review. First-order codes that emerged from open coding were grouped into 55 second level categories and displayed six aggregated themes that finally led to the formulation of the conceptual “Virtual Team Performance” model.

Interviews were conducted until the point of saturation where no new themes emerged from the data (Saunders & Lewis, 2012). This was established during the data analysis phase, by rank ordering the number of unique codes that emerged from each interview. Figure 2 proves saturation by depicting the decline in the number of unique codes generated per interview. The first interview generated 61 unique codes and gradually decreased as further interviews were conducted, leading to only one new additional code obtained on the 18<sup>th</sup> interview. Since no new themes

evolved from the data, theoretical saturation (Strauss & Corbin, 1998) was regarded as being reached on the 18<sup>th</sup> interview and no further interviews were conducted.

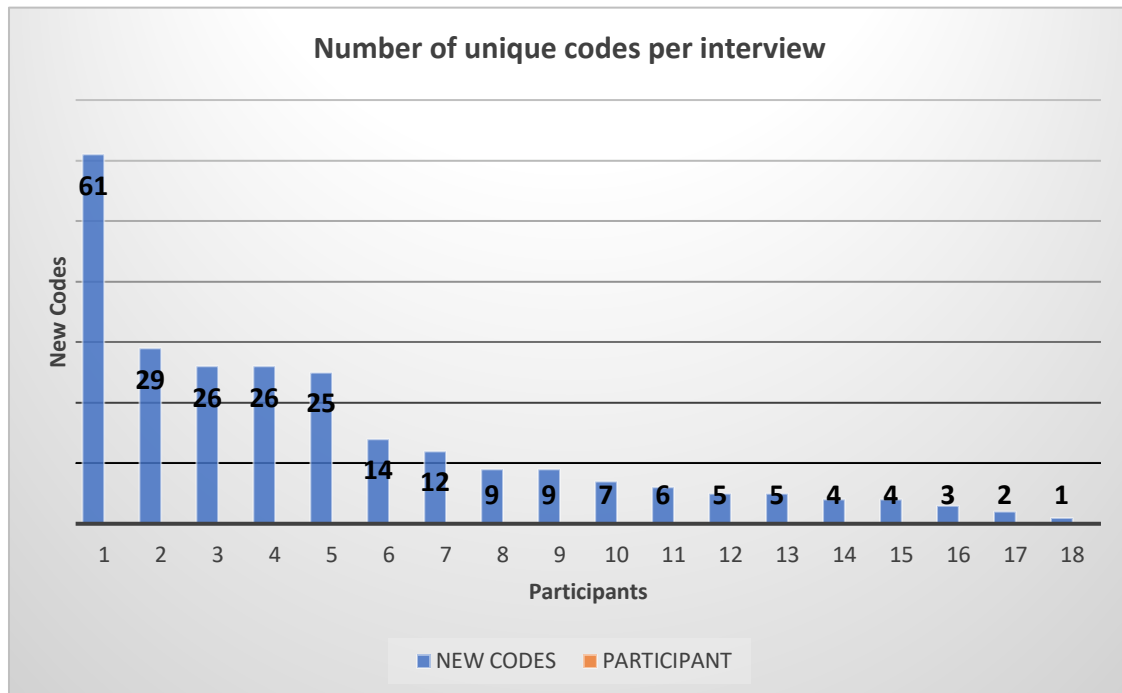


Figure 2. Unique codes generated during the data analysis process.

#### 4.8. QUALITY CONTROLS

It is important that qualitative data is credible by maintaining validity and reliability throughout the research process (Saunders & Lewis, 2012).

Interviews were transcribed by transcription software and then re-checked and edited, to ensure accuracy and reliability of the data capturing process. In addition, the research process was well documented and accessible to ensure transparency of the process (Miles & Huberman, 1994), so that the study may be replicated by others (Roulston, 2010). Documentation was ensured through notes taken during the interview process around the interviewees' emotions and body language. Additionally, a code-book was generated during the analysis process that provides greater reliability and transparency of the study. To determine the extent to which the "Virtual Team Performance" model was endorsed by managers and to query if there were any missing elements (Andersen et al., 2010), the conceptual model was shared with a few participants of the study.

Saunders and Lewis (2012) indicate that subject bias may occur when participants provide unreliable information, because they might think that telling the truth will lead

to unfavourable outcomes. The researcher was aware of subjectivities in relation to research participants and the topic and explored how these related to the research findings (Roulston, 2010). To mitigate subject bias, the researcher also ensured that all interviews maintained confidentiality and this was communicated prior to every interview, by sending out an informed consent letter (see Appendix H). By ensuring confidentiality, interviewees were more comfortable discussing their experiences openly, leading to richer data that maintained integrity.

#### **4.9. LIMITATIONS**

##### **Sample**

The sample chosen in this study consisted of executives and managers only and no attempt was made to discover the experiences of team members being managed within a virtual team context. Since PM is a two way process between managers and employees (Pulakos et al., 2019), it may be beneficial to gather the insights of team members who work virtually, to detect any blind spots that may have been missed.

##### **Researcher Bias**

The qualitative research method can be subjective and qualitative interviews risk being influenced by biases (Roulston, 2010). Although researcher bias was taken seriously, by ensuring a transparent process and by conducting several revisions of the coding process, it is still possible that this study reflects some extent of researcher bias. Different conclusions can be drawn based on the same information, depending on characteristics of the researcher (Maxwell, 2005). Because the researcher was the main instrument for data collection, the study was subject to the researcher's interpretation of events and responses from interviewees. Additionally, the researcher was not trained in professional interviewing and this may have impacted data collection to some extent (Agee, 2009)

##### **Cultural and language differences**

Since interviews conducted on managers within virtual teams that spanned borders, it had been expected that cultural and language differences might have existed, resulting in meanings and nuances being lost in the process (Drew, 2014). However, all participants were proficient in the English language so language barriers were not experienced. In addition, cultural barriers around PM and virtual teams were

expected to emerge as a common challenge from the study, based off the literature review (Eaidgah et al., 2019; Wildman & Griffith, 2015), but this element was only discussed by one participant in the research study. Future studies could expand the study to a broader geographical location to attempt to draw out a cultural dimension.

### **Time Horizon**

A cross-sectional study was performed at one point in time and this posed a limitation based on participant's behaviour and circumstances which were subject to change. No inferences can be made on the transference of identified behaviours into future periods (Williams, 2007).

## REFERENCES

- Adhikari, R. D. (2010). Human resource development (HRD) for performance management. *International Journal of Productivity and Performance Management*, 59 (4), 306-324.
- Agee, J. (2009). Developing qualitative research questions: A reflective process. *International Journal of Qualitative Studies in Education*, 22(4), 431–447.
- Aguinis, H. (2013). *Performance management* (3rd ed.). Pearson Prentice Hall.
- Aguinis, H., Joo, H., & Gottfredson, R. K. (2011). Why we hate performance management—And why we should love it. *Business Horizons*, 54, 503-507.
- Baker, N. (2010). Employee feedback technologies in the human performance system. *Human Resource Development International*, 13, 477-485.
- Bell, B. S., & Kozlowski, S. W. J. (2002). A Typology of Virtual Teams: Implications for Effective Leadership. *Group & Organization Management*, 27(1), 14–49.
- Biron, M., Farndale, E., & Paauwe, J. (2011) Performance management effectiveness: lessons from world-leading firms. *The International Journal of Human Resource Management*, 22 (6), 1294-1311.
- Bititci, U., Garengo, P., Dorfler, V. & Nudurupati, S. (2012). Performance measurement: challenges for tomorrow. *International Journal of Management Reviews*, 14, 305– 327.
- Bouskila-Yam, O., & Kluger, A. N. (2011). Strength-based performance appraisal and goal setting. *Human Resource Management Review*, 21(2), 137–147.
- Bowen, G. A. (2008). Naturalistic inquiry and the saturation concept: A research note. *Qualitative Research*, 8, 137-152.

- Brown, T. C., & Latham, G. P. (2018). Maintaining relevance and rigor: How we bridge the practitioner-scholar divide within human resource development. *Human Resource Development Quarterly*, 29, 99-105.
- Brown, T. C., O'Kane, P., Mazumdar, B., & McCracken, M. (2019). Performance Management: A Scoping Review of the Literature and an Agenda for Future Research. *Human Resource Development Review*, 18(1), 47–82.
- Bryman, A. & Bell, E. (2011), *Business Research Methods*, 3rd ed., Oxford University Press, Oxford.
- Cappelli, P., & Tavis, A. (2018). HR goes agile. *Harvard Business Review*, 96(2), 46-52.
- Cappelli, P., & Tavis, A. (2016). The Performance Management Revolution. *Harvard Business Review*, 94(10), 58-67.
- Catano, V. M., Darr, W., & Campbell, C. A. (2007). Performance appraisal of behavior- based competency: A reliable and valid procedure. *Personnel Psychology*, 60, 201-230.
- Cascio, W. F. (2014). Leveraging employer branding, performance management and human resource development to enhance employee retention. *Human Resource Development International*, 17(2), 121–128.
- Chan, Y. C. L. (2006). An analytic hierarchy framework for evaluating balanced scorecards of healthcare organizations. *Canadian Journal of Administrative Sciences/Revue Canadienne Des Sciences de l'Administration*, 23, 85-104.
- Chi, S.-P., Chang, Y.-Y., & Tsou, C.-M. 2012. The effect of team characteristics and communication environment to the virtual team performance. *International Journal of Networking and Virtual Organisations*, 10, 137-152.
- Coens, A. T., & Jenkins, M. (2000) *Abolishing Performance Appraisals*. Berrett-Koehler Publishers.



- Collis, J., & Hussey, R. (2009). *Business research: A practical guide for undergraduate & postgraduate students*. Basingstoke, Hampshire, UK: Palgrave Macmillan.
- Creswell, J. W., & Creswell, J. D. (2017). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. Thousand Oaks: SAGE Publications
- David, E. M. (2013). Examining the role of narrative performance appraisal comments on performance. *Human Performance*, 26, 430-450.
- DeNisi, A. S., & Murphy, K. R. (2017). Performance appraisal and performance management: 100 years of progress? *Journal of Applied Psychology*, 102(3), 421–433.
- DeNisi, A. S., & Smith, C. E. (2014). Performance appraisal, performance management, and firm-level performance: A review, a proposed model, and new directions for future research. *The Academy of Management Annals*, 8, 127–179.
- Denscombe, M. (2010). *The good research guide for small-scale social research projects* (4<sup>th</sup> ed.). London: McGraw-Hill Education.
- Doz, Y. (2011). *Qualitative research for international business*, 42(5), 582-590.
- Drew, H. (2014). Overcoming barriers: Qualitative interviews with German elites. *Electronic Journal of Business Research Methods*, 12(2), 77–86.
- Eaidgah, Y., Abdekhodae, A., Najmi, M., & Alireza, A. M. (2018). Holistic performance management of virtual teams in third-party logistics environments. *Team Performance Management*, 24(3), 186-202.
- Edmondson, A. C., & Mcmanus, S. E. (2007). Methodological fit in management field research. *Academy of Management Review*, 32(4), 1155–1179.
- Ellinger, A. D., & Kim, S. (2014). Coaching and Human Resource Development: Examining Relevant Theories, Coaching Genres, and Scales to Advance

Research and Practice. *Advances in Developing Human Resources*, 16(2), 127–138.

Ford, R. C., Piccolo, R. F. & Ford, L. R., (2017). Strategies for building effective virtual teams: Trust is key, *Business Horizons*, 60, 25-34.

Franco-Santos, M., Lucianetti, L. & Bourne, M. (2012). Contemporary performance measurement systems: a review of their consequences and a research agenda, *Management Accounting Research*, 23 (2), 79-119.

Gibson, C. B., & Cohen, S. G. (Eds.). (2003). *Virtual teams that work. Creating Conditions for Virtual Team Effectiveness*. San Francisco Jossey-Bass.

Gillham, B. (2000). *The Research Interview*. London: Continuum.

Glaser, B. G., & Strauss, A. L. (2009). *The discovery of grounded theory: Strategies for qualitative research* (4<sup>th</sup> ed.). New Brunswick: Aldine.

Green, J., & Thorogood, N. (2009). *Qualitative methods for health research*. Thousand Oaks, CA: Sage.

