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Structuring for Innovative Responses to Human Resource Challenges: A Skunk Works Approach

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Abstract:	<p>Increasingly, organizations find that they need to be more flexible and innovative in responding to unexpected and emergent human resource (HR) issues affecting their members, such as outbreaks of infectious diseases (e.g., COVID-19) forcing massive transition to remote work, changes in industry landscape altering learning and development, and politically-driven global mobility regulations restricting people flow. Organizations have long utilized informal structures known as “skunk works”, flexible groups empowered to work rapidly with minimal management constraints, to address technological challenges. In this article, we aim to better understand when and how organizations similarly employ skunk works-like structures to help them deal with rapidly evolving HR-related challenges. We discuss three examples of organizations that have utilized this approach. We then integrate the learning insights from these examples to develop a framework supported by a set of research questions to guide future scholarship into HR skunk works. We emphasize that there are both benefits and drawbacks of innovative organizational structures for addressing HR challenges alongside regular, established ways of working.</p>
Response to Reviewers:	A detailed response letter was uploaded.

Professor John Delery
Editor-in-Chief
Human Resource Management Review

Dear John,

Thank you for the opportunity to revise and resubmit our manuscript. We appreciate your advice and encouragement, as well as the constructive comments from the reviewers. We have endeavored to address each point, as detailed below

Editor: The reviewers and I agree that this version of the manuscript is much improved. It is more focused and more clearly linked to the HRM literature. Reviewer 1, for instance stated “The main objective of the paper is clearer now and bringing in more literature on skunk works helps to better understand the concept” and Reviewer 2 commented they “believe this new version of the paper that focuses on the role skunk works could play as a means of addressing HR-related threats and opportunities is better suited for HRMR.” Both reviewers also have some reservations about the current contribution of the manuscript. Reviewer 1 (point 1), for instance, thinks “the theoretical contribution of the paper needs to be strengthened and clarified.”

Response: Thank you for your encouraging feedback. As detailed in our responses below, we have taken on board all of the comments made by yourself and the reviewers and have revised the whole paper accordingly, including particular attention to strengthening the theoretical contribution of the paper.

While overall I feel the paper has come a long way toward making a contribution, I would still like to see a few significant changes. The reviewers give you a great deal of guidance, and I agree with them, so I would like you to address their concerns in the next revision. However, you still have a few choices that I would leave to you to make.

1. I agree with Reviewer 2 (point 2) in that the paper lacks a “hook” for the reader. To me it is still not completely clear that the paper is addressing the use of a skunk works for HR related issues. I think with the timing of the current virus outbreak actually gives you a good example of something that comes on rather quickly and can disrupt HR issues for firms. I feel incorporating this example in the front end would alleviate Reviewer 2s (point 1) concern over your examples not being “rapid” changes. This might also give this paper a “hook” that would make it more attractive to readers.

Response: As we find ourselves immersed in the rapidly developing situation with the COVID-19 pandemic, we agree that it is indeed an example of rapid change that we could include in the paper to strengthen our arguments. We have accordingly made several changes to the front end of the paper (pp. 2-3 and 4-5) to set up a clearer “hook” for the reader on the kind of disruptive changes on which we focus, and that require rapid response from the HR function – specifically by means of skunk works teams. We also replaced the Hitachi example, which we understand was less clear in that respect (your comment #2 below), with an example of a Chinese company (Sany Group, pp. 11-15) that has applied a skunk works approach to HR issues resulting from the COVID-19 outbreak. When developing our conceptual framework (p. 28), we also refer to the recent circumstances, and what it means for organizations – that within just three months from the first reported cases, one-

third of the world's population was on some form of lockdown due to the virus (Secon, Woodward, & Mosher, 2020).

We believe that incorporating the Sany Group case as a very recent illustration for how companies tackle disruptive events and their consequences for HR issues into our narrative, provides not only a hook for the reader but also a relevant and accurate example where adopting an HR skunk works approach is beneficial.

2. Reviewer 1 (point 2) also had issues with your three examples. While I believe you have generally made the case that these are skunk works, I feel the best examples are the Sky and Ambassador program, as these are more directly related to more rapid external changes. Whether you drop the Hitachi example is your choice, but at the moment I do not think it helps as much and it is taking up space that could be used to develop your research questions to a greater extent.

Response: *We agree. As noted above, the Hitachi case was replaced with the Sany Group case, which features the recent COVID-19 challenges. We retained the Sky Group and AOM Ambassador cases and appreciate that you saw their relevance. In response to several of the points of feedback, we revised each of the cases to create better connection between the theoretical foundation of skunk works, the cases, and then our development of an overarching framework and questions to guide future research.*

3. A related significant issue was addressed by Reviewer 1 when they stated (point 1), "You do offer a broad range of suggestions for future research in Table 1, but these levels and categories need more explanation, and it would be helpful to have an overarching framework or model which is guiding these questions and which explains where the categories come from, how they relate to the three examples, and how they relate to the literature on skunk works." Reviewer 2 (point 3) also felt "there is a disconnect between the presentation of the three cases and the "laundry list" of research questions you are offering." I would encourage you to use more space in the manuscript to expand on these future research questions and (a) how you developed them, and (b) why they matter.

Response: *To address this point, we have made substantial changes throughout the manuscript. Specifically, this point was very helpful because it guided us to give more attention to the distinguishing characteristics of skunk works, which we now use in a consistent way to improve the connections between the different sections of the paper. In our literature review (p.7), we identify the seven core features of skunk works (isolation, customer needs, focus, planning, trusted project manager, cross-functional teams and leveraging overlaps; Bommer et al., 2002; Larsson, 2019). To show more clearly how skunk works relate to our three examples, we describe how the seven skunk works dimensions play out in these specific cases – that is, how these elements feature in each of the cases (pp. 13-15, 16-17, 20-22). Further, when synthesizing the learning insight from the cases with past research on skunk works, we also point out common skunk work features across the cases (pp. 24-25).*

The comment pointing out that we had a "laundry list" of research questions was extremely helpful. It forced us to re-think our approach; while originally we were trying to set a broad agenda for future research, the reviewer comments helped us to see that we had not set up a clear springboard for our conceptual framework and related research questions. Building on the literature and our three examples of skunk works in action, we now propose a

conceptual framework (p. 28; graphically illustrated in Figure 1) that describes relationships between HR skunk works antecedents, processes, and outcomes, as well as potential moderators. To demonstrate how the framework could guide future research, we identify theoretical perspectives and research questions that clearly tie to the different elements of our framework.

4. While I felt it somewhat important to discuss the use of skunk works in “Non-technological Contexts” I felt this section was somewhat unnecessary or at least longer than necessary. While you might keep some of this section, this might be somewhere you could cut to make room for some of the other changes.

Response: Thank you for pointing this out. We shortened the section titled “Skunk Works in Non-technological Contexts” and it is now half its size (pp. 9-10). We kept the description about the fields in which skunk works were applied outside technological realm (and roughly all references) yet removed most of the specific examples.

Again, I feel you have made significant progress on the manuscript. At this point, if you are successful in addressing my major concerns it may be unnecessary to send this back to the reviewers for another round. I would also encourage you to complete these revisions as soon as possible, given what I perceive as the timeliness of this manuscript. As I stated above, I believe the current COVID-19 issue is having a significant impact on a number of organizations and will likely continue to for some time. This might be the perfect time for organizations to implement a skunk works approach to solve their HR issues.

Response: Thank you again for your very helpful advice and encouragement. We have closely followed your suggestions (as well as those of the reviewers). We believe the manuscript now offers more solid contributions, in terms of both the clear (and timely) illustration of the topic (by means of the three examples) and the research framework that follows from these examples. We agree that the COVID-19 crisis might prompt many organizations to seek tools such as skunk works to solve their HR issues and have included this in our conclusion (p. 38).

Kind regards,
Authors

Reviewer comments

Reviewer #1: Thank you for the time and effort you put into revising the paper, and for your detailed responses to my comments on the previous version. The main objective of the paper is clearer now and bringing in more literature on skunk works helps to better understand the concept.

Response: Thank you for your constructive advice. Your comments were very helpful as we further revised the manuscript to strengthen its contribution.

However, I am still not convinced about the contribution of the paper to the literature. I will explain my concerns below:

1. In the introduction you describe that you aim to extend the literature by applying the skunk works approach to HR, and the second aim relates to the mechanisms relating to the effective utilization of HR skunk works. You indeed show with the three

examples how skunk works may be applied to HR issues. However, I think the second question is more interesting from a theoretical perspective, and I think more needs to be done to achieve this second aim. I miss a more extensive discussion of the examples and/or the literature in order to explain how and why skunk works work when applied to HR. You do offer a broad range of suggestions for future research in Table 1, but these levels and categories need more explanation, and it would be helpful to have an overarching framework or model which is guiding these questions and which explains where the categories come from, how they relate to the three examples, and how they relate to the literature on skunk works. Overall, I think the theoretical contribution of the paper needs to be strengthened and clarified.

Response: This important comment made us re-think how we integrated past research on skunk works with the insights generated from our examples – resulting in significant amendments to the paper. Specifically, building on the extant literature and our cases, we now propose a conceptual framework that describes relationships between HR skunk works antecedents, processes, and outcomes, as well as potential moderators (p. 28; please also see a graphical illustration in Figure 1). To demonstrate how the framework could guide future research, we identify theoretical perspectives and research questions that clearly tie to the different elements of our framework.

2. My second comment relates to the use of the three examples in the paper. I think it is helpful to have more than one example to show the relevance of skunk works for HR-related issues. However, it was not completely clear to me yet why they are examples of skunk works. For example, reading the Sky group example, how does the way they work relate to agile? And is agile similar to skunk works? In other words, why do you label this as skunk works and not as another type of structure?

Response: Following this comment, in the revised version we removed one example (the Hitachi Group case) and replaced it with a new, timely case of a Chinese company (Sany Group, pp.11-15) that has applied skunk works approach to HR issues resulting from the COVID-19 outbreak. We retained the Sky Group and AOM Ambassador cases. In response to several of the points of feedback, we revised each of the cases to create better connection between the theoretical foundation of skunk works, the cases, and then our development of an overarching framework and questions to guide future research.

Furthermore, in all three case examples, we now make mention of the seven dimensions that characterize skunk works (isolation, customer needs, focus, planning, trusted project manager, cross-functional teams and leveraging overlaps; Bommer et al., 2002; Larsson, 2019) – that is, how these elements feature in each of the cases (pp. 13-15, 16-17, 20-22). When synthesizing the learning insight from the cases with past research on skunk works, we also point out common skunk work features across the cases (p. 24-25).