Guzmán, J. G., Ramos, J. S., Seco, A. A. & Esteban, A. S. (2012). Success factors for the management of global virtual teams for software development. *International Journal of Human Capital and Information Technology Professionals*, 2 (2), 23.

Hamlin, B. & Stewart, J. (2011). What is HRD? A definitional review and synthesis of the HRD domain. *Journal of European Industrial Training*, 35(3), 199-220.

Hao, Q., Yang, W., & Shi, Y. (2019). Characterizing the relationship between conscientiousness and knowledge sharing behavior in virtual teams: An interactionist approach. *Computers in Human Behavior*, 91, 42-51.

Hertel, G., Geister, S., & Konradt, U. (2005). Managing virtual teams: A review of current empirical research. *Human Resource Management Review*, 15, 69-95.

- Hill, N. S., & Bartol, K. M. (2016). Empowering leadership and effective collaboration in geographically dispersed teams. *Personnel Psychology*, 69(1), 159–198.
- Holtbrügge, D., Schillo, K., Rogers, H., & Friedmann, C. (2011). Managing and training for virtual teams in India. *Team Performance Management*, 17, 206-223.
- Ilgen, D.R., Barnes-Farrell, J. L., & McKellin, D. B. (1993). Performance appraisal process research in the 1980s: What has it contributed to appraisals in use? *Organizational Behavior and Human Decision Processes*, 54, 321–368.
- Jimenez, A., Boehe, D., Taras, V., & Caprar, D. (2017). Working Across Boundaries: Current and Future Perspectives on Global Virtual Teams. *Journal of International Management*, 23(4), 341-349.
- Kirkman, B. L., & Mathieu, J. E. (2005). The Dimensions and Antecedents of Team Virtuality. *Journal of Management*, 31(5), 700–718.
- Kock, N., & Lynn, G. S. 2012. Electronic media variety and virtual team performance: The mediating role of task complexity coping mechanisms. *IEEE Transactions on Professional Communication*, 55, 325-344.
- Latham, G. P., & Locke, E. A. (2006). Enhancing the benefits and overcoming the pitfalls of goal setting. *Organizational Dynamics*, 35, 332-340.
- Lee, F.-H., Lee, T.-Z., & Wu, W.-Y. (2010). The relationship between human resource management practices, business strategy and firm performance: Evidence from steel industry in Taiwan. *The International Journal of Human Resource Management*, 21(9), 1351–1372.
- Liao, C. (2017). Leadership in virtual teams: A multilevel perspective. *Human Resource Management Review*, 27(4), 648–659.
- Lurey, Jeremy & Raisinghani, Mahesh. (2001). An empirical study of best practices in virtual teams. *Information & Management*, 38, 523-544.

- Maguire, M., & Delahunt, B. (2017). Doing a Thematic Analysis : A Practical , Step-by- Step Guide for Learning and Teaching Scholars. *All Ireland Journal of Teaching and Learning in Higher Education*, 3(3), 3351–3514.
- Maynard, M. T., Mathieu, J. E., Rapp, T. L., & Gilson, L. L. (2012). Something(s) old and something(s) new: Modeling drivers of global virtual team effectiveness. *Journal of Organizational Behavior*, 33(3), 342–365.
- Maxwell, J. A. (2005). *Qualitative Research Design: An Interactive Approach* ( 2nd Ed.). Thousand Oaks, CA: Sage.
- Melnyk, S.A., Bititci, U., Platts, K., Tobias, J. & Andersen, B. (2014). Is performance measurement and management fit for the future? *Management Accounting Research*, 25, 173–186.
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.).
- Nankervis, A. R., & Compton, R.-L. (2006). Performance management: Theory in practice? *Asia Pacific Journal of Human Resources*, 44(1), 83–101.
- Nozari, H., Najafi, S.E., Jafari-Eskandari, M. & Aliahmadi, A. (2016). Providing a model for virtual project management with an emphasis on IT projects, *Strategic Management and Leadership for Systems Development in Virtual Spaces*, 23, 43-63.
- Nudurupati, S.S., Tebboune, S. & Hardman, J. (2016). Contemporary performance measurement and management in digital economies. *Production Planning and Control*, 27, 226–235.
- Prasad, K. & Akhilesh, K. (2002). Global virtual teams: What impacts their design and performance. *Team Performance Management*, 8, 102-112.
- Pulakos, E., & O’Leary, R. (2011). Why Is Performance Management Broken?. *Industrial and Organizational Psychology*, 4, 146 - 164.

- Pulakos, E. D., Mueller-Hanson, R., & Arad, S. (2019). The evolution of performance management: Searching for value. *Annual Review of Organizational Psychology and Organizational Behavior*, 6, 249–271.
- Robert L. P., & You, S. (2018) Are you satisfied yet? Shared leadership, individual trust, autonomy, and satisfaction in virtual teams. *Journal of the Association for Information Science and Technology*, 69(4), 503–513.
- Rodgers, R., & Hunter, J. E. (1991). Impact of management by objectives on organizational productivity. *Journal of Applied Psychology*, 76, 322–336.
- Roulston, K., (2010). Considering quality in qualitative interviewing. *Qualitative Research*, 10(2), 199-228.
- Saunders, M., Lewis, P., & Thornhill, A. (2012). *Research methods for business students* (5th ed.). London: Pearson Education.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2nd ed.). Sage Publications, Inc.
- Thorndike, E. L. (1920). A constant error in psychological ratings. *Journal of Applied Psychology*, 4, 25–29.
- Taylor, M. S., Tracy, K. B., Renard, M. B., Harrison, J. K., & Carroll, S. J. (1995). Due process in performance appraisal: A quasi-experiment in procedural justice. *Administrative Science Quarterly*, 40, 495–523.
- Vaismoradi, M., Bondas. T., & Turunen, H. (2013). Content Analysis and Thematic Analysis: Implications for Conducting a Qualitative Descriptive Study. *Journal of Nursing & Health Sciences*, 15, 398-405.
- Werner, J. M. (2017). *Human resource development/talent management* (7th ed.). Boston, MA: Publisher Cengage Learning.
- Wildman, J. L., & Griffith, R.L. (2015). *Leading Global Teams: Translating Multidisciplinary Science to Practice*. Springer.

- Williams, C. (2007). Research Methods. *Journal of Business and Economic Research*, 5(3), 65-72.
- Willis, J. W. (2007). *Foundations of qualitative research: interpretive and critical approaches*. London: Sage.
- Wong, S. S., & Burton, R. M. (2000). Virtual teams: What are their characteristics, and impact on team performance? *Computational & Mathematical Organization Theory*, 6(4), 339–360.
- Zhang, J. (2016), The dark side of virtual office and job satisfaction. *International Journal of Business and Management*, 11(2), 40.
- Zikmund, W. (2000). *Business research methods* (6th Edition). Harcourt College.
- Zikmund, W., Babin, B., Carr, J. & Griffin, M., (2013). *Business Research Methods* (9th Edition). Cengage Learning.

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29/11/2020

Human Resource Development Quarterly



Articles that specifically focus on theory and integrative literature reviews are typically not considered within the scope of *HRDQ*.

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*HRDQ* is a member of the Committee on Publication Ethics (COPE) and the Co-editors expect that researchers will have consulted the "Ethical Principles of Psychologists and Code of Conduct" (APA, 2002) as well as the ethical guidelines of the institution where the research was conducted. The APA Ethics Code requires that researchers ensure approval by relevant institutional review boards and obtain informed consent from all participants. Fulfilment of these requirements should be noted in the Method section.

### **Duplicate and piecemeal publication of data**

Manuscripts submitted to *HRDQ* should not have been published or currently submitted elsewhere. Submitted papers should not overlap significantly in focus, content or data. Where work submitted to *HRDQ* is part of a larger study it is important that the submission addresses distinct questions and contributes new knowledge. In such cases the authors should clarify the relationship between the larger study and the data included in the current manuscript or the questions that are addressed in a cover letter to the Co-editors. Suitable procedures for 'blinding' references cited in the text that refer to the larger study should be used. In such instances the letters XXXX in the text citations should be used. Names will then be inserted should the manuscript proceed to final acceptance. In such circumstances an author note should be added to the title page that indicates the reference for other publications that are associated with the project described in the manuscript.

### **Data Availability**

*Human Resource Development Quarterly* expects that data supporting the results in the paper will be archived in an appropriate public repository. Authors are required to provide a data availability statement to describe the availability or the absence of shared data. When data have been shared, authors are required to include in their data availability statement a link to the repository they have used, and to cite the data they have shared. Whenever possible the scripts and other artefacts used to generate the analyses presented in the paper should also be publicly archived. If sharing data compromises ethical standards or legal requirements then authors are not expected to share it.

### **Quality of Written Communication**

All submissions should be expressed in good quality written English. Contributors may wish to consider some form of professional editing for English language and adherence to APA. Wiley's editing service at Wiley's at <http://wileyeditingservices.com> is available. Please note that while this chargeable service will greatly improve the readability of your paper, it does not guarantee acceptance of your paper by the journal.

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Manuscripts submitted for review undergo a blind peer-review process and authors are informed about the results of the review by the Co-Editors and Associate Editors, usually within three months. Whilst we endeavour to achieve the 90 days response time our commitment is to achieving a high quality review and feedback process and reviewer availability issues may mean that, from time to time, a longer period is necessary. Authors are also provided with copies of the reviewers' comments in the decision and feedback letter they receive.

Manuscripts should be prepared for review in accordance with the following criteria:

- Provide a cover letter that sets out the contribution of the paper to the HRD field and clarifies any issues related to data drawn from a larger study where appropriate.
- Include a separate title page with complete name(s) and address(es), institutional affiliation, email address and telephone contact for all author(s).
- No author identification whatsoever should appear in the text of the main manuscript. The first page of the main manuscript document should include the title and abstract. Subsequent pages should have a running header of the title.
- Use non-discriminatory language throughout the text.
- Double-space the entire manuscript. Margins should be at least one inch wide. Use 12-point type size.
- Manuscript page total should be limited to approximately 35 pages all inclusive of the text, tables, figures, and references. Tables and figures should be included at the end of the manuscript following the reference section and separated by page breaks.
- Ensure that all sources are properly cited and referenced and adhere to the language and style guidelines as presented in the Publication Manual of the American Psychological Association (6th ed.). NB please ensure that issue numbers are not included where a journal volume is paginated sequentially and ensure that DOIs are provided for all journal publications.
- All submissions must be made as a word file with the 'track changes' function turned off and all existing changes accepted.

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Forum Papers are non-refereed and are not included in the print version of HRDQ. The purpose of Forum Papers should be to present new or different perspectives or ideas or issues related to the HRD field. Indicate author's opinions where appropriate. Such contributions should

encourage open discourse by presenting varying opinions that may generate future scholarly interactions.

All Forum Papers must be submitted through the HRDQ ScholarOne system <https://mc.manuscriptcentral.com/hrdq>. Manuscripts are initially evaluated based on appropriateness of content, style and contribution to the HRD field. The iThenticate plagiarism detection and prevention technology is used to ensure the originality of submitted manuscripts.

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- Be double-spaced throughout the entire manuscript. Margins should be at least one inch wide. Use 12-point font.
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Media Reviews are not included in the print version of HRDQ. Media reviews provide an evaluation or critique of books, visual media, and computer software related to the HRD field. The scholarly emphasis requires authors to have some understanding of the theoretical and practical context of the item being reviewed. Media Reviews can be of two types: single item or multi-item. Single-item reviews focus on one item that has recently become available. The copyright date should be within two years of the probable publication date of the review. Multi-item reviews focus on two or more items that address similar topics, issues, or lines of reasoning. One of the items should have a recent copyright date. Reviews of this type should seek to compare and contrast the items based on their perspectives, emphases, and assumptions, among other categories. Media Review manuscripts should be prepared in accordance with the following criteria:

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- Describe the content and structure of the item. Identify the primary and secondary audiences.
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## APPENDIX B EXAMPLE OF AN HRDQ JOURNAL ARTICLE

DOI: 10.1002/hrdq.21335

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### QUALITATIVE STUDY

# How flexperts deal with changing expertise demands: A qualitative study into the processes of expertise renewal

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Flexperts are a particular category of experts who are in the possession of in-depth domain-specific knowledge and skills combined with the ability to develop and materialize new areas of expertise, that is, expertise renewal. This ability enables them to decisively respond to new expertise demands that arise as a result of changes in their expertise territories. Thus far, there is a limited understanding of how flexperts develop new areas of expertise in a complex, professional setting, and how they accomplish to materialize this new expertise for multiple stakeholders, both inside and outside organizations. In this qualitative interview study, we aim to increase our understanding of the processes by which flexperts accomplish the renewal of their expertise. Ten Dutch flexperts, known for their high level of expert performance and ability to renew their expertise, and from a variety of disciplines, were interviewed. Based on the findings of our study, we have developed a model that summarizes their expertise renewal processes. This Model of Expertise Renewal extends process models on expertise redevelopment and adaptive expertise, and provides directions for future research on how the ability of expertise renewal contributes to the career sustainability of experts. Furthermore, it provides experts, Human Resource Development (HRD) practitioners, and line managers with a framework for creating learning paths and interventions for renewing expertise in case expertise territories are about to change.