Finally, we now explicitly refer to differences between skunk works and other agile practices: "It is worth noting that skunk works may be viewed as one tool in an organization's arsenal that can be used to improve flexibility in response to VUCA environments or large-scale crises from an HRM perspective (e.g., Ahammada, Glaistera, & Gomes, 2020; Nijssen, & Paauwe, 2012). In this respect, agility has been conceptualized as an organizational capability, specifically the ability to identify rapidly changing external conditions, engage in these changes before they become a threat, and seize opportunities in them. Thus, agility is referred to as a dynamic strategic mindset for setting direction for the organization in preparing for and addressing uncertainty (Doz & Kosonen, 2008; McCann, 2004). Agile work

practices are explained as "new values, principles, practices, and benefits and are a radical alternative to command and-control-style management" (Rigby, Sutherland & Takeuchi, 2016, p. 40) which challenge the existing structures (Rigby et al., 2016). Along these lines, skunk works can be seen as an agile work practice distinguished by the seven characteristics described above, and most prominently by being focused on specific tasks and by functioning in isolated, cross-functional teams. Notably, skunk works are not a replacement for rigid organizational structures, but intended rather to complement and enrich wider functioning (Larsson, 2019)." (p. 26).

3. After describing the three examples, you relate them to the dimensions of skunk works, but you pay less attention to analyzing the effectiveness of the use of skunk works in these examples, which could help with answering the questions how and why skunk works can be effectively used.

Response: *In the revised manuscript, we reflect on the effectiveness of the use of skunk works in greater detail. Specifically, as we describe on (pp. 23-24), "evidence from our cases suggests that skunk works were valuable in two respects. First, in a more direct manner, skunk works teams helped organizations to weather fast-emerging, unprecedented circumstances, and deliver speedy outcomes in ways that may not have been possible had the organizations relied solely on their traditional structures. For example, at Sky Group, commentators estimated that through the skunk works' efforts, the Learning and Development team significantly increased management support, while keeping efficiency up. The AOM and especially the HR Division within it, via facilitating mechanisms like the Ambassadors' skunk works approach to raise the profile and encourage the voices and viewpoints of international members regarding the travel ban, has become, in appearance and in fact, more responsive to international (and domestic) members concerns about critical issues and contextual events outside the traditional purview of the AOM conference and scholarly community.*

Second, in a more indirect manner, experimenting with skunk works amid unique circumstances has helped organizations build capacity to work in a flexible way – in routine times as well as for future VUCA situations. Indeed, beyond the immediate outcomes discussed above, there are suggestions that the effects of skunk works may be more long term. This is because through the process of deploying skunk works, the organization acquires the capability to adopt new skunk works as opportunities and challenges arise. That is, working autonomously and flexibly across functional areas to deliver task-related outcomes, skunk work members acquire knowledge and skills that are highly transferable across projects. Skunk work practices, where institutionalized, largely guarantee long-term effects for the organization. As such, this approach not only offers the chance to foster innovation and efficiency through revitalizing the organization as a whole, but also has the potential to head off threats that may otherwise significantly impede either a commercial operation or an organization's reputation."

4. You mention on page 8 that skunk works has been criticized for being a temporary solution. Could you explain a bit more whether and when the skunk works approach is effective? And how does your paper build on previous research?

Response: *We realize that this point was not clear enough, and have further extended the argument (pp. 8-9): "Critics have argued that skunk works represent a temporary solution*

("innovation by exception"; Blank, 2014), and that ideally organizations need to redesign themselves to be more systematic about innovation. While skunk works may be received with enthusiasm initially, if they do not continue to deliver repeated success and/or if their innovative processes are not shared more broadly within the organization, some have argued that their long-term benefits may be limited (Richardson, 2010). These may be reasonable concerns, although to our knowledge there is little in the way of published empirical research that has examined these claims. In fact, Larsson (2019) argues for the adoption of skunk works as the principal way to solve quickly developing – and potentially temporary – organizational challenges. Put differently, organizations may develop organizational capability in deploying a skunk works approach on demand, when they are in need of innovative and urgent solutions. For example, Johnson & Johnson has initiated a skunk works approach with a team of 15 people to expedite the development of a COVID-19 vaccine (Wood, 2020)."

In addition, when discussing the benefits of skunk works as observed in our case examples, we go back to this issue, and write (p. 24): "As noted above, skunk works have been criticized for representing a temporary solution. Yet our three examples demonstrate some permanent changes in the organizations resulting from skunk works, possibly even pointing at some sort of institutionalization of skunk works as a way of operation. At Sany Group, the company-wide platform that was consolidated during the pandemic can continue to serve to easily connect divisions and plants and encourage collaborations. Also, recognizing the potential of the digital platform during the pandemic, the HR department is re-examining existing procedures, which may lead to future changes (e.g., with respect to remote work). In Sky Group, a skunk works-like structure was subsequently adopted as its main operational configuration. For the Ambassador Program, the HR Division leadership (and AOM at large) were able to adapt existing rules and exercise new possibilities for better addressing unforeseen challenges in the future."

Overall, thank you for your detailed and helpful feedback. We feel that the paper has been much improved through this process and we hope that our revisions have addressed all of your concerns.

Reviewer #2: Thank you for the opportunity to read and review your revised manuscript. I believe this new version of the paper that focuses on the role skunk works could play as a means of addressing HR-related threats and opportunities is better suited for HRMR. The authors also made a significant effort to clarify the concept of skunk works and provide an extensive list of research questions that link skunk works and HR challenges.

Response: *Thank you for taking the time to review our manuscript once again. Your comments were very helpful as we further developed our ideas.*

Despite the significant efforts the authors made to revise this manuscript, I believe that there are still some areas of concern.

1. Your introduction lacks a "hook" for the reader. Even though you explain the concept of skunk works and the lack of research focusing on skunk works as a potential response for HR-related challenges and opportunities, I was left wondering what some examples of HR-related challenges are where skunk works could be a solution. Specifically, you mention in the introduction that nowadays organizations are "exposed to rapidly changing external labor competition and related competitive, political, and regulatory changes" (p.4) and other "increasingly frequent non-routine emergent threats and opportunities" (p.5) which create HR-

related challenges that “are severe and/or novel enough to benefit from a skunk works approach” (p.4). However, there is lack of concrete examples of such cases throughout the introduction. While reading the introduction, all the cases that could come to my mind were not “rapid” and would allow some time for an HR department to prepare or, at least, react. For instance, a regulatory change typically does not happen over one night. An HR department should be aware of such potential changes and have proactively developed a course of action. By providing some more concrete examples in the introduction of HR-related situations where skunk works could be a viable solution will offer a better “hook” for the readers. In its current form, the introduction offers a link between HR and skunk works that seems, at least to some extent, forced.

Response: *As we find ourselves immersed in the rapidly developing situation with the COVID-19 pandemic, and in line with the Editor's similar comment, we thought that the manuscript would benefit from including an example of a Chinese organization (Sany Group) battling the HR consequences of COVID-19. This case (described in pp. 11-15) clearly demonstrates disruptive changes requiring rapid adjustments by the HR function as it reacts to travel bans and quarantines, large-scale workforce restructuring and layoffs, physical distancing and an overall shift to work-from-home mode of operations. The Sany Group case example replaces the Hitachi example, which we realize was less clear in that respect. We retained the Sky Group and AOM Ambassador cases.*

Following this rather significant revision, we made several additional changes to the front end of the paper (pp.2-3 and 4-5) to set up a clearer “hook” for the reader on the kind of disruptive changes on which we focus, and that require rapid response from the HR function – specifically by means of skunk works teams.

When developing our conceptual framework (p. 28), we also refer to the recent circumstances, explaining that within just three months from the first reported cases, one-third of the world's population was on some form of lockdown due to the virus (Secon, Woodward, & Mosher, 2020). Organizations were reeling in terms of how to respond to unprecedented local workplace safety issues and to the macro economic and employment consequences of mandated shutdowns of businesses, supply chain disruption, and decreased consumer demands.

Finally, in response to several of the points of feedback, we revised each of the cases to create better connection between the theoretical foundation of skunk works, the cases, and then our development of an overarching framework and questions to guide future research.

2. One of the aims of the revised manuscript, as stated in the introduction, is to “consider the mechanisms relating to the effective utilization of HR skunk works” (p.5). I found this goal of the paper rather interesting. However, even though you extensively describe the three cases in the main body of the paper, I believe that these mechanisms were not clearly articulated. I would suggest adding a section in the discussion where the lessons-learned in regards to these mechanisms based on these three cases are clearly discussed.

Response: *Your important observation here aligns with Reviewer 1's comments 2 and 3. In the revised manuscript we are much clearer about the core features of skunk works (seven dimensions discussed in the literature; Bommer et al., 2002; Larsson, 2019) and how they feature in each of the case examples (pp. 13-15, 16-17, 20-22). Moreover, when synthesizing*

the learning insights from the cases with past research on skunk works (within and outside the realm of technology), we also point out common skunk work features across the cases (p. 24-25). Please also see our response to Reviewer 1's comment #2 above.

As for the issue of effective utilization of HR skunk works, we now take a more straightforward approach to discuss direct and indirect benefits (pp. 23-24) – again, using evidence from our cases. Directly, we explain that skunk works teams helped the organizations to weather fast emerging, unprecedented circumstances, and deliver speedy outcomes in ways that may not have been possible had the organizations retained traditional structures. Indirectly, we argue that experimenting with skunk works amid the unique circumstances has helped organizations build capacity to work in a flexible way – in routine times as well as for future VUCA situations. Please also see our response to Reviewer 1's comment #3 above.

3. I feel that there is a disconnect between the presentation of the three cases and the “laundry list” of research questions you are offering. I think that it is important to offer a clearer discussion of the lessons learned from the three cases before moving to the questions for future research.

Response: *Following this comment (and also in line with your previous comment) we have re-written the Discussion section – now titled "Summary and Synthesis: Lessons Learned" (starting at p. 22). In this section we integrate past research with our three case examples. In particular, we discuss what we observed from the examples that can be helpful for organizations seeking to deploy HR skunk works, and what are some of the concerns we can share.*

Building from this discussion, we then include a revised section titled "Framework and Directions for Future HR Research" (p. 28). In this section we draw on the learnings across the case studies to develop a summary framework to guide research around HR skunk works. The section has four parts that describe the (1) antecedents (underlying mechanisms and motivations), (2) processes and characteristics (formation and function), and (3) outcomes of HR skunk works, as well as (4) potential moderators. Figure 1 graphically illustrates the conceptual framework. To demonstrate how the framework could guide future research, we identify theoretical perspectives and research questions that clearly tie to the different elements of our framework.

Once again, I believe that this version of the manuscript is much improved and I hope you will find by comments useful in further refining the paper.