#### KEYWORDS

career sustainability, flexpertise, Model of Expertise Renewal, qualitative research

## 1 | INTRODUCTION: CHANGING EXPERTISE DEMANDS IN NOWADAYS' WORKING LIFE

Adequately responding to new expertise demands is perceived to be an important capability for professionals in nowadays' working life to safeguard the sustainability of their careers (Susskind & Susskind, 2015; Van der Heijden & De Vos, 2015). Grenier and Kehrhahn (2008) stated that professionals frequently experience a need to “redevelop” their expertise as a result of changes in their so-called “expertise territories” wherein their knowledge and skills come into play. In particular, they distinguished three types of expertise territories where the necessity for the redevelopment of expertise is prevalent. First, the redevelopment of expertise can be required as a result of changes in its *content*, which relates to the knowledge and skills that define or delineate a certain expertise domain. Over the past few decades, the content of expertise domains appeared to become obsolete sooner than ever before (Van der Heijden, 2005). This is partly due to an increasingly shorter half-life of knowledge (Arbesman, 2012), which is defined as the time it takes to become half as knowledgeable in a field without any new learning (Neimeyer, Taylor, Rozensky, & Cox, 2014, p. 92). Expertise can in particular become obsolete or less demanded if new technology (partly) replaces the knowledge and skills that are key to excel in a certain expertise domain (McKinsey, 2017). These developments imply that in nowadays' working life higher levels of domain-specific knowledge and skills are required (Will-Zocholl, 2017; World Economic Forum, 2016; World Employment Confederation, 2016), and/or the development of new knowledge and skills (Levy & Murnane, 2004; OECD, 2009). Second, changes in the *environment*, referring to the setting in which professionals apply their expertise, also urge the need for redevelopment. When environmental elements change, such as an organization's culture, procedures or systems, strategies by which professionals materialize their expertise might need to be adjusted or even replaced by new ones. Currently, professionals are said to encounter these changes more frequently due to the effects of digitalization, robotization, and globalization (Laloux, 2015). Third, changing expertise demands also stem from changes in the *constituency*, that is, the audience that is interested in the specific expertise. After all, professionals need to have an audience that recognizes and actually labels their knowledge and skills as expertise (Grenier & Kehrhahn, 2008, p. 210). The latter pertains to the function others ascribe to expertise, as reflected by expert reputation and the related willingness of an audience to pay for the specific expertise (Mieg, 2006). Thus, when the audience changes, which could be the result of changes in the expertise domain and/or in the environment, professionals need to (re)build their expert reputation among (new) groups of stakeholders.

However, meeting these changing expertise demands at the current labor market is by no means an easy task (Van der Heijden, 2005) and not necessarily mastered by each professional (e.g., CBS, 2015). Van der Heijden (1998) coined the term *flexperts* for those experts who have the ability to meet changing expertise requirements above and beyond their already existing in-depth domain-specific knowledge and skills. This study aims to increase our understanding of what this ability, which we call “expertise renewal,” entails by answering the following research question: *By which processes do flexperts accomplish to renew their expertise?* For the purpose of this qualitative interview study, we define processes as the range of activities that flexperts undertake in interaction with their expertise territories to develop and materialize a new area of expertise that might be beneficial for multiple stakeholders. The following review of theories and empirical studies on the nature, development, and materialization of expertise is meant to reveal lacunas in the Human Resource Development (HRD) scholarly knowledge on expertise renewal in a complex, professional context.

### 1.1 | The nature of expertise

During the past few decades, a large amount of research on the nature of expertise has been conducted, by comparing the performance of experts with their less-experienced peers or novices. This research has typically been done within expertise domains that are characterized by a relatively stable and well-delineated knowledge base and by a domain-specific skill set, such as chess, mathematics, and sports (Feltovich, Prietula, & Ericsson, 2018). However, there has been less focus on studying the nature of expertise in complex, professional contexts in which the multiplicity and changeability of domains prevail (Grenier & Kehrhahn, 2008, p. 204), and that are characteristics for



upcoming expertise areas in, for example, the professional fields of Information and Communication Technology (ICT) and HRD.

Based on an elaborate literature review and extensive empirical work on the performance of experts in professional settings, Van der Heijden (1998, 2000)<sup>1</sup> came up with a comprehensive definition and multidimensional operationalization of the concept of *occupational expertise*. The first dimension concerns the acknowledgement that professionals need to have a vast amount of relevant domain-specific *knowledge*, often described as declarative or factual knowledge (“knowing that”), procedural knowledge (“knowing how”), and conditional knowledge (“knowing when and where or under what conditions”) (see also Alexander, Schallert, & Hare, 1991). The second dimension, so-called *meta-cognitive skills*, refers to self-consciousness about strengths and weaknesses in one's own performance domain, and insights about how to compensate for the specific lacking knowledge and/or skills. The third dimension of occupational expertise relates to the domain-specific *skills* that enable a professional to translate his/her knowledge into overt behavior, and to deliver high-quality work. These three dimensions taken together reflect the degree by which individuals master the aforementioned content of an expertise domain and are able to evaluate if their own knowledge and skills fit the environment in which these have to be materialized. The fourth dimension of expertise concerns the *social recognition* from relevant stakeholders, both within and outside one's working organization, with regard to the professional's achievements. This aspect relates to the capability to (re)build an expert reputation (Germain & Tejeda, 2012), which might be required when changes in the aforementioned constituency of an expertise domain occur. The fifth expertise dimension, *growth and flexibility*, refers to the fact that professionals need to develop knowledge and skills in new or adjacent areas of expertise in response to changes in the earlier mentioned three expertise territories. A high score on this dimension is interpreted to be indicative for the performance of flexexperts. Van der Heijden (2000) defined “flexexperts” as “individuals who are capable of acquiring more than one area of expertise within adjacent or radically different fields or who are capable of acquiring a strategy to master a new area of expertise or expert performance in another territory” (p. 12). As suggested by Van der Heijden (2000, p. 30), more insights into concrete examples of expert performances and behaviors might increase our understanding of what constitutes expertise, including the dimension of growth and flexibility.

Recently, different researchers showed a regaining interest in better understanding what is needed for meeting the changing demands for expertise, which Van der Heijden (1998, 2000) labelled as “flexexpertise”. Birney, Beckmann, and Wood (2012) used the term “flexible expertise” for “the capacity to move across different domains and problem types smoothly and appropriately” (p. 573). Based on their study of the precursors of flexible expertise, they argued that flexible expertise differs qualitatively from routine expertise. Their distinction between these two types of expertise resembles the difference between *adaptive expertise* and *routine expertise* as originally introduced by Hatano and Inagaki (1986). With regard to the first distinguished form of expertise, Hatano and Oura (2003) stated that experts who have adaptive expertise “can be characterized by their flexible, innovative, and creative competencies within the domain” (p. 28), building upon their routine, more mechanical, rule-based, expertise. In a similar vein, based on a thorough literature review on individual and environmental factors influencing adaptive expertise, Bohle Carbonell, Stalmeier, Könings, Segers, and Van Merriënboer (2014) defined adaptive expertise as “the ability to use existing expertise in a new context in which the task, method or desired outcome is not known in advance” (p. 15). As such, it allows for the easy overcoming of the novelty of a certain setting in which the expertise has to be applied, and to quickly build up expert level performance. Their descriptions of novel contexts or settings seem to relate to changes in the aforementioned expertise environment. The authors concluded that both the main ingredients and the development of adaptive expertise are not yet well understood. Therefore, to further our scholarly understanding of what makes professionals develop adaptive expertise, Bohle Carbonell, Könings, Segers, and Van Merriënboer (2016) called for interview studies on the strategies that experts apply to deal with novel contexts.

## 1.2 | The continuous development and materialization of expertise

Previous scholarly work on the flexible or adaptive nature of expertise implies that being an expert is not a final state, but requires the continuous development of expertise. However, most empirical research on expertise

development has focused on how individuals go through different stages to become an expert (see Ericsson, 2014 for a summary of influential models). In particular, we lack insight into how a professional career unfolds when expertise territories change and experts need to continuously renew their expertise in favor of the sustainability of their career (De Vos & Van der Heijden, 2017).

Grenier and Kehrhahn (2008) defined a three-stage process model for “expertise redevelopment.” The first stage refers to *dependence* in which the expert needs to rely on other people and resources, and learns to adapt his/her current repertoire to new demands. During the second stage of *independence*, there is an increasing comfort with the new knowledge, skills and/or role, that allows experts to supplement their existing knowledge base with new information. In the third and final stage of the so-called *transcendence*, the expert has developed a sense of ownership regarding the new expertise by which the latter becomes more tacit, and which is accompanied by a growing confidence to experiment. A limitation of the model by Grenier and Kehrhahn (2008) is that it leaves relatively unanswered what triggers redevelopment in the context of a wide variety of changes in expertise territories, how experts accomplish the move from one stage to the other in interaction with elements of their environment, and how their new expertise materializes or manifests itself to different audiences. These latter aspects are partly addressed by Ward, Gore, Hutton, Conway, and Hoffman (2018) who conducted a review of research on adaptive skills. They concluded that “adaptive skills is the *condition sine qua non* of expertise” (p. 46), meaning that being an expert entails being adaptable (i.e., as was addressed by the growth and flexibility dimension of expertise of Van der Heijden, 2000). They argued that it is important to distinguish between what constitutes expertise (i.e., the nature of expertise), and how professionals use this expertise to make effective contributions in those contexts where these matter most. Accordingly, Ward et al. (2018) formulated a conceptual “macrocognitive model of adaptive skill” for future empirical research needs incorporating HRD practices that are necessary in this regard. More specifically, this model consists of a process of *sense-making* where experts elaborate, question, and reframe their understanding of a certain situation. As such, this process coincides with a cycle of *flexecution* by which individuals pursue goals in a complex setting wherein they encounter emergent and unpredictable challenges in their professional field. The authors label this process as adaptive performance, that is, performance by discovery, as learning takes place by the doing.

A limitation of the models by Grenier and Kehrhahn (2008) and by Ward et al. (2018) is that none of them addresses how individual expertise materializes at multiple levels of an organization. In the light of this, Marand and Noe (2017) identified an increasing need for understanding the emergent, bottom-up processes through which individual expertise translates itself into valuable organizational outcomes in interaction with a complex setting. In their view, HRD plays an important role by providing the necessary conditions and processes for this materialization. However, in the light of the shift toward more sustainable business models, Thunnissen, Boselie, and Fruytier (2013) argued that HRD practitioners should not only focus on the desired outcomes for an organization. Rather, they should take their practice a step further by helping individuals to create (non)economical value beyond the boundaries of an organization, hereby incorporating the needs of multiple stakeholders both inside and outside an organization. This broader constituency urges professionals to increasingly focus on how they are known, by whom and for what, rather than merely on what they should know (Holtskog, 2017; Oldham & Hackman, 2010).

To summarize, in the context of changing expertise territories in nowadays' working life, scholarly researchers on the nature, development, and materialization of expertise had previously called for a better understanding of how professionals, flexperts in particular, continuously develop expertise in adjacent or new expertise domains. In addition, they stressed the need for more insight into how these flexperts materialize their newly required knowledge and skills for multiple stakeholders both inside and outside an organization, and, finally, how meeting the demands for new expertise contributes to the sustainability of an individual career.

## 2 | METHOD

To contribute to the HRD literature, we adopted a qualitative interview study to conduct an initial exploration of the processes by which flexperts continuously renew their expertise, in specific, aimed at better understanding how they develop and materialize new expertise throughout their career.

### 2.1 | Sample

Prior to a purposeful selection of flexperts, we defined five criteria, which should all be met, that strive for a representative sample covering a maximum variation of expertise renewal episodes (Boeije, 2010, p. 36). We derived these criteria from the expertise theories and current labor market demands as described in the introduction section. First, in line with Van der Heijden (1998, 2000), we intended to build upon a general theory of expertise and recruited flexperts from a variety of occupational disciplines. Second, we selected highly educated flexperts given the ever-increasing levels of knowledge and skills that are required (e.g., Levy & Murnane, 2004; Will-Zocholl, 2017). Third, following the seminal finding that around 10,000 hr of deliberate study and practice are required to perform at the expert level (Chi, Glaser, & Farr, 1988; Ericsson, Krampe, & Tesch-Römer, 1993; Simon & Chase, 1973), we needed to sample professionals with ample experience. In addition, we gave account of studies that provide valid criticism to the 10,000 hr rule. For example, the review study by Macnamara, Hambrick, and Oswald (2014) showed that most variance in performance between experts and novices could not be explained by differences in deliberate practice. We also acknowledged that in new areas of expertise, professionals can reach “world-class levels” in fewer than 10 years given a lack of history in the field (Ericsson, 2006, p. 690). Nevertheless, we decided to select flexperts who had at least 10 years of experience in their specific field after graduation to have sufficient expertise renewal episodes to reflect upon. Fourth, to address the issue of required reputation, the flexperts in our sample needed to have been recognized as high-performing and renewing experts by representatives from at least two of the following stakeholder groups: the community of peers in their field, users of their specific expertise within their own organization, and the general public. With regard to the first stakeholder perspective, the flexperts should have received two or more awards or official acknowledgements for innovative or renewing contributions to a certain field of expertise. From the organizational perspective, the flexperts should have been assessed by their supervisor and/or talent manager as a high-performing expert who was capable of materializing new areas of expertise for the organization, as part of a performance appraisal during the preceding 3 years. From the point of view of the general public, we aimed to select renowned flexperts who were consulted or put in the spotlight for their contributions to, or for renewing perspectives on, societal challenges in the public media, that is to say journals, television programs, social media, and/or radio. And finally, the flexperts in our sample should have developed and materialized at least two new expertise areas throughout their career. By applying this selection criterion, we intended to be sure that the expertise renewal was not a mere coincidence but an ability that could be applied more than once. We earmarked the developed expertise as “new” in case the specific stakeholders stated this expertise to be new in relation to their domain.

### 2.2 | Procedure

We contacted flexperts who met all of the sampling criteria using a snowball sampling procedure through the networks of the first two authors of this article, in parallel to conducting the interviews. In particular, we approached six companies, out of which three of their talent managers responded with a list of five flexperts in total. Four of them responded and decided to participate in our study. In parallel, we addressed seven public experts directly, out of whom six responded and decided to participate.

The primary method of data collection involved retrospective, semistructured interviews, which is a commonly used method to recollect the long-term process of expertise development (Sosniak, 2006). The first two authors conducted the interviews using a set of open questions to produce rich, descriptive data on expertise renewal processes.



To begin with, flexperts were asked to describe the succession of expertise areas they had developed throughout their career. In a dialogue with the flexpert, we selected one episode in which a new area of expertise was developed and materialized. Next, we went into the elements that had stimulated and hindered them, into concrete examples of the latter, and into what triggered the participating flexperts to look for the development and materialization of a new area of expertise. In addition, we dealt with similarities and dissimilarities with other expertise renewal episodes in the flexpert's career. We prompted the recollection of information by probing questions such as: What did you do? What did you do next? What was the effect? As part of the selection process, and in parallel to conducting the interviews and their coding (see section Data Analysis), the first two authors consulted supplementary data from online resources and public media on the flexperts' broadcasting strategies, (co)developed products, and reputation/recognitions of their achievements from the general public and from peers, to elaborate our understanding of their renewal episodes. Directly after each interview, both interviewers independently wrote down their first impressions from the interview and cross checked their notes to align on which emerging processes might require further elaboration in successive interviews. After five interviews, we constructed a tentative conceptualization of possible processes. After ten interviews, we appeared to have reached the point of saturation (Anderson, 2017, p. 129) given the identification of similar renewal processes across interviewees, expertise areas, and organization types, while, at the same time, having managed to collect a rich variety of behavioral examples of these processes. We decided to collect additional information on how flexperts differ from less-flexible experts and, if needed, more information as well on process features, sequences, and their interrelationships, during a process of member validation with half of the interviewees (see section Data Analysis).

The final sample consisted of ten renowned Dutch flexperts (six men and four women) who developed new areas of expertise in the following broad fields<sup>2</sup>: HRD (R1, 5), Medical (R2, 7, 9), Business Management (R3), ICT (R4, 8, 10), and Education (R6). Their experience ranged from 8 to 30 years (on average 21 years) in a wide variety of organizational types (e.g., multinational, university, freelance network, hospital, and consultancy firm). All interviews were conducted from May until July 2016 and lasted 59 min on average (ranging from 46 to 80). All flexperts provided consent for both recording the interviews and the member validation (see section Data Analysis). A third party agency made full verbatim transcripts of all interviews. The resulting transcripts were uploaded in ATLAS.ti (version 7) for data analysis.

### 2.3 | Data analysis

As the process by which flexperts renew their expertise is a relatively unknown phenomenon and given that prior empirical studies in this field are limited, we used an inductive approach for an in-depth analysis of the interview transcripts. This analysis was meant to make an initial exploration of the processes by which flexperts renew their expertise throughout their career, and what they considered as stimulating and hindering elements. In particular, we used open, axial, and theoretical coding for inducing an expertise renewal model (Boeije, 2010) and applied Charmaz's (2014) guidelines for coding actions undertaken.

For the process of open coding, the first two authors created codes consisting of short names that were "grounded" in the interview data and that reflected actions and their stimulating or hindering elements. We used the same code for text segments wherein interviewees used highly similar wording. Moreover, we used "in vivo" codes to capture the flexperts' terminology (Strauss & Corbin, 2007) to facilitate retrieval of this information for the successive coding steps and reporting. Next, we started the process of axial coding by comparing, discussing, and clustering codes to uncover the processes by which flexperts interacted with their expertise territories, the stimulating and hindering elements for these processes, and their outcomes (Strauss & Corbin, 2007). Throughout this process of iterative clustering, we checked for similarities and dissimilarities among codes and (sub)clusters of codes by verifying text segments within and across interview transcripts, and we changed the initial coding where necessary. In addition, during the processes of interviewing and coding, we kept track of our reflective thoughts and decisions by means of memo writing (Boeije, 2010, p. 70). To secure the consistency and quality of our coding (Murphy, Klotz, &

Kreiner, 2017), the first two authors jointly distinguished text fragments and assigned open codes to them. Next, the first author created axial codes during several iterations in which the second author reviewed the clustering. Disagreements among the two coders were solved by thorough discussions after verifying the original interview transcripts. Subsequently, we started the process of theoretical coding to develop a conceptual model for processes of expertise renewal. This resulted in the emergence of alternative conceptual models and accompanying theoretical concepts based upon a thorough brainstorm about the key processes, and the essence of the relationships between these, that were, subsequently verified using the interview data. The resulting model was then compared with the aforementioned theories on the nature, development, and materialization of expertise, and with additional scholarly literature on the processes of expertise renewal that we derived from the coding process (see Discussion section for more details).

A member validation (Anderson, 2017, p. 129; Boeije, 2010, p. 177) was carried out with half of the flexperts between June and August 2017 to verify the credibility of our analyses. With each flexpert individually, we reflected upon their individual expertise renewal processes which we derived from analyzing their interview transcripts and supplementary data. In addition, we cross validated the emerging process model (Murphy et al., 2017, p. 302) to determine to what extent the flexperts endorsed the visualization of the process model, the distinguished processes and their relationships, and whether there were missing elements (Andersen et al., 2010). In addition, we asked in what way the flexperts considered themselves to be different from experts who they perceived as less capable of renewing their expertise.

### 3 | FINDINGS

Figure 1<sup>3</sup> summarizes the outcomes of our coding processes. It shows the first-order codes as a result of open coding, the more abstract categories that we derived from the axial coding, and the aggregated theoretical dimensions that finally led to the formulation of our newly developed conceptual model.

Later, we describe in more detail how and why each process was applied by the flexperts, and which elements they considered to have stimulated or hindered these processes. Words between double brackets capture the wording used by the flexperts. Next, we discuss the conceptual Model of Expertise Renewal that we have derived from our analysis.

#### 3.1 | Generating ideas: An important source of expertise renewal

The flexperts in our sample reported that expertise renewal starts with an “idea” or “opportunity to do something new.” They described how they generated ideas by a range of activities and the usage of multiple sources (see Figure 1 for examples) resulting into a wide variety of ideas. In some cases, these ideas concerned the opportunity of acquiring high-level performance in an adjacent or new area of expertise. All flexperts identified opportunities to create a new field of expertise by making unique combinations among disciplines. For example, Int. 10 saw an opportunity to combine her expertise in the fashion industry with her ICT expertise to develop a new expertise area on “fashionable technology” during one of her expertise renewal episodes. Other flexperts described the opportunity of building upon an upcoming field of expertise. For example, one HRD flexpert (Int. 1) spotted the opportunity to acquire and materialize an upcoming expertise area, that is, early career crises, in the context of a growing demand for career support among young workers. In a subsequent renewal episode in her career, she noticed that “new ways of working” was another upcoming topic in the HRD field. She developed and implemented a method for organizations on new ways of working, and became a well-known expert on this new topic. Flexperts also identified opportunities to apply one’s given expertise to a new environment, such as Int. 7 who spotted the opportunity to apply his specific medical expertise to a new patient group. Six flexperts were triggered by what they called “lacunas” regarding, for example, processes, customer insights, or systems. These lacunas could be a source for generating ideas for a