Response: *Thank you for the suggestions and encouragement. We believe this revised version of the manuscript offers stronger contribution in terms of both the clear (and timely) illustration of the topic (by means of the three examples) and the research framework that follows from these examples. We feel that the paper has been much improved through this process and we hope that our revisions have addressed all of your concerns.*

Highlights

- Organizations have long utilized informal structures known as “skunk works,” flexible groups empowered to work rapidly with minimal management constraints, to address technological challenges affecting their products or services.
- In a manner analogous to assembling skunk works for innovative technological solution related to the organization's products, skunk works teams may be assembled to generate solutions related to people management.
- The COVID-19 pandemic is a stark example for how swiftly organizations need to respond to rapidly evolving HR-related challenges such as large-scale workforce restructuring and layoffs, physical distancing and an overall shift to work-from-home mode of operations.
- We consider three real-world examples of teams that, by virtue of being somewhat autonomous from the larger organizations within which they operate, overcome bureaucratic restrictions and offer unconventional routes to solutions for specific HR situations affecting organizational members—solutions that complement the formal organizational responses.
- We integrate the literature and our three examples of skunk works in action to develop a framework that grounds a series of questions for future research oriented around understanding the antecedents, processes and characteristics, moderators and outcomes at different levels (organization, HR function, team, individual) of HR skunk works.

**Structuring for Innovative Responses to Human Resource Challenges:
A Skunk Works Approach**

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SKUNK WORKS APPROACH FOR ADDRESSING HR CHALLENGES

Structuring for Innovative Responses to Human Resource Challenges:**A Skunk Works Approach****Abstract**

Increasingly, organizations find that they need to be more flexible and innovative in responding to unexpected and emergent human resource (HR) issues affecting their members, such as outbreaks of infectious diseases (e.g., COVID-19) forcing massive transition to remote work, changes in industry landscape altering learning and development, and politically-driven global mobility regulations restricting people flow. Organizations have long utilized informal structures known as “skunk works”, flexible groups empowered to work rapidly with minimal management constraints, to address technological challenges. In this article, we aim to better understand when and how organizations similarly employ skunk works-like structures to help them deal with rapidly evolving HR-related challenges. We discuss three examples of organizations that have utilized this approach. We then integrate the learning insights from these examples to develop a framework supported by a set of research questions to guide future scholarship into HR skunk works. We emphasize that there are both benefits and drawbacks of innovative organizational structures for addressing HR challenges alongside regular, established ways of working.

Keywords: Disruptions; Innovation in HR; Organizational structure; Skunk works

1. Introduction

“Many organizations have already reengineered processes pertaining to relatively routine support and service activities. . . The bigger challenge has to do with strategic (and other non-routine) human resource work that, in agile organizations, is typically performed by temporary (and sometimes virtual) teams of line and staff people drawn from various operating units and centers of excellence. So, along with their line brethren, human resource professionals must learn, and learn to apply, the factors that foster—and accelerate—this type of spontaneous collaboration.” (Wright, Dyer, & Takla, 1999, p. 19)

Organizations are increasingly challenged with staying competitive and keeping pace with an unprecedented rate of change in their environments (Tovstiga, 2013). Highly volatile, uncertain, complex and ambiguous (VUCA) environments create opportunities for organizations but also pose threats that require them to be innovative and creative in how they approach these challenges, which are often not just unpredicted but may even be unprecedented. Scholars have described how the HR function, through adapted HR strategy and practices and through shaping employees’ innovative behaviors, can enhance organizational responsiveness to rapidly changing external competitive conditions *affecting their products or services* (e.g., Cappelli & Tavis, 2018; Shafer, Dyer, Kilty, Amos, & Ericksen, 2001; Shipton, Sparrow, Budhwar, & Brown, 2017). Ironically, however, little attention has been paid to how organizations respond when the disruptive changes relate to HR issues *affecting their members*. The COVID-19 outbreak is a stark example of disruptive change requiring rapid adjustment by the HR function as organizations react to travel bans and quarantines, large-scale workforce restructuring and layoffs, physical distancing and an overall shift to work-from-home mode of operations (McCulloch, 2020; Thomas, Campbell, & Hancock, 2020; Wei & Wong, 2020). This crisis is by no means the only example of

situations that require the HR function to be flexible and responsive. Other examples include unexpected government decisions and regulatory changes that affect worker mobility, emergent technologies and new skill demands, and the unprecedented growth of the gig economy (Duncan, Yeager, Rucks, & Ginter, 2011; Kochan, Riordan, Kowalski, Khan, & Yang, 2019). In VUCA contexts, we argue that the HR function in many organizations could benefit from adopting a *skunk works* structural approach; as we explain in more detail below, skunk works can foster more rapid and novel responses to non-routine situations, complementing and extending the capabilities of established HR structures and processes that are better-suited to “normal” (i.e., routine and recurring) HR decision-making.

Organizational structure, defined as the allocation of work roles and the accompanying mechanisms applied to control, coordinate, and integrate work activities (Katz & Kahn, 1978), shapes organizations’ ability to react innovatively to HR challenges when needed. Unfortunately, virtually all of what we know in the management literature about structuring for rapid responding and for innovation has focused on strategic product market needs, rather than on labor markets or HR concerns. Researchers have proposed several frameworks and typologies of common adaptive strategies and their structural and environmental correlates (e.g., Aldrich, 1979; Burns & Stalker, 1961; Hannan & Freeman, 1977; Miller & Friesen, 1977). Empirical research largely supports these conceptual models, suggesting that the elements of strategy, structure and environment configure into several types of high-performing organizations. In particular, innovative strategies, characterizing such environments as the high-technology sector, are difficult to implement within a bureaucratic or mechanistic structure that is designed around routine operating tasks, formalized procedures, standardization and tight control, centralized decision-making, and large units with clear hierarchy (Schoemaker, Heaton, & Teece, 2018; Teece, Peteraf, & Leih, 2016). While acceptable for organizations that operate in stable, rather simple

environments, the structural inflexibility that is typical of these organizations is seen as overly limiting when it comes to innovation (Burns & Stalker, 1961; Mintzberg, 1979).

Previous research on organizational design for innovation describes how some large and bureaucratic organizations intentionally carve out special decentralized units, colloquially known as skunk works, that are more nimble and are given autonomy to innovate rapidly (Gwynne, 1997). The idea is that a group of employees released from bureaucratic impediments will be both creative and efficient at generating new ideas; that is, they will be more free to develop and explore micro-processes (small-scale tasks) that generate innovation (Fosfuri & Rønde, 2009; Kanter, 1988; Larsson, 2019; Rich & Janos, 1994). Although some argue that “skunk works epitomize innovation by exception” rather than “innovation by design” (Blank, 2014, p. 3), for organizations that choose (or are required) to remain primarily structured around optimizing execution and delivery rather than innovation, skunk works represent an attractive and viable approach. Notably, most previous academic research has shown the application of skunk works approaches to organizing in a technological environment (Gwynne, 1997).

HR researchers have highlighted the important role of the HR function in, for example, developing scalable, agile workforces and HR practices that support organizations’ efforts to address competitive, technological challenges affecting their products or services (Cappelli & Tavis, 2018; Dyer & Ericksen, 2005; Shafer et al., 2001). However, the utilization of skunk works structures to respond to disruptive emergent concerns related to HR issues has not been explored, either by organizational design scholars or by strategic HR scholars. This is an unfortunate omission, as there are several reasons why such exploration would be timely and useful to both researchers and practitioners.

First, organizations today face a growing number of unanticipated HR challenges that require drastic measures (Williams, Gruber, Sutcliffe, Shepherd, & Zhao, 2017), whilst they

navigate through an increasingly interconnected world (Hällgren, Rouleau, & de Rond, 2018) in which fluctuations in one region may create large ripple effects felt globally. The recent COVID-19 pandemic has demonstrated how swiftly businesses need to respond to rapidly evolving HR-related challenges (McCulloch, 2020; Sylvers & Foldy, 2020; Wei & Wong, 2020). Since the types of situations for which skunk works could be suited are now much more common (Williams et al., 2017), we argue that greater attention to this structural response option is warranted. In particular, the HR field would benefit from thinking more about which types of HR issues are urgent/severe and/or novel enough to benefit from a skunk works approach to addressing them, while also taking into account any potential downsides of this approach.

Second, the strategic HR literature has focused on the development of formal HR systems and practices as the primary structures through which routine organizational control is enacted (e.g., Snell, 1992). We know little about organizing structures such as skunk works that are likely to be more effective for dealing with what seem to be increasingly frequent *non-routine* emergent threats and opportunities affecting an organization's human resources.

And third, the professionalization and higher status of HR professionals in many organizations today relative to past decades (Boxall & Purcell, 2011; Chris Brewster, 1994) means that skunk works teams targeting HR issues are likely to be seen as knowledgeable and competent, increasing the acceptance of HR skunk works within the organization as a legitimate, but so far under-studied, mechanism for addressing non-technological (i.e., workforce) issues. As we will discuss below, anecdotal evidence suggests that organizations are indeed adapting these approaches to tackling tough "people issues" (even though they may not refer to them formally as skunk works).

In the present research, we extend the literature by proposing that the skunk works approach can be applied in non-technological contexts and in particular, serve as an effective

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way for organizations to respond in a timely and innovative manner to external threats and opportunities that directly affect people management. In a manner analogous to assembling a group of experts to work on an innovative technological solution related to the organization's products, special-purpose teams of individuals with the relevant expertise may be (and in fact are, as we shall see in our examples) assembled to generate solutions related to people management. Further, we consider the mechanisms relating to the effective utilization of HR skunk works, such as what types of HR issues are severe enough to trigger their formation, as well as what types of outcomes, and evidence of these outcomes, could be expected from the use of HR skunk works.

To this end, we begin by formally describing the skunk works approach to utilizing special-purpose teams for rapid and innovative responding. We discuss similarities as well as distinctive features of skunk works applications in technological and non-technological environments, highlighting the benefits and costs of skunk works structures across these different contexts. Next we consider three real-world examples of teams that, by virtue of being somewhat autonomous from the larger organizations within which they operate, overcome bureaucratic restrictions and offer unconventional routes to solutions for specific HR situations affecting organizational members—solutions that complement the formal organizational responses that are subject to structural and institutional constraints, and hence are more deliberate, but also slower (Lawler, 1997). For each example, we open with a description of the skunk works team, why it was formed, and how it developed. We then discuss the team's functioning using a concrete challenge the team handled to illustrate its contribution to the organization. We integrate our analysis of skunk works utilization in non-technological contexts with the insights from our examples to describe the applicability of skunk works to the HR context. We develop an overarching framework for the application of HR skunk works, supported by a set of research questions to guide future research.

2. Skunk Works Approach to Innovation

The skunk works¹ approach originated at Lockheed Martin in California in 1943, when the aircraft corporation was tasked with developing a jet fighter prototype for the U.S. Air Force on a tight deadline of 180 days (Gwynne, 1997; Larsson, 2019). A team of designers were hand-picked for the project and worked secretly in a location separate from the company's main operations. After the successful completion of the jet fighter project ahead of schedule, the skunk works approach was formalized in Lockheed Advanced Development Programs. In the decades since then, many firms seeking innovation have adopted the skunk works approach.

Skunk works rely on processes of organizational learning, innovation, and team building. The core features of skunk works rely on self-driven teams working with short time frames to achieve breakthrough innovation (Gwynne, 1997). More specifically, scholars (e.g., Bommer, DeLaPorte, & Higgins, 2002; Larsson, 2019) have identified seven dimensions that facilitate a skunk works team: (1) Isolation – the team is physically (and otherwise) secluded from the main organisation; (2) Customer needs – the group seeks to critically analyse the needs of a potential customer/user; (3) Focus – the team seeks to direct attention towards the mission at hand; (4) Planning – the team devotes attention to up-front planning efforts; (5) Trusted project manager – a capable project manager is assigned on the outset with a clear task of keeping everything on track as well as pitching the work to key decision makers early to allocate the necessary recourses; (6) Cross-functional teams – the team seeks to secure a diverse set of talents in their respective fields; and (7) Leveraging overlaps – the team seeks to ensure that potential project overlaps are used to optimal

¹ Lockheed Martin Aircraft Corporation set up the original skunk works, known as Advanced Development Projects, to lead the development of the first U.S. jet fighter during World War II. Skunk works received its name from a team engineer in that original team, who was a fan of Al Capp's comic strip, "Li'l Abner", in which there was a running joke about a mysterious and malodorous place deep in the forest called the "Skunk Works" (How the skunk works® got its name, 2019).

capacity.

The skunk works model has been traditionally implemented in large firms opting to compress the time it takes to research and develop technologically innovative products and services. Recognizing that the organization's regular structure, systems and processes cannot handle pressing innovation challenges, organizations assemble skunk works to accelerate the effectiveness of their innovation processes, not only in terms of the intensity of the creative effort, but also with respect to the locus of research trajectory (T. E. Brown, 2004; Gwynne, 1997; McGrath, Keil, & Tukiainen, 2006).

Some evidence exists that illustrates the positive outcomes associated with skunk works, including novelty of ideas, efficiency, faster development, and enhanced quality of design and production (Oliver & Cole, 2019). Skunk works teams were effective in delivering highly innovative and expeditious projects, such as VistA – the first electronic depository of medical records in the US (Yuan, Paganelli, & Jacques, 2019), and Apple's Macintosh personal computer (May, 2012). In their study, Fosfuri and Rønde (2009) summarize what these and other skunk works projects had in common, namely that skunk works help firms overcome resistance to change, which may otherwise distort research and development (R&D) departments' effort away from radical innovations. The adoption of skunk works induces R&D departments to choose a more radical trajectory (exploration of new alternatives) in situations where integrated R&D departments would have chosen an incremental trajectory (exploitation of current capabilities) to avoid interdepartmental conflicts (e.g., competition with production departments) within the organization.

Critics have argued that skunk works represent a temporary solution ("innovation by exception"; Blank, 2014), and that ideally organizations need to redesign themselves to be more systematic about innovation. While skunk works may be received with enthusiasm initially, if they do not continue to deliver repeated success and/or if their innovative

processes are not shared more broadly within the organization, some have argued that their long-term benefits may be limited (Richardson, 2010). These may be reasonable concerns, although to our knowledge there is little in the way of published empirical research that has examined these claims. In fact, Larsson (2019) argues for the adoption of skunk works as the principal way to solve quickly developing – and potentially temporary – organizational challenges. Put differently, organizations may develop organizational capability in deploying a skunk works approach on demand, when they are in need of innovative and urgent solutions. For example, Johnson & Johnson has initiated a skunk works approach with a team of 15 people to expedite the development of a COVID-19 vaccine (S. Wood, 2020).

3. Skunk Works in Non-technological Contexts

As noted above, the scope of innovation for skunk works has traditionally fallen into the realm of technology R&D, mostly in the field of product or service engineering (Bommer et al., 2002; Fosfuri & Rønde, 2009; Gwynne, 1997; Rich & Janos, 1994). Illustrations of non-technological skunk works applications are found in the fields of environmental resilience (Goldstein, 2008, 2009; Gunderson, 1999) and community engagement (Ackerman, Druschke, McGreavy, & Sprain, 2016). For instance, skunk works in the field of environmental resilience are focused on the creation of innovative social networks that allow for flexible and creative thinking across organizational barriers (Goldstein, 2008, 2009), and thus serve as a basis for resilient, adaptive, and engaged human responses to ecological calamity, such as flooding, wildfires, or hurricanes (Gunderson, 1999).

Skunk works principles have also been applied in the education sector (universities, colleges and schools; Binks, Starkey, & Mahon, 2006; Holdsworth, Stafford, Stokes, & Tyler, 2001; Thomson & Holdsworth, 2003) with the aim of unleashing creativity by encouraging educators to reconsider traditional practices. For instance, Connor (2016) referred to skunk works as learning in a “third space” existing outside of formal teaching and

research activities, and involving students and staff working together on jointly conceived projects.

Drawing on this literature, we propose that HR management is a specific field where skunk works may be instrumental in enabling responsiveness within large organizations. Prior research has discussed the relationship between the structure of HR and its efficiency and effectiveness. For example, studies in international HR management describe the need to rethink how HR operates to better support firm activities across countries (Rickard & Baker, 2017), including calls to improve understanding of the role of HR in a changing global context (Cooke, 2018). More generally, HR departments may lack capabilities to respond to demands from their internal customers and external environment. One reason is that HR departments today have to address more complex and differentiated problems than in the past (Boxall & Purcell, 2011; Cappelli, 1999; Seeck & Diehl, 2017). As such, specialized knowledge and skills are required for specific ongoing HR activities. Firms use specialized HR sub-units for recruitment and selection, training and development, and compensation, and also assign business units/departments an HR partner that delivers more tailored HR services. However, while these diversified HR structures help firms to respond to various routine needs, different approaches to integrating or structuring are likely to be required in situations that are unique and unusual (Lawler III, Ulrich, Fitz-Enz, & James Madden, 2004; Lawrence & Lorsch, 1967; Mitsuhashi, Park, Wright, & Chua, 2000). Skunk works may be one way by which HR can rapidly aggregate and integrate data from different and specialized HR activities to provide an accurate and comprehensive view of, and response to, a specific situation. That is, skunk works can solve the problem that "HR data typically rest in separate data sets and in separate programs that do not communicate with each other" (Lawler III et al., 2004, p. 63).

The idea of applying skunk works in HR appears to be missing from the literature to

date. Ulrich, Younger, and Brockbank (2008) include the term "Project Team" in their visualization of the 21st century HR organization, referring to HR teams designed to implement solutions to important HR problems. Related, they discuss the need for HR professionals to develop and apply project management skills. What seems to be missing from their paper is a discussion of the context and process in which such teams develop and operate, the link between these teams and other, more conventional HR structures, and the benefits as well as possible costs of using such teams.

In the following sections, we discuss the applicability of skunk works for addressing HR-related challenges. We describe three examples of HR skunk works, and how the seven skunk works dimensions play out in these specific cases (Bommer et al., 2002; Larsson, 2019). Drawing from these cases and the extant skunk works literature, we then develop a framework that grounds a series of questions for future research oriented around understanding the antecedents (why skunk works develop), processes and characteristics (how skunk works develop and function), potential moderators, and outcomes at different levels (organization, HR function, team, individual) of HR skunk works.

4. HR Skunk Works in Action: Three Examples

4.1. Sany Group – The COVID-19 Crisis

Overview. In December 2019, a cluster of pneumonia cases of unknown cause was reported by health authorities in Wuhan, the capital of China's Hubei province. The cause was later identified as a novel coronavirus, with the resulting illness named "Coronavirus disease 2019" by the World Health Organization (COVID-19; World Health Organization, 2020a). The virus was highly infectious. Its spread was further accelerated by the Chinese New Year travel rush, considered the largest annual human migration on earth, and the central location of Wuhan as a transport hub. In an effort to contain a viral breakout, on January 23, 2020, the

Chinese government imposed a lockdown² in Wuhan. A day later, the whole Hubei province went into lockdown and soon other provinces and regions in China followed suit and imposed similar lockdown or outdoor restrictions. As the COVID-19 crisis spread to many more countries outside of China, WHO declared COVID-19 a pandemic on March 11, 2020 (World Health Organization, 2020b). Worldwide, governments have declared lockdown or stay home orders enforcing physical distancing, restricting travel, prohibiting mass gatherings, and closing schools and workplaces.

The HR challenge: Unanticipated change of working pattern and health risks for employees. The COVID-19 outbreak caused significant disruptions to organizations' operations across the globe. In many countries, firms had to provide sick-leave pay for those infected or in quarantine. With the issuing of stay home orders, organizations had to quickly transition to allow employees, where possible, to work from home (drawing on communication tools such as Zoom, Adobe Connect, and MS Teams). Some firms had to suspend or even cease operations, resulting in redundancies and mandatory unpaid leave. Chinese firms were among the first to bear the brunt.

Sany Group is a company specializing in manufacturing heavy equipment such as excavators, road machinery, port machinery and wind turbines (Sany Group, 2020a). It has more than 30,000 employees in China (Sany Group, 2019) and over 40,000 worldwide (Sany Group, 2020b), making it the largest heavy equipment manufacturer in China and the fifth-largest in the world. With the outbreak of COVID-19, the Chinese government decided to build two makeshift emergency hospitals in Wuhan within a matter of a few days. Similar emergency construction projects were executed in other provinces and cities. This demanded urgent supply of heavy equipment, creating a need for extra effort and labor hours for Sany to

² A lockdown is an emergency protocol that usually prevents people or information from leaving an area. As a public health response to control the COVID-19 outbreak, governments and policymakers in many countries imposed lockdowns and other restrictive measures (Cohen, 2020).

meet the demand.

To slow down the spread of the virus, the central government in China had extended the national holiday following the Chinese New Year (Office of the Chinese State Council, 2020) and local governments also issued orders to postpone people's return to work. As a result, over 50% of Sany's employees had not been able to return to work. This threatened normal operations and timely delivery of orders. A few weeks later, when employees were allowed to return to work in most regions, the Group was still experiencing challenges in controlling the infection risks at the workplace.

The HR skunk works approach. To address the concerns about COVID-19 and risk management (clear *focus* and specific *needs*), a Sany Group COVID-19 task force was formed on January 26, 2020, led by the chairman of Sany Group (*trusted manager*), with the president and vice-presidents of the Group on board (Sany Group, 2020c). In keeping with the *cross-functional* characteristic of skunk works, the task force included members from operations, HR, sales, etc. This Group-level task force worked outside regular timelines and report lines (reflecting skunk works' *isolation* dimensions), and instructed all of Sany's divisions and manufacturing plants to form their own task forces by February 7, 2020, to respond to the quickly evolving epidemic. The *planning* dimension of a skunk works approach was also in place: The Group-level task force set up a daily coronavirus reporting mechanism to keep updated on the cases within the organization. They met daily and worked quickly to issue a Coronavirus Prevention Manual within two weeks, which provided comprehensive guidelines for employee teleworking, resumption of work, travel, accommodation, and catering within the manufacturing plants. This manual outlined three principles: 1) prioritizing worker health and safety, 2) using information and communication technologies to implement and manage remote [tele]work, and 3) ensuring safe resumption of work.