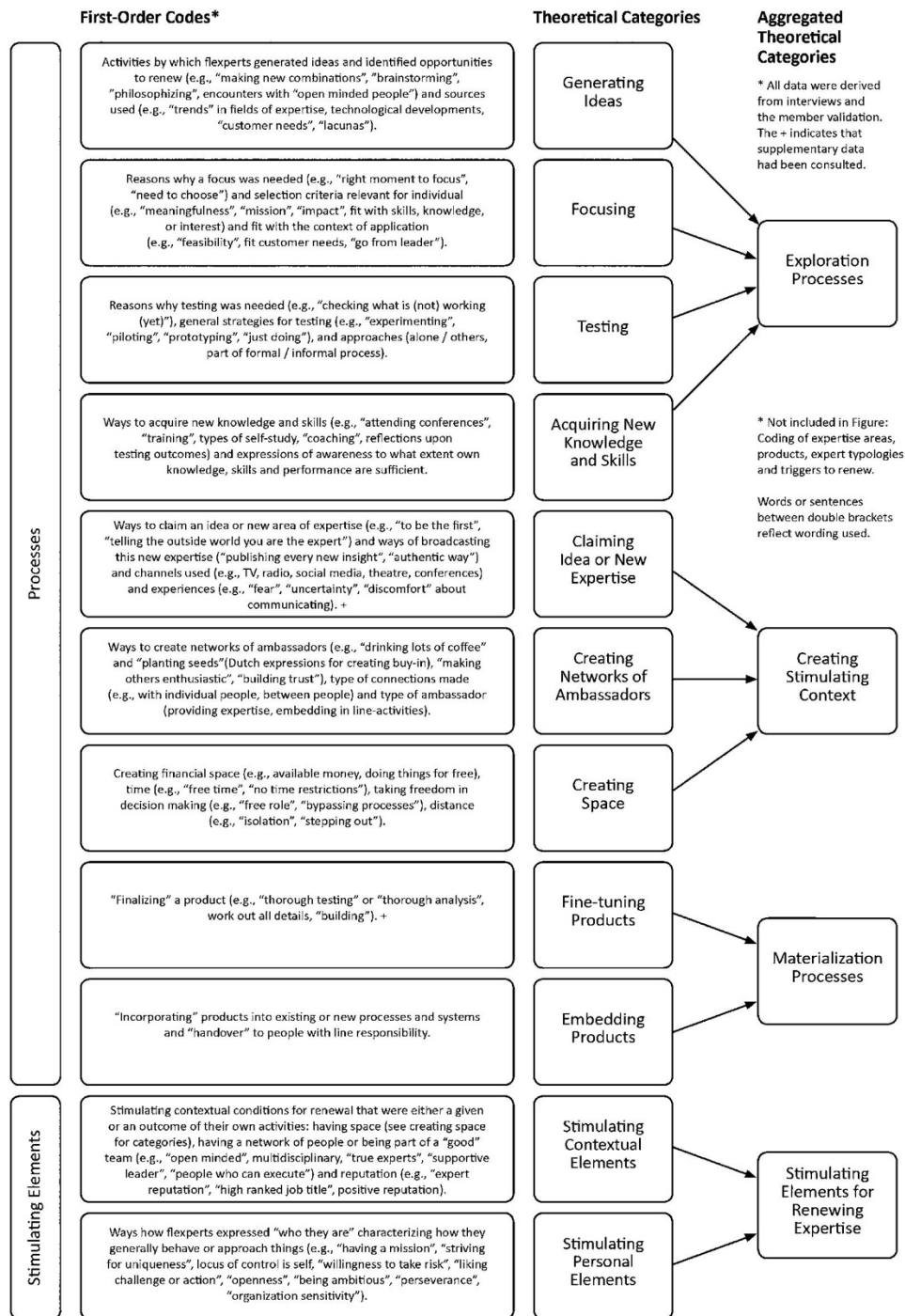


FIGURE 1 Overview of data structure

product or process innovation. In other words, the flexperts had to learn a new area of expertise, being a fortunate side effect of this innovation. During the interviews and member validation, the flexperts reported that they were rather inclined to approach these lacunas as an opportunity for renewal, whereas others tend to perceive them as a problem or hindrance. Some flexperts described the process of generating ideas as a relatively effortless activity that could happen spontaneously, during work or private activities, as illustrated by Int. 2: "Good ideas are not steered by a date or time." In addition, the flexperts appeared to generate ideas either as a solitary act or as a result of being inspired by others, specifically "open-minded people" from multiple disciplines.

### 3.2 | Focusing: Selecting an idea out of the many ideas

There appeared to be a kind of momentum to focus on either one or on a limited number of ideas, including opportunities to develop or materialize a new area of expertise. For example, Int. 10 described this type of situation as follows: "You have to stop whatever you are doing to seize an opportunity once it presents itself." A number of flexperts verbalized an intuitive feeling that a certain idea was potentially a good one. To take a well-considered decision whether an idea required further exploration, or whether it rather should be abandoned, all flexperts did multiple checks. We identified categories of personal and contextual checks that were used to evaluate an idea.

We clustered codes as *personal checks* in case the flexperts evaluated whether an idea could create outcomes in line with a number of personal characteristics or with their own needs. All but one flexpert checked whether an idea was expected to have meaningful outcomes in line with their personal mission, which was used as an overall guide in their career. For example, one ICT flexpert (Int. 10) explained that any decision on whether to start learning or doing new things was steered by her mission: "All the time going back to the mission: What is the mission? Does it fit and if not, ..., then don't do it ... For example ... our mission is to empower women through technology, that is what we stand for, thus for very specific women, and not for girls." In addition to checking the fit with one's personal mission, it was also important for the flexperts to be passionate about the idea, and to have relevant knowledge and skills. Others also checked whether they could have "impact" with the idea (Int. 3; 4; 8; 9; 10), or "be the first with an idea" stemming from a personal driver to be unique or different from others (Int. 1; 4; 5; 7; 9). The second category of checks concerned the *fit with the context of application*, relating to the environment and constituency, as explained in the introduction section. Depending upon the context, this has to do with, for example, the evaluation of whether the idea could potentially fulfill the customers' needs, or whether it seemed feasible to realize. Half of the participating flexperts specifically reported the importance of a "go" from their line manager to be a stimulating contextual factor, as illustrated by the following quote of Int. 6: "My direct supervisor [name] ... I encountered him frequently about, hey is this nice?, and he always said, yes, go on. Thus I started ... just doing." Being the first to come up with a certain idea was also a reason to select it. For example, one medical flexpert (Int. 7) noticed multiple times in his career that he could be ahead of others by developing a new area of expertise, for example described as: "An area ... nobody knows of ... meaning you are the first ... makes people interested, makes me to be invited everywhere."

The personal and contextual checks that have been outlined here were applied without a specific rank order. For example, the business management flexpert (Int. 3) described why he decided to focus on developing a new assessment tool: "Yes, because it is actually what ... I can, what I want, and what the market demands, these are the three ... things that come together." All in all, the flexperts focused on an idea because of its anticipated positive outcomes for both themselves and their stakeholders. Depending upon the specific expertise area or environment in which they were operating, these stakeholders could be customers, users, peers, or broader entities such as an organization as a whole or "the society." The expectations regarding positive outcomes justified themselves and others to spend time and money to (further) explore a certain idea. Some flexperts indicated that immediate action or testing was needed after a decision to focus on a certain idea to be "the first," summarized by Int. 9 as: "I spotted an opportunity and acted upon it."

### 3.3 | Testing: Getting a better understanding of what the idea is about

Flexperts reported multiple reasons for testing their idea. For example, one ICT flexpert (Int. 8) explained why he introduced an idea testing approach: "Now we know actually ... this is ... gold or this is nothing." Int. 10 explained that he was testing his ideas to get feedback on how well they were resonating with his audience, as explained in the following text excerpt: "If someone does not favor the idea than I have not explained it well enough, ... I must return to the drawing board to make the idea more clear." All flexperts mentioned that they tested their idea with the help of others, such as colleagues, relatives, and friends, whom they perceived as "open-minded people." Flexperts described specific strategies for testing their idea, which they described in wordings such as "experimenting," "prototyping," or "running a pilot." Six flexperts also frequently referred to this testing as "just doing." Moreover, the participating flexperts also gave examples of carrying out "thought experiments" by which they visualized and thought through an idea. The information resulting from testing activities was sometimes used to come up with the decision to focus on one of the flexpert's ideas, that is, the process of focusing as we described before. In addition, testing sometimes generated new ideas for the development of expertise in an adjacent or new domain.

### 3.4 | Acquiring new knowledge and skills: Becoming confident

By acquiring new knowledge and skills, flexperts could enrich an idea resulting into a sound knowledge foundation for it, and enabling them to learn how to do things. This together gave flexperts a growing feeling of confidence to be an expert on the new topic. Even though flexperts voiced to continuously develop themselves in their broad field of expertise, they specifically delved deeper into topics during the exploration of a new field of expertise. They reported to have acquired new knowledge and skills by, for example, evaluating the outcomes of testing, extensive reading, consulting experts, attending conferences, joining training, interviewing, and observing. For example, Int. 1 described how she spends an extensive amount of hours on self-study by reading scientific articles on new ways of working, following experts in this field on social media, and reflecting on the effectiveness of methods that she had been trying out. In this way, she internalized peers' expertise supplemented with her own insights. She summarized this as follows: "Then it also became an expertise of myself." Int. 4 described the outcome of this process as "A cloud of knowledge that was expanding." Flexperts also recognized that some expertise areas were too deviant or dissimilar from their own one to cope independently with closing the accompanying knowledge and skills gap. This was illustrated by the following quote of one medical expert (Int. 9): "Don't try to be the expert in an area you are not." In that case, they attracted other experts (see the section Creating Networks of Ambassadors for more details).

### 3.5 | Creating a stimulating context

The flexperts described how they were actively influencing their context, relating to elements of their expertise environment and constituency, aimed at stimulating both the (further) exploration of their idea, or the materialization of their expertise by means of fine-tuning and embedding a variety of products (see later on in this section). They all described three processes by which they created a (more) stimulating context where needed: claiming the idea, creating networks of ambassadors, and creating space. During the interviews and member validation, some flexperts mentioned that they differed from others by perceiving their context as something they could potentially influence, and as such applied the following three processes.

#### 3.5.1 | Claiming an idea or new expertise: Broadcasting to be the expert

Along iterations of testing an idea and acquiring new expertise, all flexperts reached a point where they felt a need to claim their enriched idea or to associate their name with an emerging area of expertise given the insights gained. Besides, all flexperts communicated their idea or new area of expertise to inspire, inform, and make others familiar with it, and as such built their reputation or labelling as an expert on the new topic. More specifically, all flexperts claimed their selected idea by broadly communicating it as a new concept, vision, insight, product, approach, or new



area of expertise, even though it was still in an explorative stage. Three flexperts purposively used a unique name for the new expertise area or gave themselves a special expert label. For example, one HRD flexpert (Int. 1) explained why she gave a special label to her growing expertise on “early career crisis”: “I know a lot about it, I have done much with it, but you only will be seen if it gets a name.” Seven flexperts reported a specific strategy: claiming a topic or new area of expertise by telling “to be the first.” This claiming happened in organizations, among communities of peers, and in the public media. During the member validation, two ICT flexperts (Int. 4; 8) pointed out the necessity of the “right timing” for broadcasting, as people need to be “receptive to new ideas.”

Flexperts claimed “ownership” of a new field *before* their newly obtained expertise was fully developed. Int. 1, 6, 8, and 9 reported fear, uncertainty, or discomfort to communicate about their new expertise while not having sufficient expertise yet. This feeling is due to the fact that the audience expects an expert to be knowledgeable. HRD flexpert Int. 1 explained how she coped with this: “In the beginning you feel ill at ease because you are of course totally nothing, so the reflex is to keep up appearances.” After an initial claim, it was a fruitful strategy to publish or broadcast every new insight or evidence that was found to further enhance their expert reputation. Figure 1 shows the multiple channels that were used for this broadcasting. By repeatedly telling the outside world you are the expert, it became a kind of self-fulfilling prophecy, illustrated by one medical expert (Int. 9) as: “By the act of being the expert, I became the expert.”

### 3.5.2 | Creating networks of ambassadors: Stimulating exploration and materialization

The flexperts aimed to create networks of ambassadors to enable access to expertise and resources in favor of their intended renewal process, as reflected in the quote one ICT flexpert (Int. 10): “You need enthusiastic and interested people. You cannot handle it on your own ... I strongly believe that you can become anything you want and that everything is possible and no is actually not an option, but it requires that you can't do it on your own. ... I ask immediately for help.” Another ICT flexpert (Int. 4) explained the need for creating ambassadors among various departments within his organization as follows: “The larger you are making your network and the longer you have been working somewhere, the higher the chance that things go faster, because you are much more of a spider in a web ... Instead of spinning a couple of strings, you have spun a thousand of these.”

Flexperts described ambassadors as those people who were actively supporting their claim of a new area of expertise or the launch of an idea, either inside or outside an organization. Two types of ambassadors emerged from the interview data. The first type were experts with the required complementary or in-depth expertise who contributed to testing a preliminary idea and/or fine-tuning it into a product. The second type of ambassadors were line managers or colleagues with complementary planning or coordination skills, who helped to embed the new knowledge, skills, and products in regular processes and systems. If needed, they also helped in creating the required space (see the next paragraph for more details). The flexperts created networks of ambassadors as a side effect of involving them in the previously described processes of claiming and testing, and by involving them in the fine-tuning and embedding of products as we will describe further on. Flexperts also reported actions that were specifically targeted at creating ambassadors. They typically conducted these actions in bilateral settings, and actively built trust and expanded their network by making connections with and between people who should advocate or support their idea, new product, or new area of expertise. Flexperts purposively stimulated this process by using their expert reputation, their positive performance evaluation within the organization, or a high-ranked job title to gain easy access to people who could be their ambassador. If needed, these ambassadors could help the flexperts in creating “space” for renewal.

### 3.5.3 | Creating space: Having the required room to explore

All flexperts voiced examples of why they needed “space.” They described space as a context that specifically provided them room to (further) explore an idea or a new area of expertise, as it helped them with generating new ideas, testing these, and deliberately studying. Space stimulated these processes as it provided, as reported by Int. 8, for

example: "Freedom to take decisions." Int. 7 verbalized it as: "It allowed me to continue," and for Int. 4 "It helped to keep the energy." One HRD expert (Int. 5) described how "space" helped her to explore the opportunity of developing a new area of expertise. She explained how she frequently had created space throughout her career to make unique combinations of her expertise in arts, pedagogics, and business management. She described the function of space as something that people need to "reinvent themselves": "It opens up possibilities for individuals to become intrinsically motivated to define for themselves what to learn, how to deal with change, and, ultimately, how to reinvent themselves within the safety of the space."

Flexperts voiced examples of four different kinds of "space" that they either created themselves or that were perceived as stimulating elements that were provided by other parties: the possibility to circumvent existing processes or regulations, financial space, time, and distance. Eight flexperts bypassed existing processes that they perceived as a barrier, as described by one ICT flexpert (Int. 8) who created a position for himself akin to the "sweeper position" in football: "Now I do not need to ask anyone for permission, thus when I have an idea today, I can do it tomorrow." In a different way, Int. 3 and Int. 4 circumvented barriers by starting their own firm in combination with being employed. Int. 3 also commenced to work with start-ups to have more freedom to act. Six flexperts created financial space, for example by investing their own money (Int. 3; 5), doing work for free (Int. 1; 10), or by finding funds (Int. 2; 7). Int. 1, 5, 6, and 10 organized the time to do the things they wanted to do. Int. 1, 5, 6, and 9 isolated themselves for a longer period of time for an in-depth elaboration on the new topic.

### 3.6 | Fine-tuning products

The interviews and supplementary data showed that flexperts developed a variety of products by which they made their initial idea and new area of expertise accessible and useful for multiple stakeholders, both inside and outside an organization. For example, they developed ICT tools, summaries of their understanding (e.g., scientific articles, popular scientific books, and blogs), learning tools (e.g., eLearning, lectures, theater show, assessments, and coaching), methods (e.g., medical treatment, ICT selection process), or policies. One medical flexpert (Int. 9) explained that the development of products was a necessity to keep on being an expert: "... you have to produce, because it is a temporary status. You are an expert and ... people ascribe you this status on the basis of the knowledge and the materialization of your skills, but if you do not follow up on this ... than it breaks off. Your expert role will vanish." The development of usable products involved a process of fine-tuning. Some flexperts involved what they called "true experts" or "craftsman" for this process of fine-tuning given their in-depth expertise on a specific topic and/or their stronger focus on details. For example, one medical flexpert (Int. 7) involved a statistician who did a more thorough analysis to standardize a treatment. Similarly, one ICT flexpert (Int. 8) attracted another ICT specialist for systematic testing by which he made the product suitable for a customer launch.

### 3.7 | Embedding products

In parallel to this fine-tuning process, flexperts made sure that their products were integrated into existing processes and systems. Many flexperts preferred to handover this process of embedding, as well as the aforementioned process of fine-tuning, as reflected in the quote of Int. 8: "I never finish anything, that is a bad habit, but also a good habit, thus I reach 60, 70% and then hand it over to ... people with line responsibility. Then I got rid of it and it allows me to do something new." In this process he considered the following: "How can I make sure that we build up something, which doesn't break down .. if I withdraw." Flexperts reported losing interest or getting bored during this process of embedding and the aforementioned process of fine-tuning and started looking for "something new." They had these experiences because their work had become more routine, lowering the opportunities to learn something new, as illustrated by the following quote of Int. 9: "Look, in the beginning you are anxious and you want to do it right, but now I do not have that anymore ... it became a skill ... and this is a point where I think ... this is not attractive." As a result, flexperts were not much inclined to report extensively about the details of fine-tuning and

embedding. Handing over the work to others, during this stage of materializing their expertise, often resulted into more openness for new opportunities, which could lead to the generation of ideas as a basis for a new expertise renewal episode.

### 3.8 | Toward a conceptual model of expertise renewal

Based on this empirical work, we have developed a conceptual Model of Expertise Renewal visualized in Figure 2. It summarizes the previously described key processes, and explains how each process can be interconnected during an expertise renewal episode in a flexpert's career. We have distinguished three main process cycles: an exploration cycle, a cycle in which a stimulating context is created, and a materialization cycle.

An expertise renewal episode usually starts with *generating ideas*, including ideas for developing adjacent or new areas of expertise. It can set in motion a cycle of *exploring a new expertise domain* in which flexperts perform iterations of *testing* the value that the idea could have for others, and *acquiring new knowledge and skills* to enrich the preliminary idea. Sometimes these two processes generate new ideas in return. During the exploration cycle, flexperts make a well-considered decision by *focusing* on one or a limited set of ideas, often after some iterations of testing and acquiring new knowledge and skills. To do this, they weigh up both the potential of having beneficial outcomes for themselves as well as for relevant stakeholders. Having a focus can be a trigger to further test or enrich a certain idea.

If needed, flexperts start a cycle of processes by which they are *creating a stimulating context* in three different ways. Flexperts start *claiming the idea or new expertise* once they have sufficient testing data gathered and/or new knowledge and skills acquired. This claiming helps to build up an expert reputation on the new topic, herewith enhancing the possibilities of *creating networks of ambassadors*. This network can support exploration if it consists of people who can help with further testing, can provide additional knowledge and skills, or can help *creating space*, that is, the possibility to circumvent processes, gaining access to financial resources, having time available, and taking distance for further exploration. If the time is right, ambassadors can also contribute to the materialization of the newly acquired expertise.

The *cycle of materializing ideas and new expertise* typically starts after a number of exploration cycles. This is the stage in which it usually becomes clearer as to how a tested idea, enriched with new knowledge and skills, can be materialized after also having been able to create a (more) stimulating context. This materialization is realized by the development of tangible products for multiple stakeholders inside and outside an organization. It often requires the *fine-tuning* of products for which flexperts involve other (f)experts among their network of ambassadors who have complementary or in-depth expertise on components of the desired output. Line managers from their network of

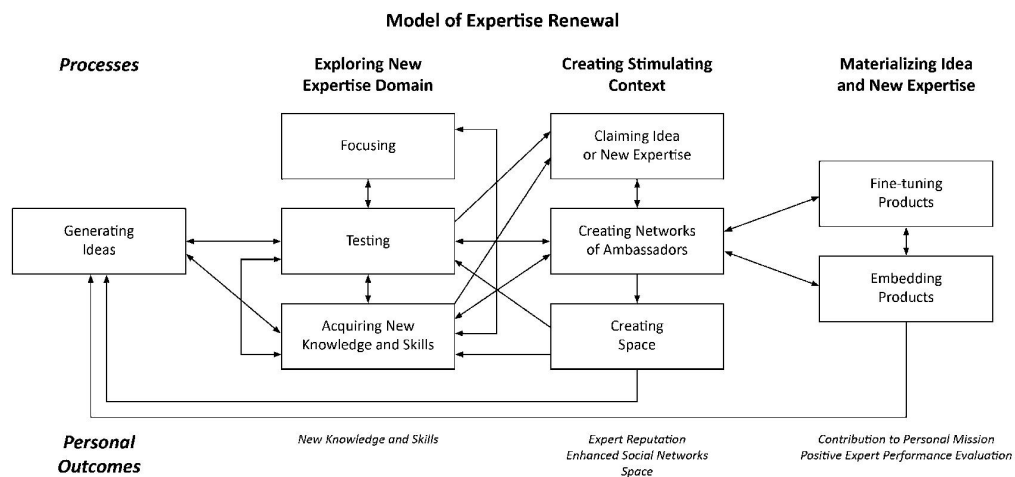


FIGURE 2 Conceptual model of expertise renewal



ambassadors are usually involved in the process of *embedding* the new products in regular ways of working. Flexperts tend to hand over this fine-tuning and embedding to enable themselves to shift their attention to opportunities for developing new areas of expertise. This shift is often triggered if the work becomes more routine and when learning opportunities have grown thin. As flexperts are mobilizing ambassadors during the exploration cycles, they have relatively easy access to experts and line managers. Therefore, they may delegate the work of fine-tuning and embedding new products to start a new renewal episode in their career.

A sound expertise renewal episode can support flexperts in subsequent episodes in their career given the beneficial *personal outcomes*. First, exploration can generate *new knowledge and skills* that can enhance the flexpert's reputation, the quality of the products, and the generation of new ideas. Second, an *expert reputation* can help a flexpert in making people willing to become their ambassador. Third, an *enhanced social network* can help the flexpert during a future expertise renewal episode by providing expertise, mandate, and resources for both the exploration and the materialization of new ideas and expertise. Fourth, having *space* also helps in creating room to focus on a subsequent renewal episode. And finally, the implementation of new products based on a tested idea and enriched with new knowledge and skills can lead to a *positive expert performance evaluation in line with one's personal mission*.

To summarize, the Model of Expertise Renewal that we propose is iterative, meaning that an expertise renewal episode is characterized by recurrent sequences of two or more processes, such as for example the iterations of testing and acquiring new knowledge and skills. The model is multidirectional as flexperts move back and forth between exploration, creating a stimulating context for renewal, and materialization. The distinguished expertise renewal processes are executed in unique ways given the specific characteristics of the flexpert's expertise domain, environment, and audience, which requires a flexpert to adapt his or her behavior. Consequently, the sequence, frequency, and duration of processes is different between flexperts as well as across different episodes of a single flexpert, resulting into idiosyncratic expertise renewal paths by which a flexpert materializes new expertise for multiple stakeholders, both inside and outside the organization. As such, the model provides a framework for defining learning paths as we will further discuss in the final section of this article.

## 4 | DISCUSSION

### 4.1 | Contribution to the HRD scholarship

With this contribution, we aim to shed more light on the richness and complexity of the processes by which flexperts develop and materialize new areas of expertise. By developing a conceptual Model of Expertise Renewal, we are able to extend the process models of Grenier and Kehrhahn (2008) and Ward et al. (2018). In line with Grenier and Kehrhahn's model of expertise redevelopment (2008), we have described the acquisition of new knowledge and skills as a shift from reliance on other resources toward a level of "transcendence" in which the possession of high-level domain-specific knowledge and skills is accompanied by a growing confidence, herewith providing a platform for starting new expertise renewal episodes. The alternation between the exploration and materialization cycles resembles the model of adaptive skill of Ward et al. (2018) to the extent that flexperts were both "making sense" of a preliminary idea to renew, and while "doing" things they were finding ways to materialize their idea or new area of expertise for multiple stakeholders.

Our model extends these two process models by the addition of processes and by their refinement. Firstly, we have added the processes by which flexperts generate and focus on ideas about how to deal with changing expertise demands, often described as opportunities for renewal. In the fields of entrepreneurship and intrapreneurship, many researchers were already captivated by the question of what makes people to perceive opportunities. Review studies of Baggen (2017), Brandstätter (2011), and George, Parida, Lahti, and Wincent (2016) described the positive effects of prior knowledge, social capital, and personality traits on opportunity recognition. Analogously, we could argue that the flexperts in this study recognized a wide variety of opportunities to develop new areas of expertise by having an extensive knowledge base and supportive social networks. Moreover, the abovementioned review studies showed that Big Five traits, in

particular Openness, appeared to partly explain individual differences in opportunity recognition, which we assume to be characteristic for flexperts as well, given their explanations of how they were open for opportunities to deal with changes in their expertise territories. In line with Thunnissen et al. (2013), we posit that flexperts contribute to the sustainability of their careers by making a balanced decision to focus on those ideas that could create a value for multiple stakeholders in and outside an organization, as well as valuable outcomes for themselves.

Secondly, our model extends the aforementioned process models by the addition and refinement of processes by which flexperts interact with certain elements in their environment and with their audience, and by which they alter these elements if needed to stimulate the development and materialization of their newly gained expertise. Specifically, the flexperts seemed to organize their own resources by the process of creating ambassadors, and appeared to be able to circumvent barriers by the process of creating space. In this way, their activities resembled the so-called job-crafting strategies (e.g., Tims, Derks, & Bakker, 2016) by which professionals influence elements of their environment to have a better personal fit with their job and to experience their work as more meaningful. To the best of our knowledge, earlier research on job-crafting strategies has not yet addressed the search for optimal strategies for (expert) reputation building by which an audience can be created or maintained among groups of stakeholders. Therefore, our contribution helps to close the knowledge gap on how the sustainability of professionals' careers can be enhanced (see also Van der Heijden & De Vos, 2015).