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Using the newly developed guidelines, Sany's employees were classified into five categories based on their infection risk levels. Relying on the e-HR and cloud computing infrastructure the Group had in place, health and travel information of the five categories of employees was collected on a daily basis, aggregated by the Group task force and communicated back to each division's and plant's task force (*leveraging overlaps*). Through the e-HR and cloud computing system, the HR departments collected attendance data, offered employees online training on safety and teleworking, processed employee leave and salaries, and proceeded with tele-recruitment. Updates were instantly communicated to employees through the online system, which offered clarity and security. A dedicated hotline was set up to attend to employees' psychological health.³ Drawing on and further consolidating the existing digital platform within the Group, this skunk works approach resulted in the development of a Group-wide centralized hub, from which employees from all sites were encouraged to draw guidelines and resources. Meanwhile, information also flew at the local level within and between different functions to allow efficient communication to support the continuity of operations.

Clearly, this approach bore fruit. Within overall signs of a rebounding Chinese economy (Reeves, Fæste, Chen, Carlsson-Szlezak, & Whitaker, 2020), Sany is also recovering. By March 9, 2020, over 90% of its employees have returned to work. The Group expects its manufacturing capacity to reach historical peak by end of March 2020 (Fang, 2020). In addition, this experience serves as a test of Sany's capability to handle disruptions. According to the Group's e-HR manager, it provides opportunities for Sany to further deepen its digitalization of HRM and other business management, to identify limitations in its work

³ & ⁴ The above information is drawn from a webinar presentation made by the e-HR manager of Sany Group Headquarters HR, Mr. Zhibo Rao on February 13, 2020, titled "the challenges and opportunities for HRM during the epidemic – sharing the HR practices of Sany Group". The event was organized by Kingdee, an enterprise management software company. The recorded webinar can be accessed at <https://live.polyv.cn/watch/601266>

procedures and optimize them, and to reflect and learn at the organizational level for long-term benefits.⁴ All in all, this off-the-grid project contributed to Sany's HR integration, as well as inclusiveness and cross-disciplinary work among a large body of employees.

4.2. Sky Group – People Development and Communications

Overview. The entertainment and media (E&M) industry has undergone drastic changes in the last decade with the prevalence of streaming services, the rise of voice-enabled assistance and mobile video as well as the deployment of fifth-generation (5G) wireless technology (Deloitte Development, 2019; Westcott, Loucks, Downs, & Watson, 2019). These changes offer opportunities to E&M companies for further expansion and additional, more customizable products and services. Indeed, the industry is projected to reach a global market value of US\$ 2.2 trillion by 2021 (PWC, 2019). At the same time, disruptive innovation poses significant challenges to existing firms in the industry, their services, structure and people management: They not only need to build capacity to ensure the development of new products and services, but the enhancement of skills, knowledge and operational systems also needs to take place swiftly to adjust to the new state of affairs and avoid obsolescence.

Sky Group, a major European E&M company, employs over 31,000 employees across nine countries in Europe and serves 24 million customers. Since its incorporation in 1988, Sky Group has grown exponentially and continued to evolve with the introduction of novel and innovative offerings to its customer service. Among others, it launched the first satellite TV service in the UK, the first dedicated sports news channel in Europe, and the world's first interactive soccer game (Sky Group, 2019a). Moreover, Sky Group has also led the way in corporate social responsibility initiatives, launching campaigns such as the Rainforest Rescue and Sky Ocean Rescue, as well as becoming the first company to achieve a neutral carbon footprint in the industry (Sky Group, 2019b, 2019c). Sky Group (originally labelled 'Sky')

was established in 1989 by Robert Murdoch and merged with British Satellite Broadcasting in 1990. It was acquired by the American conglomerate Comcast in 2018 in a high-stake competitive battle against Disney (Rajan, 2018) and thereupon, has been recognized as “the single most valuable British company founded from scratch” (King, 2018). Since its acquisition, Sky Group appears to operate in a decentralized way, with separate country-specific executive teams (Sky Group, 2019d). The reported total revenue of the group reached UK£ 13.6 billion in 2018 (Sky Group, 2019e).

The HR challenge: Developing fast and value-added solutions to meet employees’ changing learning and development needs. Despite Sky Group’s change-prone culture, prior to 2016, the firm’s HR ran in a traditional, top-down approach. Yet, the ever-increasing competition for market share and unprecedented opportunities for novel offerings in the flourishing E&M industry made evident the need for developing swift people management solutions that were closely aligned to employees’ latest priorities (Jeffrey, 2018). In particular, there seemed to be a problem around the speed of developing learning and development (L&D) solutions. It was no longer viable to devote three to 12 months to develop L&D solutions that would no longer be relevant for the business by the time they were ready (Dank & Hellström, 2018).

The HR skunk works approach. Against this backdrop, in August 2016, the Head of People Engagement and Development (*trusted manager*) initiated a task force with the aim of running a three-month pilot program transforming the traditionally-run L&D team of eight employees into a skunk works-like structure: Set apart from the rest of the HR organization (*isolation* dimension) the new L&D team *focused* on producing quick solutions, i.e. “minimum viable products” (MVP), for selected priority issues through the use of “sprint teams” (Petrone, 2017). This was in contrast with past practices where employees would adopt the conventional and tedious formal L&D cycle for each specific L&D project, without

reflecting on cross-project implications (*cross-functionality* element was also included). The idea was to *leverage overlaps* across L&D specialists to better address skill and knowledge deficits. Both the Management Development and Graduate program are examples of prioritized areas on which the sprint teams have focused (Dank & Hellström, 2018; Petrone, 2017). For each priority, these teams adopt a bottom-up approach, whereby the focus is on end-users' (i.e., learners') *needs* (Larsson, 2019; Petrone, 2017). In terms of *planning*, there are no predefined roles but rather a list of tasks, the completion of which results in the production of the MVP. Members may select to complete any of the remaining tasks from the list until all of them have been achieved. This skunk works way of operating not only allows the development of L&D offerings that are more in line with the business and employees' needs, but also the collection of continuous feedback that ensures a more evidence-based and data-driven approach to decision making (Dank & Hellström, 2018).

The L&D team at Sky Group has further reconfigured its skunk works approach over the years. For example, they found that for sprint teams to work effectively members need to be considered equal and should focus on the overall sprint team goal rather than its constituent parts (Perez, 2017). All in all, since the implementation of the skunk works way of working, the L&D team has managed to increase fivefold its support to managers at a lower cost, and 60% of managers have been engaging in online L&D activities quarterly, while the majority of employees have reported having a greater amount of developmental opportunities in the workplace (Dank & Hellström, 2018; Jeffrey, 2018).

4.3 Academy of Management (AOM) HR Division Ambassadors Program

Overview. The AOM is the largest professional association for academic and practitioner members who are teaching, engaged in practice, and doing research in the management field. Formed as a non-profit organization in 1936 in the U.S, with the key mission of advancing

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the philosophy of management among educators, researchers, and organizational managers, as of April 2020 AOM has more than 18,000 members working in 114 countries, with just under half (44.2%) of AOM members located outside North America (Academy of Management, 2015; see also Adler, 2014; A. Wood, 2014; <http://aom.org/Member-Services/Member-Statistics.aspx?terms=statistics>). The annual AOM meeting draws scholars from around the globe to share research, to collaborate on ongoing research, to engage in professional development, and to engage in recruitment and job search via AOM's career services center.

The HR Division is one of AOM's larger divisions (approximately 3,285 members), and its purpose is to encourage professional scholarship, teaching and practice to improve the effectiveness of HR systems and practices affecting people in work organizations. Results of HR Division member satisfaction surveys in 2007 and 2012 showed that non-U.S. members of the Division were less satisfied with the sense of community, with networking opportunities outside the conference, and with their avenues for influencing the Division (Sanders, Budhwar, Shipton, & Sun, 2014). One way by which the Division's Executive Committee sought to address these concerns was the formation of the Ambassadors Program. The Ambassadors Program was established in 2008 and currently includes Ambassadors (members of the HR Division) representing 59 countries. The key goal of the Program is to promote the Division and the AOM in general to scholars around the world by means of developing a series of projects which involve, engage, and serve the HR Division's global membership. The Program has been operating quite autonomously in terms of what its members consider important and the projects it promotes, fostering innovative activities that draw on the expertise of the group. The ideas underlying the Program's activities are not to simply reflect the attitudes of the HR Division that created it, but rather, to push the boundaries of these attitudes by providing a forum for more diverse, international voices. In

this sense, the Program may be referred to as skunk works, i.e., an independent dedicated group of researchers whose activity is generally but loosely connected to the HR Division's main channels of operation, and influences the rest of the Division and, by extension, the AOM (Fosfuri & Rønde, 2009; Gwynne, 1997).

The HR challenge: Addressing association members' professional and career development needs in the midst of contextual disruptions. With a significant proportion of international members, ease of mobility of people across national borders is crucial for the functioning of AOM in general and HR Division more specifically. However, recent changes in global mobility and immigration policies have posed severe challenges. For example, initially announced January 27, 2017, the U.S. Government's 2017 Executive Order titled "Protecting the Nation From Terrorist Attacks by Foreign Nationals" (commonly known at the time as the "travel ban"), suspending the issuance of immigrant and non-immigrant visas to applicants from a number of Muslim-majority countries, had a significant impact on AOM, including HR Division members. Entry into the U.S. for citizens of seven predominantly Muslim countries was banned, while visa renewal restrictions were put in place for an additional 38 countries. This not only impacted AOM members' employment and scholarly exchange opportunities, but also, by affecting universities' management of HR more generally in terms of hiring, research, and travel of academic staff, presented a real threat to unfettered scientific pursuit and academic freedom (e.g., Fischer, 2017; Khullar, Blumenthal, Olenski, & Jena, 2017; Lazcano, Ortega, & ul Armendariz, 2017; Merino, Jha, Loder, head of research, & Abbasi, 2017).

While individual AOM members responded sporadically early on, voicing their desire to stand up for science in this era of political changes, AOM's initial response to the travel ban was rather restrained, partly due to its organizational governance structure and bylaws which precluded an official response to the travel ban until the bylaws were changed. The

first response on this travel ban was a letter on January 31, 2017, from the AOM's president sent to all members emphasizing AOM's commitment to scholarly values of inclusion and academic freedom, and offering affected scholars technical support for being included in the annual meeting program (<http://aom.org/About-AOM/Governance/AOM-President-s-Message-about-travel-restrictions-to-US.aspx>). At this stage, AOM refrained from taking a straightforward position against the travel ban because doing so would have meant taking a political stand, which was explicitly barred by its binding policies (Tsoukas, 2020). This is not uncommon in organizations that are often bound by formal and informal institutions that constitute enabling and limiting factors (Hager, Galaskiewicz, & Larson, 2004; Lawler, 1997; North, 1991).

The HR skunk works approach. Members of the Ambassadors Program of the HR Division expressed their disappointment to the HR Executive Committee that AOM leadership had taken a "neutral" position, arguing that other scientific groups had taken a firmer stance. In a virtual discussion within the team (February 3-4, 2017), Ambassadors argued that was the duty of the Division to push for a conversation on the issue, and a call was set, voiced by the Ambassador Program Chair (*trusted manager*), for the HR Division to clearly stand for its international members (*customer need*). This discussion reflects the unique space within which the Program was running – alongside yet somewhat *apart* from the HR Division lines of operation. The HR Division executive committee engaged with the Ambassadors' discussion, releasing a formal response by the Division chair (February 5, 2017). Like the AOM statement published a few days earlier, the HR Division statement expressed commitment to assisting affected members.

The open discussion generated by the Ambassadors may have contributed to developments beyond the Division. On February 21, 2017, AOM initiated a call among division and interest group leaders for a mini-track of special sessions as part of its All

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Academy Theme program for the August 2017 annual conference. In terms of *focus*, this mini-track was specifically designed to address the relationship between national boundaries (and changes in these boundaries) and management scholars' identity and work, and marked a step forward in AOM's more deliberate response to the global mobility challenge. As for the *planning* dimension of skunk works, the HR Division provided the Ambassadors Program the autonomy to engage in an open, genuinely deep and penetrating debate on this challenge – by requesting that they utilize their expertise to organize a special symposium for the All Academy mini-track. The symposium opened up an avenue to creatively address contemporary concerns that "migration studies and HR management literature, and more broadly, management literature, tend to run along parallel tracks without informing each other" (Guo & Al Ariss, 2015, p. 1287) – reflecting the *leveraging* dimension of skunk works.

In the August 2017 symposium at the annual conference, the Ambassadors engaged in a conversation to facilitate sense-making amidst the unusual circumstances, drawing upon their own experiences as faculty members, deans, and administrators in universities, in tandem with their skills in evaluating and commenting on HR problems from a scientific point of view (*cross-functionality*). In this respect, the All-Academy symposium was another original reaction on the part of the HR Division as it complemented the Division's initial response communicated earlier that year; by empowering the Ambassadors to develop the symposium, HR Division leadership were able to adapt existing rules in situ and, by doing so, exercise new possibilities for addressing the challenging events (Sawyer, Sawyer, & Silverstein, 2003; Tsoukas, 2020).

In sum, the Ambassadors Program as a skunk works helped the HR Division and, to a certain degree, the AOM, to be more effective and nuanced in how it responded to its environment. The HR Division was encouraged by its Ambassadors team to undertake a more

radical response trajectory in a situation where the Division, due to its tight linkage with and oversight by the central AOM body, was required to choose an incremental response trajectory to avoid controversial debates that have been traditionally considered to reside outside of the realm of professional scholarly associations. Indeed, it was only in April 2017 that the AOM amended its policy on taking political stands. While repeating that AOM leaders are barred from stating political views, the new policy allowed for "exceptional circumstances" in which a broadly political stand is permissible to be taken by AOM leaders, under certain conditions. The shift in AOM's formal response approach was finally completed in October 16, 2017, when the AOM President wrote officially to the President of the U.S. to "condemn" the travel ban

(http://aom.org/uploadedFiles/About_AOM/Governance/White_House_Letter_10-16-17_FINAL.pdf). At that time, AOM also signed onto a joint statement with more than 180 universities and educational/scientific associations condemning the travel ban policy (aom.org/FAQExecutiveOrder.aspx).

5. Summary and Synthesis: Lessons Learned

We have thus far discussed the concept and highlighted examples of the applicability of a skunk works-type structure for addressing HR-related challenges affecting organizational members. Specifically, unlike the majority of prior research that has considered skunk works as a structural solution for technology-related problems, we have proposed a skunk works approach as a means for targeting non-routine people-related problems. Using three varied examples, we sought to outline how HR skunk works develop and function, and to demonstrate the people management outcomes associated with HR skunk works. Set apart from the need to conform to rules, procedures, and daily expectations, people engaged in skunk works have the ability to act swiftly to deal with an opportunity, threat or concern as it arises (Fosfuri & Rønde, 2009; Kanter, 1988; Rich & Janos, 1994).

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The organizations featuring in our case examples used skunk works to address different HR challenges in VUCA environments. Sany Group needed to manage a one-of-a-kind threat by a novel and rapidly spreading infectious disease, which underscored the importance of creating a hub for gathering and sharing information and acting on it to maintain business continuity; Sky Group faced rapid changes in their industry affecting the learning and development needs of employees; and the Ambassadors were dealing with global political changes affecting the ability of their organization's members to move between countries. Evidence from our cases suggests that skunk works were valuable in two respects. First, in a more direct manner, skunk works teams helped organizations to weather fast-emerging, unprecedented circumstances, and deliver speedy outcomes in ways that may not have been possible had the organizations relied solely on their traditional structures. For example, at Sky Group, commentators estimated that through the skunk works' efforts, the Learning and Development team significantly increased management support, while keeping efficiency up. The AOM and especially the HR Division within it, via facilitating mechanisms like the Ambassadors' skunk works approach to raise the profile and encourage the voices and viewpoints of international members regarding the travel ban, has become, in appearance and in fact, more responsive to international (and domestic) members' concerns about critical issues and contextual events outside the traditional purview of the AOM conference and scholarly community.

Second, in a more indirect manner, experimenting with skunk works amid unique circumstances has helped organizations build capacity to work in a flexible way – in routine times as well as for future VUCA situations. Indeed, beyond the immediate outcomes discussed above, there are suggestions that the effects of skunk works may be more long term. This is because through the process of deploying skunk works, the organization acquires the capability to adopt new skunk works as opportunities and challenges arise. That

is, working autonomously and flexibly across functional areas to deliver task-related outcomes, skunk work members acquire knowledge and skills that are highly transferable across projects. Skunk work practices, where institutionalized, largely guarantee long-term effects for the organization. As such, this approach not only offers the chance to foster innovation and efficiency through revitalizing the organization as a whole, but also has the potential to head off threats that may otherwise significantly impede either a commercial operation or an organization's reputation.

As noted above, skunk works have been criticized for representing a temporary solution. Yet our three examples demonstrate some permanent changes in the organizations resulting from skunk works, possibly even pointing at some sort of institutionalization of skunk works as a way of operation. At Sany Group, the company-wide platform that was consolidated during the pandemic can continue to serve to easily connect divisions and plants and encourage collaborations. Also, recognizing the potential of the digital platform during the pandemic, the HR department is re-examining existing procedures, which may lead to future changes (e.g., with respect to remote work). In Sky Group, a skunk works-like structure was subsequently adopted as its main operational configuration. For the Ambassador Program, the HR Division leadership (and AOM at large) were able to adapt existing rules and exercise new possibilities for better addressing unforeseen challenges in the future.

Our three exemplars of skunk works demonstrate the seven dimensions that are characteristics of skunk works (Bommer et al., 2002; Gwynne, 1997; Larsson, 2019). In all three examples we see the establishment of a team that is to some extent *isolated* from the main organization, suggesting that the flexibility to create project teams that are separate from a traditional hierarchy is an important driver for innovation. For example, the Ambassadors who participated in the virtual discussion and those involved in the Symposium

were, with the exception of the annual meeting scholarly program chair who helped with technicalities of organizing the symposium submission, not officially involved in the administration at the HR Division or the AOM. At the same time, they had in-depth knowledge of the HR field as well as solid understanding of the formal and informal institutional context of their respective countries. They applied these unique insights to the challenges and opportunities associated with current changes in the political climate in many countries (not just the U.S.) that impact global mobility laws and regulations. This also reflects the *cross-functional* dimension of skunk works, which is also illustrated in the Sky Group case where members were selected to complete tasks, without predefined roles.

All three examples were focused on the *needs of a specific group*. The Sany Group example focused on employee health-related needs as well as needs related to working from home. The Sky Group example focused on employees with learning and development needs. And the Ambassadors program focused on mobility needs of the international members (students and scholars) of the HR Division. All three examples show some evidence of *planning*, *effective project management*, *diversity* within the teams, and operating alongside other organizational initiatives to *leverage overlaps*. In particular, at Sany Group, the skunk works team planned their project by using a bottom-up approach that heavily drew upon data received from the different divisions/plants. This team had to manage challenges associated with communicating with a geographically spread workforce in order to achieve their outcomes. The Sky Group skunk works successfully transformed a traditional learning and development program using project management features such as sprint teams (Perez, 2017) and evidence-based decision-making (Dank & Hellström, 2018). Through deploying the Ambassadors network as a skunk works project to create the special symposium, AOM was able to go some way towards addressing members' strongly held concerns about critical issues around immigration within and beyond academia. This opened up the conversation and

supported AOM as an institution to formulate, over time, a new position.

It is worth noting that skunk works may be viewed as one tool in an organization's arsenal that can be used to improve flexibility in response to VUCA environments or large-scale crises from an HRM perspective (e.g., Ahammad, Glaister, & Gomes, 2020; Nijssen & Paauwe, 2012). In this respect, agility has been conceptualized as an organizational capability, specifically the ability to identify rapidly changing external conditions, engage in these changes before they become a threat, and seize opportunities in them. Thus, agility is referred to as a dynamic strategic mindset for setting direction for the organization in preparing for and addressing uncertainty (Doz, Doz, & Kosonen, 2008; McCann, 2004). Agile work practices are explained as "new values, principles, practices, and benefits and are a radical alternative to command and-control-style management" (Rigby, Sutherland, & Takeuchi, 2016, p. 40) which challenge the existing structures (Rigby et al., 2016). Along these lines, skunk works can be seen as an agile work practice distinguished by the seven characteristics described above, and most prominently by being focused on specific tasks and by functioning in isolated, cross-functional teams. Notably, skunk works are not a replacement for rigid organizational structures, but intended rather to complement and enrich wider functioning (Larsson, 2019).

In order to be realistic and balanced, it is important that our synthesis also acknowledges the potential for negative outcomes from using skunk works in the HR context. Research on the use of skunk works for technological challenges related to products and services has tended to focus on the positive outcomes of this structure, with few if any negative consequences discussed. For example, one of the most important threats associated with skunk works is misalignment or disconnection between the primary organisation and the people in the skunk works. If links become too loose, there is a risk that the skunk works might move toward directions that are too distal from those intended for the team, as well as

the risk that some novel innovations that could be suitable for adoption by the broader organization are not recognized. Notably, however, given that it is crucial that skunk works can develop and operate in extremely autonomous ways, there is a need for careful, ongoing balance between disconnection and proximity (Jansen, George, Van den Bosch, & Volberda, 2008).