#### 4.2 | Limitations of this study and directions for future research

This study has some limitations. First, although the flexperts operated in a variety of expertise areas and types of organizations, we found commonalities in their expertise renewal processes. However, given the limited number of flexperts interviewed, more empirical research is needed to determine the generalizability of our conclusions. This would also include to interview "negative cases" (Andersen et al., 2010; Boeije, 2010, p. 38) to verify eventual disapproval of the provisional findings so far. In addition, follow-up research is needed to develop a generic (i.e., domain-independent) quantitative measurement instrument based on the newly developed conceptual model to test whether the described mechanisms are established in larger and more diverse samples.

Second, we should consider the possibility of a hindsight bias or internal attribution error (Kelley & Michela, 1980). In particular, it could be that flexperts had a distorted recollection of their expertise renewal processes, and as such might have incorrectly attributed successes to their own efforts rather than perceiving it as an outcome of beneficial circumstances. Future research could make use of feedback from multiple sources, such as the flexpert's line managers and peers, to understand whether their performance is largely determined by the given context or facilitated by environmental elements and/or the audience, which was created by the flexpert him/herself.

Third, by only studying flexperts in the top end of the performance ratings, we should be cautious making statements about the extent to which they differ from those professionals who are less capable of renewing their expertise. Therefore, we suggest that further quantitative research explores the potential effects of personality characteristics on the flexpert's ability, varying in terms of excellence, to recognize opportunities for developing new expertise, and the exploration and materialization of these opportunities.

Fourth and finally, as we have only incorporated Dutch experts, it is worthwhile to cross validate our findings with a more culturally diverse flexpert population. As there are cultural differences in the way that people grant status to someone and to what extent people act as an individual or a group (Trompenaars & Hampden-Turner, 1998; Yuan, Bazarova, Fulk, & Zhang, 2013), we recommend to further examine cross-cultural differences in building up and maintaining flexpert reputation.

#### 4.3 | Implications for the HRD practice

Expertise is argued to be a core concept for the HRD practice, as much of the work concerns "unleashing expertise for the purpose of improving performance" (Swanson & Holton, 2009, p. 252), and, therefore, we will conclude with practical recommendations for the HRD practice. Over the past few years, there has been an increased focus on how



employees can take responsibility for their own career (Poell & Van der Krogt, 2014; Van der Heijden & De Vos, 2015). In this regard, Poell (2017, p. 14) called for more attention on how employees create their own learning paths, and how HRM and HRD managers, and other actors can influence professionals in having sustainable careers. A learning path refers to “a set of learning-relevant activities that are both coherent as a whole and meaningful to the employee” (Poell, 2017, p. 11), and can be described by the learning theme, learning activities, social context, learning facilities, and the learning motive. The conceptual Model of Expertise Renewal provides a framework for experts to create their own learning paths in situations wherein learning is required as a result of the shifting demands for their expertise. It shows that experts need to make a deliberate choice for selecting a learning theme, taking the needs of multiple stakeholders or actors into account as well as the fit with one's own learning motive or mission. Furthermore, it shows that in the light of a sound design of learning activities, experts have to involve and expand their social network to materialize the new expertise for both themselves and multiple stakeholders. For initiating these learning activities, they should also play an active role in arranging learning facilities.

To better understand which group of experts might require developmental support, a HRD professional could conduct an initial assessment of their level of expert performance, and in particular, of their level of “growth and flexibility” (Van der Heijden, 2000). Subsequently, a HRD professional could use the Model of Expertise Renewal to review, together with the expert and line manager, which processes the expert finds difficulty to deploy and/or which elements of the expert's environment or constituency may stimulate or hinder one or more processes. As such, the Model of Expertise Renewal can be used to identify where a certain process of an expert was enhanced or, in contrast, where opportunities for creating beneficial outcomes for stakeholders involved or for the expert's career have not been seized. A HRD professional could use these insights for the design of learning interventions in close collaboration with the experts and their line managers (Poell & Van der Krogt, 2014). These interventions could focus on how experts can be a strategic actor by creating their own learning paths and/or the development of abilities, which are required for specific expertise renewal processes. Given the notion that flexexperts might differ from their less-flexible peers with regard to their perception of how they can influence their context, a HRD professional or line manager could specifically focus on making the latter ones more aware of the possibility to shape their social context and learning facilities, using insights on how job-crafting abilities can be developed (Tims, Bakker, & Derks, 2012, p. 176). Thus, by stimulating experts to create their own learning paths and learning them how to create a stimulating context, HRD practitioners can support experts in dealing with changing expertise demands to safeguard the sustainability of their professional career.

## NOTES

<sup>1</sup>See Appendix I of Van der Heijden's dissertation (1998) for an overview of definitions of experts and expertise.

<sup>2</sup>There was one exception to the 10-year rule in our final sample: one flexexpert had 8 years of experience in an upcoming younger field of ICT.

<sup>3</sup>The template for Figure 1 has been derived from Pratt, Rockmann, and Kaufmann (2006).

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## REFERENCES

- Alexander, P. A., Schallert, D. L., & Hare, V. C. (1991). Coming to terms: How researchers in learning and literacy talk about knowledge. *Review of Educational Research*, 61(3), 315–344. <https://doi.org/10.3102/00346543061003315>
- Andersen, D. L., Luna-Reyes, L. F., Diker, V. G., Black, L., Rich, E., & Andersen, D. F. (2010). The disconfirmatory interview as a strategy for the assessment of system dynamics models. *System Dynamics Review*, 28(3), 255–275. <https://doi.org/10.1002/sdr.1479>
- Anderson, V. (2017). Criteria for evaluating qualitative research. *Human Resource Development Quarterly*, 28(2), 125–133. <https://doi.org/10.1002/hrdq.21282>

- Arbesman, S. (2012). *The half-life of facts: Why everything we know has an expiration date*. London, England: Penguin Putnam.
- Baggen, Y. (2017). *Opportunity identification competence. Explaining individual and exploring team opportunity identification by employees* (doctoral dissertation). University of Wageningen. doi:<https://doi.org/10.18174/393037>
- Birney, D. P., Beckmann, J. F., & Wood, R. E. (2012). Precursors to the development of flexible expertise: Metacognitive self-evaluations as antecedents and consequences in adult learning. *Learning and Individual Differences*, 22, 563–574. <https://doi.org/10.1016/j.lindif.2012.07.001>
- Boeije, H. (2010). *Analysis in qualitative research*. Los Angeles, CA: Sage.
- Bohle Carbonell, K., Könings, K. D., Segers, M., & Van Merriënboer, J. J. G. (2016). Measuring adaptive expertise: Development and validation of an instrument. *European Journal of Work and Organizational Psychology*, 25, 167–180. <https://doi.org/10.1080/1359432X.2015.1036858>
- Bohle Carbonell, K., Stalmeier, R. E., Könings, K. D., Segers, M., & Van Merriënboer, J. J. G. (2014). How experts deal with novel situations: A review of adaptive expertise. *Educational Research Review*, 12, 14–29. <https://doi.org/10.1016/j.edurev.2014.03.001>
- Brandstätter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences*, 51, 222–230. <https://doi.org/10.1016/j.paid.2010.07.007>
- CBS (2015). *Lack of important new skills or know how among nearly a quarter of Dutch employees*. Retrieved from <https://www.cbs.nl/en-gb/news/2015/21/lack-of-important-new-skills-or-know-how-among-nearly-a-quarter-of-dutch-employees>
- Charmaz, K. (2014). *Constructing grounded theory: A practical guide through qualitative analysis*. London, England: Sage.
- Chi, M. T. H., Glaser, R., & Farr, M. J. (Eds.). (1988). *The Nature of expertise*. Hillsdale, MI: Lawrence Erlbaum.
- De Vos, A., & Van der Heijden, B. I. J. M. (2017). Current thinking on contemporary careers: The key roles of sustainable HRM and sustainability of careers. *Current Opinions in Environmental Sustainability*, 28, 41–45. <https://doi.org/10.1016/j.cosust.2017.07.003>
- Ericsson, K. A. (2006). The influence of experience and deliberate practice on the development of superior expert performance. In K. A. Ericsson, N. Charness, P. J. Feltovich, & R. R. Hoffman (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 683–703). Cambridge, England: Cambridge University.
- Ericsson, K. A. (2014). Adaptive expertise and cognitive readiness: A perspective from the expert-performance approach. In H. O'Neil, R. Perez, & E. Baker (Eds.), *Teaching and measuring cognitive readiness* (pp. 179–197). Boston, MA: Springer.
- Ericsson, K. A., Krampe, R. T., & Tesch-Römer, C. (1993). The role of deliberate practice in the acquisition of expert performance. *Psychological Review*, 100(3), 363–406. <https://doi.org/10.1037/0033-295X.100.3.363>
- Feltovich, P. J., Prietula, M. J., & Ericsson, K. A. (2018). Studies of expertise from psychological perspectives: Historical foundations and recurrent themes. In K. A. Ericsson, R. R. Hoffman, A. Kozbelt, & A. M. Williams (Eds.), *The Cambridge handbook of expertise and expert performance* (2nd ed., pp. 59–83). Cambridge, England: Cambridge University.
- George, N. M., Parida, V., Lahti, T., & Wincent, J. (2016). A systematic literature review of entrepreneurial opportunity recognition: Insights on influencing factors. *International Entrepreneur Management Journal*, 12, 309–350. <https://doi.org/10.1007/s11365-014-0347-y>
- Germain, M., & Tejada, M. J. (2012). A preliminary exploration on the measurement of expertise: An initial development of a psychometric scale. *Human Resource Development Quarterly*, 23(2), 203–232. <https://doi.org/10.1002/hrdq.21134>
- Grenier, R. S., & Kehrnhahn, M. (2008). Towards an integrated model of expertise redevelopment and its implications for HRD. *Human Resource Development Review*, 7(2), 198–217. <https://doi.org/10.1177/1534484308316653>
- Hatano, G., & Inagaki, K. (1986). Two courses of expertise. In H. Stevenson, H. Azuma, & K. Hakuta (Eds.), *Child development and education in Japan* (pp. 262–272). San Francisco, CA: Freeman.
- Hatano, G., & Oura, Y. (2003). Commentary: Reconceptualizing school learning using insight from expertise research. *Educational Researcher*, 32(8), 26–29. <https://doi.org/10.3102/0013189X032008026>
- Holtskog, H. (2017). Defining the characteristics of an expert in a social context through subjective evaluation. *Journal of the Knowledge Economy*, 8, 1014–1031. <https://doi.org/10.1007/s13132-015-0312-1>
- Kelley, H. H., & Michela, J. L. (1980). Attribution theory and research. *Annual Review of Psychology*, 31, 457–501. <https://doi.org/10.1146/annurev.ps.31.020180.002325>
- Laloux, F. (2015). *Reinventing organizations*. Brussels, Belgium: Nelson Parker.
- Levy, F., & Murnane, R. J. (2004). *The new division of labor. How computers are creating the next job market*. New York, NY: Russell Sage.
- Macnamara, B. N., Hambrick, D. Z., & Oswald, F. L. (2014). Deliberate practice and performance in music, games, sports, education, and professions: A meta-analysis. *Psychological Science*, 25, 1608–1618. <https://doi.org/10.1177/0956797614535810>
- Marand, A. D., & Noe, R. A. (2017). Facilitating the development of expertise: An individual to organizational perspective. In K. G. Brown (Ed.), *The Cambridge handbook of workplace training and employee development* (pp. 38–74). Cambridge, UK: University Press.
- McKinsey. (2017). *Digitally-enabled automation and artificial intelligence: Shaping the future of work in Europe's digital front-runners*. Retrieved from <https://www.mckinsey.com/global-themes/europe/shaping-the-future-of-work-in-europes-nine-digital-front-runner-countries>