Likewise, we can envision several potential negative consequences of using HR skunk works. In particular, while skunk works such as we have described are useful for dealing with non-routine problems requiring rapid responses and innovative solutions, frequent use of skunk works may signal that the formal HR function has inertia problems, that it is understaffed or outdated, or that it lacks the competencies to address these types of problems as they arise. Brown (2004) acknowledges this possible adverse effect, arguing that the formation of a skunk works may signal that the regular organization's structure, systems, process, etc. are no longer able to handle innovation or radical change, and therefore there is a need to form a new, separate organization in order to be innovative. Indeed, since HR skunk works teams, by definition, operate autonomously from the conventional HR function, they may be prone to inadvertently drift away from the firm's overarching HR strategy, proposing solutions that work in the short-term but run contrary to other strategic decisions. This may create power struggles among HR staff in the traditional function and those in the skunk works, which may hinder the acceptance and implementation of solutions proposed by the skunk works. As such, in an ideal world, HR skunk works would complement and extend the activities of the existing HR function and would suggest solutions that are consistent with the firm's broader HR strategy – rather than pursue a completely different agenda. These potential negative concerns may be ameliorated if care is taken in decisions about when and how HR skunk works are implemented.

Given the nascent state of the academic research on the use of skunk works for

addressing people-related issues, in the next section of the paper, we draw on the learnings across the case studies to walk through a conceptual framework intended to stimulate future theoretical and empirical work in this area.

6. Framework and Directions for Future HR Research

Building on the literature and our three examples of skunk works in action, we propose a conceptual framework that describes relationships between HR skunk works *antecedents* (underlying mechanisms and motivations), *processes and characteristics* (formation and function), and *outcomes*, as well as potential *moderators* (see Figure 1). To demonstrate how the framework could guide future research, we identify theoretical perspectives and research questions that clearly tie to the different elements of our framework.

<<Insert Figure 1 about here>>

6.1 HR Skunk Works Antecedents

As the first step in our framework, we identify the *antecedents or situational conditions* under which HR skunk works are most likely to arise. We have proposed that HR skunk works are most likely to be formed in VUCA environments, where conditions are so unprecedented, disruptive, and rapidly changing that they require special attention outside normal way of operation. For example, in the case of COVID-19, the first cases in Wuhan, China, were reported to the World Health Organization on December 31, 2019. The illness spread from Asia to Australia, Europe, and North America and beyond, and was declared a pandemic on March 11, 2020. Within just three months from the first reported cases, one-third of the world's population was on some form of lockdown due to the virus (Secon, Woodward, & Mosher, 2020). Organizations were reeling in terms of how to respond to unprecedented public and workplace health and safety issues and to the macro economic and employment consequences of mandated shutdowns of businesses, supply chain disruption, and decreased consumer demands. In the Sany Group case, increased demand from the

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Chinese government for its heavy equipment to build new hospitals to house COVID-19 victims conflicted with restrictions on workplace activity and risk management for the health of employees. In the Sky Group case, the Group experienced an unexpected increase in competition that made clear that it needed to accelerate the development of new learning programs. In the AOM example, the 2017 travel bans issued by the U.S. government were swift and effective immediately, posing a threat to AOM members' scholarly activities and purpose.

Another important antecedent that is likely to influence *the structure* of specific HR skunk works teams is the scope, duration and scale of the situation. For example, the impact of the COVID-19 pandemic is unprecedented, dynamic, global, long-term, and large-scale for almost all organizations. This suggests that the skunk works approach adopted by an organization in response would likely have broad, cross-functional teams led by high-profile project managers to garner the authority needed for fast (re)action, enable wide-ranging oversight, acquire up-to-the-minute data, and possibly be prepared to re-convene as needed to deal with new issues that might arise during the long road to recovery (e.g., a second wave of virus outbreak, political unrest as a result of widespread unemployment). In contrast, the fierce competition and transformation of the entertainment and media industry giving rise to the Sky Group situation, while certainly disruptive, was mainly focused on a specific HR concern (timeliness of learning and development solutions), so a more focused team stretching over this fast-evolving period would seem to make sense. Similarly, the AOM 2017 travel ban situation, while unexpected and disruptive with global impact on scholarly exchange, was of relatively smaller scope in that it affected a smaller number of people and posed fewer financial and other consequences. The skunk works filled a role over a particular time span until the AOM organization as a whole revised its bylaws and was able to respond more formally to speak out against the travel ban. This suggests a global but relatively short-

term skunk works solution.

A third consideration is the degree to which an organization's existing structures, and specifically the HR function, have capacity and/or expertise to deal with an emergent situation. Skunkworks are especially effective as an alternative to normal routinized ways of making decisions. Not only are formal routines potentially too slow for the new situation, but often it is the case that those normal routines do still have to continue even while the new crisis is raging and demanding attention. In a recent summary of webcast interviews of HR professionals' response to COVID-19, it was noted: "Every HR executive described how they built 'priority teams' that meet every day, global councils that meet constantly, and that many of the HR professionals shifted from 'project work' to 'crisis work.' I do want to point out that several of the execs told us that 'not everyone is dealing with the crisis.' Many of the HR professionals are continuing to 'keep the business operating.'" (Bersin, Josh, 2020). In the AOM example, the HR Ambassadors Program already existed as a fairly autonomous group and was able to quickly mobilize and re-shape itself to act as a skunk works for dealing with the travel ban situation. Ideally, an organization will have enough slack resources in terms of individuals with appropriate skills to spare at least some to serve on skunk works teams; lacking these, organizations would likely either have to delay their response or perhaps resort to outside consultants for guidance, which would likely be slower, more expensive, and result in less well-tailored recommendations than an internal skunk works team.

Future research could apply the prediction of structural contingency theory (Burns & Stalker, 1961), for example, to test whether and when skunk works teams likely achieve better "structural fit" with uncertain environments than do traditional mechanistic structures. Global and national events like the COVID-19 pandemic and the 2017 U.S. travel ban generate a high level of uncertainty for international migration and bear significant implications for labor demand-supply relationship in certain regions (Rey Koslowski, 2011).

More skunk works may be adopted in organizations forced to address HR challenges generated by these events, and this may further vary as a function of other aspects of the country context. Hence, we identify research questions that could be addressed in studies exploring the antecedents of HR skunk works:

1. *What are the specific characteristics of situational conditions (e.g., level of VUCA), for which routine HR practices are less well-suited to respond, such that the conditions are best handled via skunk works?*
2. *Are the antecedents leading organizations to introduce skunk works to address HR challenges different from those affecting skunk works used for other purposes like technological innovation, and if so, how do these differences in antecedents affect processes and characteristics of HR skunk works as compared to non-HR skunk works?*
3. *What antecedents determine whether skunk works become a long-term, integral part of an organization or whether they are assembled on a short-term basis to address specific challenges as they arise (e.g., in times of crisis) and then disband?*
4. *Is the use of skunk works influenced by such factors as the competency set and gender of top HR managers, number of HR experts in relation to number of overall employees, time of year when the crisis occurs (e.g., in the middle of a busy performance review season), and/or existence of shared service centers?*
5. *What specific people-related problems are better handled via skunk works (e.g., redeployment of employees, training development) as opposed to routine HR practices and systems (e.g., layoffs, hiring)?*

6.2 HR Skunk Works Processes and Characteristics

Next, we consider the *processes and characteristics* of HR skunk works themselves. In our case studies we were able to identify characteristics of HR skunk works relatively easily but

had less information on processes. As we reflect on what we learn from the cases, we encourage future research to further explore the processes through which skunk works do their work to achieve their stated goal(s) and how those processes are interrelated with the characteristics of the skunk works team. We know that skunk works generally rely on key processes of organizational learning, innovation, and team building. To focus first on *processes*, we draw on the understanding that skunk works teams are mostly charged to explore (vis-à-vis exploit) unknown areas, so insights from organizational learning theory (March, 1991) might be informative in answering these questions. For example, research suggests that too much exploration might prevent organizations from capitalizing on their strengths. Hence, a balance between exploration and exploitation (i.e., ambidexterity) is desirable (O'Reilly & Tushman, 2013). Given that skunk works rely on small groups that work autonomously, any innovation or knowledge could be 'stuck' within the group. As such, to be successful for an organization in the long term, ideas and knowledge generated by skunk works need to be made easily accessible to other organization units/members. That is, skunk works need to be replicable and scalable (i.e., exploitable) – both in terms of the solutions generated by the skunk works, and in terms of the ability to form additional skunk works in the future.

To build understanding of the processes within HR skunk works, for example with regard to team building, future research could examine the setting up of the skunk works team as well as the pseudo-routine elements of its operation. Future research could test whether insights from the extant literature on team composition, team processes and team effectiveness (e.g., e.g., Gilson, Maynard, Jones Young, Vartiainen, & Hakonen, 2015; Joshi & Roh, 2009; LePine, Piccolo, Jackson, Mathieu, & Saul, 2008) are applicable to skunk works used for HR challenges, and whether there are differences in what works well for these types of skunk works versus more traditional technologically-focused skunk works. For

example, team roles theory discusses certain roles that are vital to effective team performance. The theory emphasizes proper tasks assignment based on the matching of skills, strengths and weaknesses of team members with specific task characteristics (Belbin, 1993). Skunk works may intentionally break free from such overly structured team planning and execution. Hence, we identify the following research questions for future studies to explore:

1. *Which HR practices could be utilized to enhance organizational learning and cross-fertilization between various skunk works used for different purposes (e.g., skunk works focused on an HR issue and skunk works utilized for product market innovation)?*
2. *What are the characteristics of teams (e.g., size, demographics, diversity of expertise) that are best suited to skunk works, including HR skunk works?*
3. *How do different forms of team building affect the effectiveness of HR skunk works?*
4. *How do formal or informal team processes (such as collaboration and communication processes, as well as communication mode (virtual or face to face)) facilitate or hinder HR skunk works' team performance?*
5. *What team leadership style is most conducive to effective HR skunk works and does it differ from what works best for technologically-focused skunk works?*

How would we know whether we are looking at HR skunk works or some other way of working? What differentiates an HR skunk works approach from any other approach? Here we refer to the seven characteristics of skunk works. These seven characteristics offer the foundations for development of a measure that could be used to assess skunkworks. In a manner similar to the concept of bureaucracy, which is discussed in terms of an ideal type composing a series of dimensions (Gouldner, 1950; Hall, 1963),

it may be that the skunk works concept could be empirically investigated (and validated) using a dimensional approach. That is, rather than assuming that a structure is totally skunk works or not, we may consider a structure as more or less skunk works-like, depending on the extent to which the seven characteristics are present. Not every ad-hoc, innovative team will possess all of the characteristics incorporated into the 'ideal-type' skunk works. The 7-dimension ideal type (Bommer et al., 2002; Larsson, 2019) may be used as a benchmark enabling us to determine in which particular respects a team is skunk works(able) – and potentially improve on any missing dimension. To build understanding of the seven characteristics of HR skunk works, future research could explore questions such as:

1. *How are each of the HR skunk works characteristics influenced by the situational conditions and by the capacity and expertise of the formal organizational/HR function?*
2. *How do the skunk works characteristics interact?*
3. *How do each of the characteristics contribute to the effectiveness of the skunk works?*

6.3 HR Skunk Works Outcomes

Moving on to the *outcomes* of HR skunk works. We recognize that there are both benefits and drawbacks of using skunk works to address HR challenges, especially when these structures will most likely be used alongside regular, established ways of working. How could the effectiveness of HR skunk works be assessed/evaluated, and how would that evaluation be different depending on the scope and nature of the emergent HR-related crisis? As shown in our framework, we identify several measurable outcomes of HR skunk works, including effectiveness and efficiency, team cohesion and satisfaction with the skunk works approach, future use of HR skunk works in the organization (replicability, scalability, and transferability), and connections between the skunk works team and other parts of HR. We

also recognize that the outcomes of an HR skunk works approach may be measurable on a temporal dimension: outcomes may be only temporary, or may be enduring/long-term. We can identify outcomes at several levels: organizational, team, and HR function, and identify the following research questions for future studies to explore:

1. *What are the costs and benefits to the organization, considering both effectiveness and timeliness, of using skunk works to deal with HR challenges?*
2. *How do HR skunk works compare with other approaches (e.g., external consultants) with regard to achieving organizational innovation around emergent people-related concerns?*
3. *How do HR skunk works influence the four Cs of HR management, i.e., commitment, competence, congruence, and cost-effectiveness, which are often used as metrics for evaluating the HR function?*
4. *How do HR skunk works' processes and configurations of characteristics, together with the nature and solvability of the emergent problem itself, influence team task and social outcomes?*
5. *What effect does the use of skunk works for addressing HR challenges have on the perceptions about the regular HR function among others (e.g., top management, employees)? Is HR seen as more professional and/or innovative for using skunk works as needed for non-routine issues, or is the use of skunk works seen by other constituents as a signal of weakness or ineffectiveness?*

Future research could also examine outcomes for individuals, i.e. the skunk workers as the people, whether employees (e.g., Sky and Sany Groups) or volunteers (e.g., AOM), engaged in the skunk works team. A key challenge surrounds how the formal HR function and leadership manages skunk workers' development of new knowledge, skills and abilities,

as well as their well-being and potential to thrive at work (Kleine, Rudolph, & Zacher, 2019; Millar, Groth, & Mahon, 2018). The Sany Group and Sky Group examples featured multidirectional feedback/communication, with local sites (divisions/plants) asked to push information up to the Group's task force and employees encouraged to voice opinions, respectively (Cappelli & Tavis, 2018). These steps can be valuable for skunk workers' psychological safety (Newman, Donohue, & Eva, 2017), as well as their motivation to be truly engaged in the skunk work mission. For example, Martin and Eisenhardt (2010) found that the motivation of employees involved in a task across business units (skunk works-like teams) was primarily tied to whether the cross-unit collaboration seemed to enhance their original business unit performance. Furthermore, theories of motivation suggest that high levels of discretion at work lead to enhanced meaningfulness (Hackman & Oldham, 1976; Rosso, Dekas, & Wrzesniewski, 2010) and job satisfaction (Kulik, Oldham, & Hackman, 1987). However, skunk works also require discipline, teamwork and time management. Future research might explore how individual factors such as self-efficacy, achievement goals, and identification play out in skunk works.

Hence, we pose the following research questions focused on outcomes at the individual level:

1. *What are the implications of skunk works for the identity of individuals? For example, what are the implications for HR functional staff who participate in skunk works and then return to their prior roles?*
2. *How does participation in a skunk works team influence individuals' well-being, particularly their work motivation, potential to thrive, and their psychological safety?*
3. *How does participation in a skunk works team influence individuals' performance and work engagement?*
4. *How do employees respond to the use of skunk works? Do they welcome it as*

innovative or view it with suspicion?

6.4 Moderators in the HR Skunk Works Framework

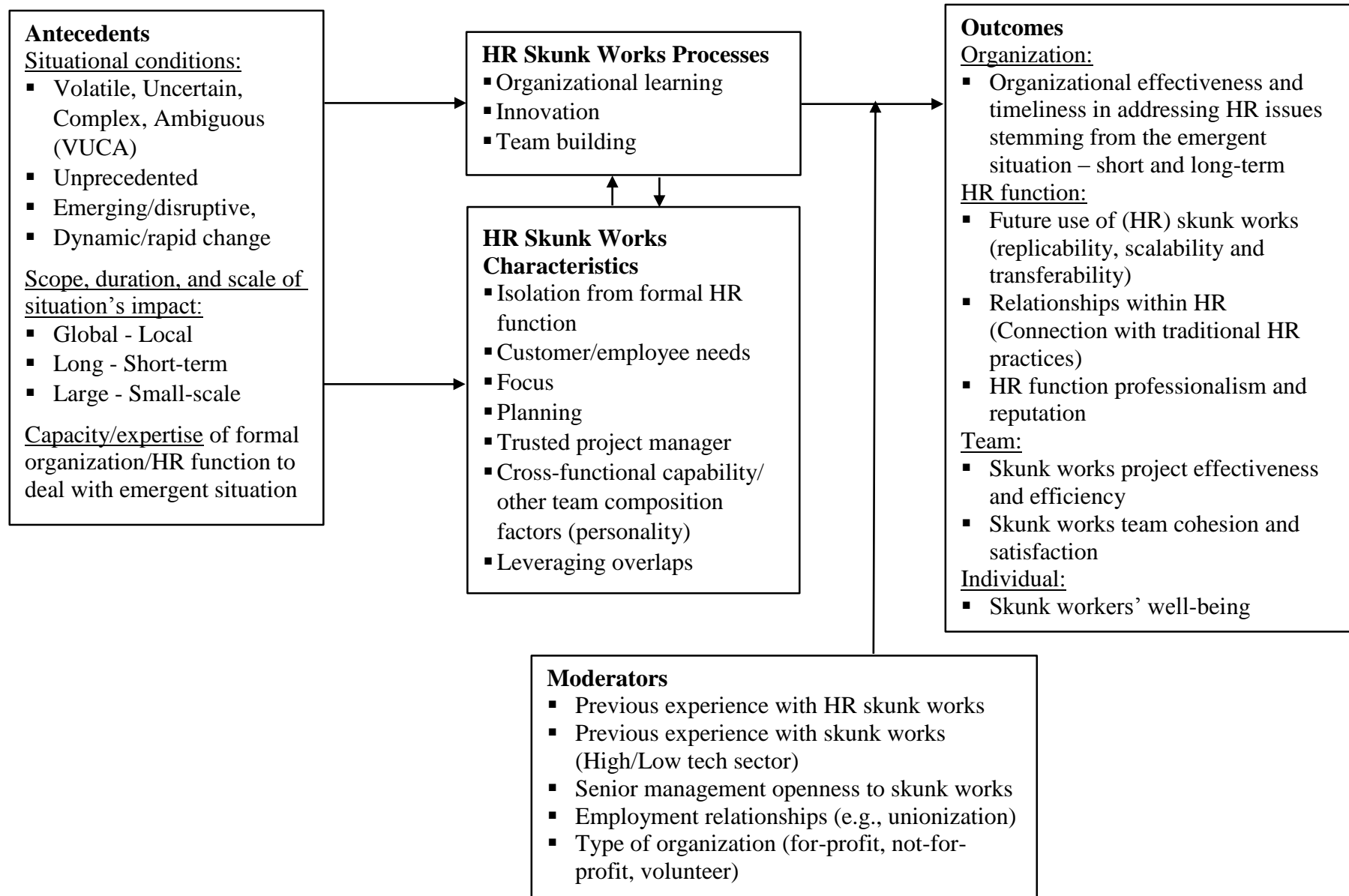
Finally, several factors could *moderate* the outcomes achieved from HR skunk works. For example, senior management openness to and support for skunk works, the amount of previous experience in the organization with skunk works, and specifically experience with HR skunk works, are likely to serve as facilitators of positive outcomes from HR skunk works. At the same time, low levels of trust and hostile employment relationships, measurable by indicators such as union density or history of industrial disputes in the organization, might hamper the likelihood of successful outcomes from an HR skunk works approach. These factors relate to power of individuals and groups to promote and withhold skunk works, and can be studied using principles from power theory like exchange, balance and dependency (e.g., Hickson, Hinings, Lee, Schneck, & Pennings, 1971; Pfeffer, 1992). Hence, we pose the following questions for future research:

- 1. Are HR skunk works more or less likely to succeed depending on the type of organizational context (e.g., manufacturing versus service sector; union versus non-union organization; professional association like AOM comprised of volunteers and members, as compared to for-profit business organizations such as Sky Group and Sany Group)?*
- 2. How does the fact that the problem focus of HR skunk works is internal (employees) versus external (customers) affect the balance of benefits versus costs?*
- 3. To what degree does prior organizational experience with HR or non-HR skunk works influence the relationship between use of skunk works and outcomes?*
- 4. What is the role of power issues in the achievement of the outcomes of skunk works?*

7. Conclusion

We have outlined how skunk works can be successfully applied for generating fast and innovative solutions to non-routine, unexpected, and/or unprecedented HR issues; yet, as has been noted, certain drawbacks may also emerge if skunk works are not executed correctly. Integrating the extant literature on skunk works with evidence from three organizations that have employed HR skunk works-type structures, we have developed an overarching framework and suggestions for future research taking account of the antecedents, processes and characteristics of skunk works, and the outcomes associated with utilizing skunk works for addressing HR/workforce challenges. This novel line of proposed research on the use of skunk works stands to complement, and to extend in a very important way, the existing scholarship on HR practices and systems that are used by organizations to manage their more predictable and routine workforce needs. The COVID-19 crisis is having a significant impact on organizations worldwide and will likely continue to for some time. This might be the perfect time for organizations to implement skunk works approaches to tackle the new and unexpected HR issues that seem likely to continue to arise. From a practical standpoint, the appropriate utilization of skunk works adds another tool to organizations' people management toolkit, and likely broadens and enhances organizations' ability to respond and to flourish within today's complex and perpetually changing business landscape.

Figure 1. A proposed research framework for the application of HR skunk works



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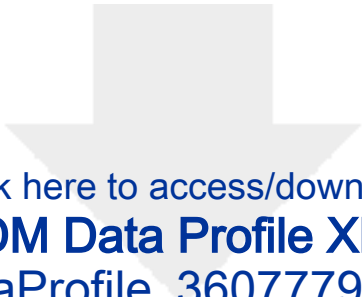
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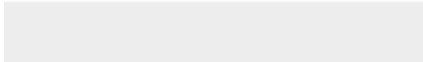

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