- Mieg, H. A. (2006). Social and sociological factors in the development of expertise. In K. A. Ericsson, N. Charness, P. J. Feltovich, & R. R. Hoffman (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 743–760). Cambridge, England: Cambridge University Press.
- Murphy, C., Klotz, A. C., & Kreiner, G. E. (2017). Blue skies and black boxes: The promise (and practice) of grounded theory in human resource management research. *Human Resource Management Review*, 27, 291–305. <https://doi.org/10.1016/j.hrmr.2016.08.006>
- Neimeyer, G. J., Taylor, J. M., Rozensky, R. H., & Cox, D. R. (2014). The diminishing durability of knowledge in professional psychology: A second look at specializations. *Professional Psychology: Research and Practice*, 45(2), 92–98. <https://doi.org/10.1037/a0036176>
- OECD. (2009). *21<sup>st</sup> century skills and competences for new millennium learning in OECD countries* (EDU Working Paper No. 41). Retrieved from [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP\(2009\)20&doclanguage=en](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2009)20&doclanguage=en)
- Oldham, G. R., & Hackman, J. R. (2010). Not what it was and not what it will be: The future of job design research. *Journal of Organizational Behavior*, 31, 463–479. <https://doi.org/10.1002/job.678>
- Poell, R. F. (2017). Time to 'flip' the training transfer tradition: Employees create learning paths strategically. *Human Resource Development Quarterly*, 28(1), 9–15. <https://doi.org/10.1002/hrdq.21279>
- Poell, R. F., & Van der Krogt, F. J. (2014). The role of human resource development in organizational change: Professional development strategies of employees, managers and HRD practitioners. In S. Billett, C. Hanteis, & H. Grub (Eds.), *International handbook of research in professional and practice-based learning* (pp. 1043–1070). Dordrecht, The Netherlands: Springer.
- Pratt, M. G., Rockmann, K. W., & Kaufmann, J. B. (2006). Constructing professional identity: The role of work and identity learning cycles in the customization of identity among medical residents. *Academy of Management Journal*, 49, 235–262. <https://doi.org/10.5465/amj.2006.20786060>
- Simon, H. A., & Chase, W. G. (1973). Skill in chess. *American Scientists*, 61, 175–188.
- Sosniak, L. A. (2006). Retrospective interviews in the study of expertise and expert performance. In K. A. Ericsson, N. Charness, P. J. Feltovich, & R. R. Hoffman (Eds.), *The Cambridge handbook of expertise and expert performance* (pp. 287–302). Cambridge, England: Cambridge University.
- Strauss, A. L., & Corbin, J. (2007). *Basics of qualitative research. Techniques and procedures for developing a grounded theory* (3rd ed.). Thousand Oaks, CA: Sage.
- Susskind, R. E., & Susskind, D. (2015). *The future of the professions: How technology will transform the work of human experts*. New York, NY: Oxford University.
- Swanson, R., & Holton, E. (2009). *Foundations of human resource development* (2nd ed.). San Francisco, CA: Berrett-Koehler.
- Thunnissen, P., Boselie, P., & Fruytier, B. (2013). Talent management and the relevance of context: Towards a pluralistic approach. *Human Resource Management Review*, 23(4), 326–336. <https://doi.org/10.1016/j.hrmr.2013.05.004>
- Tims, M., Bakker, A. B., & Derks, D. (2012). Development and validation of the job crafting scale. *Journal of Vocational Behavior*, 80, 173–186. <https://doi.org/10.1016/j.jvb.2011.05.009>
- Tims, M., Derks, D., & Bakker, A. B. (2016). Job crafting and its relationship with person-job fit and meaningfulness: A three-wave study. *Journal of Vocational Behavior*, 92, 44–53. <https://doi.org/10.1016/j.jvb.2015.11.007>
- Trompenaars, F., & Hampden-Turner, C. (1998). *Riding the waves of culture: Understanding cultural diversity in global business* (2nd ed.). New York, NY: McGraw-Hill.
- Van der Heijden, B. I. J. M. (1998). *The measurement and development of professional expertise throughout the career: A retrospective study among higher level Dutch professionals*. (Doctoral dissertation). Retrieved from [http://www.ru.nl/library/resources/radboud\\_repository/](http://www.ru.nl/library/resources/radboud_repository/)
- Van der Heijden, B. I. J. M. (2000). The development and psychometric evaluation of a multi-dimensional measurement instrument of professional expertise. *High Ability Studies*, 11, 9–39. <https://doi.org/10.1080/713669175>
- Van der Heijden, B. I. J. M. (2005). 'No one has ever promised you a rose garden'. *On the shared responsibility and employability enhancing strategies throughout career. Inaugural address, Heerlen: Open University of The Netherlands*. Assen, The Netherlands: Van Gorcum.
- Van der Heijden, B. I. J. M., & De Vos, A. (2015). Sustainable careers: introduction chapter. In B. I. J. M. Van der Heijden & A. De Vos (Eds.), *Handbook of research on sustainable careers* (pp. 1–19). Cheltenham, England: Edward Elgar.
- Ward, P., Gore, J., Hutton, R., Conway, G. E., & Hoffman, R. R. (2018). Adaptive skill as the condition sine qua non of expertise. *Journal of Applied Memory and Cognition*, 7, 35–50. <https://doi.org/10.1016/j.jarmac.2018.01.009>
- Will-Zocholl, M. (2017). New topologies of work: Informatisation, virtualisation and globalisation in automotive engineering. In J. Flecker (Ed.), *Space, place and global digital work* (pp. 31–51). London, England: Palgrave Macmillan.
- World Economic Forum. (2016). *The future of jobs: The future of jobs and skills*. Retrieved from <http://reports.weforum.org/future-of-jobs-2016/skills-stability/>
- World Employment Confederation. (2016). *The future of work: White paper from the employment industry*. Retrieved from [http://www.wecglobal.org/fileadmin/templates/ciett/docs/WEC\\_\\_\\_The\\_Future\\_of\\_Work\\_-\\_What\\_role\\_for\\_the\\_employment\\_industry.pdf](http://www.wecglobal.org/fileadmin/templates/ciett/docs/WEC___The_Future_of_Work_-_What_role_for_the_employment_industry.pdf)



Yuan, Y. C., Bazarova, N. N., Fulk, J., & Zhang, Z. (2013). Recognition of expertise and perceived influence in intercultural collaboration: A study of mixed American and Chinese groups. *Journal of Communication*, 63, 476–497. <https://doi.org/10.1111/jcom.12026>

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**How to cite this article:** Frie LS, Potting KCJM, Sjoer E, Van der Heijden BIJM, Korzilius HPLM. How flex-perts deal with changing expertise demands: A qualitative study into the processes of expertise renewal. *Human Resource Development Quarterly*. 2019;30:61–79. <https://doi.org/10.1002/hrdq.21335>

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## APPENDIX C QUESTIONNAIRE

### Preliminary Interview Questions

1. What industry are you in?
2. What is your job title?
3. How long have you been in the current position?
4. What is the size of your team? How many direct reports do you have?
5. How virtual is your team? (No face-to-face interaction/some level of face-to-face interaction)

#### **THEME: PERFORMANCE MANAGEMENT CHALLENGES**

**RQ1: What are the challenges that managers face, when driving performance in virtual teams?**

**Question 1:** Can you tell me about some of the challenges that you face when driving performance in your virtual team?

#### **THEME: PERFORMANCE PLANNING , DEVELOPMENT AND EXECUTION**

**RQ2: How is the performance of virtual teams managed to ultimately drive team performance?**

**Question 2:** What processes do you use to communicate with your team about their role in a virtual setting?

**Question 3:** How do you set expectations with your team around the goals you need them to achieve in a virtual setting?

**Follow up question:**

To what extent do you involve your team in setting these expectations?

**Question 4:** How do you observe the performance of your team members when you have limited opportunity for face-to-face interaction?

**Question 5:** How do you motivate your team virtually to achieve their goals in a virtual setting?

**Question 6:** How do you provide feedback to your team to drive their performance in a virtual setting?

**Follow up questions:**

How frequently do you provide this feedback and is it reinforcing or negative?

Do you use any informal feedback on a daily basis to drive performance?

**Question 7:** How do you coach your team to drive their performance in a virtual setting?

**Follow up questions:**

How frequently do you provide coaching to your team?

**THEME: PERFORMANCE EVALUATION**

**RQ3: How do managers evaluate their team member's performance to drive performance in a virtual context?**

**Question 8:** How do you assess your team's performance to drive performance in a virtual setting?

**Follow up question:**

How frequently do you conduct assessments?

**Question 9:** What kind of assessment tools, if any, do you use to assess your teams performance in a virtual setting (e.g. BSC, competency-based evaluations etc.)?

**THEME: TECHNICAL TOOLS**

**RQ4: How is technology being used to drive performance management within virtual teams?**

**Question 10:** How do you use technology to drive performance in your team?

**Question 11:** How do you select and adapt the relevant technologies to drive performance within your team?

Do you ever adopt any other tech other than the company's prescribed technologies? Can you tell me more

**OPEN ENDED, CONCLUDING QUESTION**

**Question 12:** Is there anything more you would like to mention or add, based on your experiences with driving performance in your virtual team?



## APPENDIX D PLAGIARISM DECLARATION

*I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.*



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Lutfiyya Moosa

1 December 2020

## APPENDIX E COPYRIGHT DECLARATION FORM

Student details			
Surname:	Moosa	Initials:	L
Student number:	19386444		
Email:	19386444@mygibs.co.za		
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Qualification details			
Degree:	MBA	Year completed:	2020
Title of research:	Driving performance from a distance: performance management in the context of virtual teams		
Supervisor:	Hayley Pearson		
Supervisor email:	<a href="mailto:Pearsonh@gibs.co.za">Pearsonh@gibs.co.za</a>		
Access			
A.			
<input checked="" type="checkbox"/>	My research is not confidential and may be made available in the GIBS Information Centre and on UPSpace.		
I give permission to display my email address on the UPspace website			
Yes	<input checked="" type="checkbox"/>	No	
B.			
<input type="checkbox"/>	My research is confidential and may <b>NOT</b> be made available in the GIBS Information Centre nor on UPSpace.		
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Copyright declaration			

I hereby declare that I have not used unethical research practices nor gained material dishonesty in this electronic version of my research submitted. Where appropriate, written permission statement(s) were obtained from the owner(s) of third-party copyrighted matter included in my research, allowing distribution as specified below.


I hereby assign, transfer and make over to the University of Pretoria my rights of copyright in the submitted work to the extent that it has not already been affected in terms of the contract I entered into at registration. I understand that all rights with regard to the intellectual property of my research, vest in the University who has the right to reproduce, distribute and/or publish the work in any manner it may deem fit.

Signature:



Date: 01 December 2020

Supervisor signature:



Date: 01 December 2020

**APPENDIX F CERTIFICATION OF DATA ANALYSIS SUPPORT FORM**

I hereby certify that

• **I DID NOT RECEIVE** any additional/outside assistance (i.e. statistical, transcriptional, and/or editorial services) on my research report

**X**

.....  
• **I RECEIVED** additional/outside assistance (i.e. statistical, transcriptional, and/or editorial services) on my research report

.....  
If any additional services were retained– please indicate below which:

- Statistician
- Transcriber
- Editor
- Other (please specify:.....)

**I hereby declare that all statistical write-ups and thematic interpretations of the results for my study were completed by myself without outside assistance**

**NAME OF STUDENT:**

Lutfiyya Moosa  
.....

**SIGNATURE:**

  
.....

**STUDENT NUMBER:**

19386444  
.....

**STUDENT EMAIL ADDRESS:**

19386444@mygibs.co.za  
.....

## APPENDIX G ETHICS APPROVAL

**Gordon Institute  
of Business Science**  
University of Pretoria

**Ethical Clearance  
Approved**

Dear Lutfiyya Moosa,

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

We wish you everything of the best for the rest of the project.

[Ethical Clearance Form](#)

Kind Regards

This email has been sent from an unmonitored email account. If you have any comments or concerns, please contact the GIBS [Research](#) Admin team.

## APPENDIX H INFORMED CONSENT LETTER

Dear Participant,

I am currently a student at University of Pretoria's Gordon Institute of Business Science and I am completing my research in partial fulfilment of an MBA.

I am conducting research to explore performance management in the context of virtual teams. The research will be focused on the lived experiences of managers when driving performance within their virtual teams.

Our interview is expected to last around 45 minutes and will help us gather insights into how performance is driven in virtual teams.

**Your participation is voluntary, and you can withdraw at any time without penalty.**

Your permission is requested to record this interview in order to capture the accuracy of the dialogue during this interview. I would like to reassure you that this interview will be kept confidential and I ask you to please share your opinions freely throughout this interview. Please note that all data that will be used in the research report will be reported and stored without any identifiers.

Should you have any concerns, please note that you may either contact the researcher or the research supervisor.

<b>Researcher:</b> Lutfiyya Moosa Email: 19386444@mygibs.co.za	<b>Research supervisor:</b> Hayley Pearson Email: pearsonh@gibs.co.za
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**Researcher signature:** 

**Research Supervisor signature:** 

Research Participant:		Signature:	
Title:		Date:	