What Comes Before Innovation Kicks in: Contemporary Evidence and Future Directions of Innovative Work Behaviour of Individuals — A Conceptual Literature Review

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***Abstract*—The importance of innovation is widely considered to be of peak importance for today ́s enterprises. However, the understanding of one key element leading towards innovation seems to be neglected in scientific research: The innovative work behavior of individuals. Since Scott and Bruce investigated the determinants and introduced a path model of individual innovative work behavior twenty years ago (Scott and Bruce, 1994) much time has passed. New and upcoming trends in management, society and culture therefor could not be considered but influence the concept.**

This conceptual literature review therefor identifies, evaluates, aggregates and classifies the developments and trends from 2020 and 2021 regarding innovative work behavior. This study analyzed 41 journal articles, which further cited 3,609 publications as references, in EBSCO and Elsevier. The focus of the literature review was studies published in 2020 and 2021 and analyses that covered the topic of individual innovative behavior. The defined research objectives were framed by setting conceptual boundaries. Data was collected by using inclusion/exclusion criteria to then validate and manually review the research results.

The results of this review suggest that firstly there is a change visible of the definition of the term itself, which has also influenced the scales being used to be reviewed or shifting. In addition the review shows how changes in working and managing enterprises effect innovative work behavior. They can be grouped into the three areas: role and impact of culture, societal trends and new management trends. Thus the effects of mindfulness, transformational leadership, usage of social media, or corporate social responsibility on innovative work behavior are better understood.

This conceptual literature research connects and aggregates the various tendencies and supports new measurement models introduced which might help to identify possible causes of these discrepancies and provide direction for further research. Thereby this conceptual literature review thus sheds light on what otherwise seems to be a familiar concept.

***Index Terms*—IWB, innovative work behavior, mindfulness, ethical leadership, transformational leadership.**

I. Introduction

The necessity for constant innovation is not questioned by corporations and enterprises. Some scholars go so far as calling it an "innovation imperative" that corporations are facing [1]. However, when it comes to determining how to go about achieving innovation there is no recipe book. Even when looking for outside stimuli there is a common understanding that an organization's capacity to innovate depends on the ability of the individuals within the organization [2]. This is becoming more and more true with the general tendency toward flatter hierarchies within organizations, and subsequently more responsibility being placed on the individuals.

One of the main drivers of innovation is the innovative behavior of the organization's employees [3]-[5]. They are the source of innovation [6], [7]. Not lever-aging their innovative capabilities would be a misuse of the organization's assets. Thus, identifying, promoting, and leveraging the factors that enhance individuals' innovative work behavior is key to unlocking the full potential of human resources. To be able to unlock this potential, organizations need to under-stand the underlying mechanisms behind employees' innovative behavior. Liu *et al*. [8] rightly mentions that innovative behavior is a key performance evaluation criterion. This is interesting considering the fact that the factors that positively or negatively foster behavior are still being debated. Research on innovative work behavior is today largely concerned with identifying these factors.

Additionally, with new technologies, a volatile, uncertain, complex and amibigious environment, and more dynamic and challenging surroundings, the circumstances of innovation can also be found in new working dynamics. These include new leader-ship styles, new ways of working like agile and remote work enforced by the COVID-19 situation [9].

The latest research focuses on these changing aspects, and connects the new influences and shifts in trends with innovative work behavior. How organizational slack [10] ; transformational leadership [5], [11]-[13]; ethical leadership [3], [14]; lead userness [15]; and, finally, digitalization and extended availability [16] influence innovative work behavior has been topic on the research agenda in 2020 and are being picked up in this review as they give new insights into how organizations. Societal trends like the rising popularity of mindfulness [2], [17], increased social media use [18], and the demand for corporate social responsibility [6] are also being discussed in the literature in relation to innovative work behavior.

Innovative work behavior has been found to involve risk and calls for perseverance. It comes with obstacles like uncertainty and resistance from leaders and co-workers, as well as the potential of failure [6]. The foundation of innovative work behavior; namely, that the bringing-forth of innovative ideas often takes courage, stays the same even as

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new influences come up. However, past research has produced differing and sometimes contradicting results even on those foundations of innovation. This is partly due to the fact that measurements of innovation are still being developed and are becoming more sophisticated [7]. Despite some conflicting research, the possibility of answering the question of innovation—that is, the question of which components are needed to create an atmosphere where unusual ideas can be shared and freely articulated—is of utmost importance and should not be neglected.

Having demonstrated the importance of understanding the drivers for individual innovative behavior, this study now aims to further this understanding. The purpose of the study is to con-tribute to the literature on this topic. It does so by conceptually evaluating studies on individuals' innovative work behavior in 2020 and 2021, in order to summarize the latest tendencies and impacts on research.

II. Research Methodology

In order to ensure a systematic procedure and limit bias, this paper used a conceptual literature review. This review was used to determine the state-of-the-art in academic research regarding individual innovative work behavior in 2020. The purpose of the structured literature review is to identify and aggregate relevant studies and findings using a transparent and reproducible process. This type of literature review has been found suitable for research topics that are characterized by studies diverse in terms of methods and theoretical approaches [19].

Based on the guidelines for conceptual literature reviews, the author followed and adapted the subsequent steps: 1) definition of the research objective, 2) framing of the research subject by setting conceptual boundaries, 3) data collection by using inclusion/exclusion criteria, and 4) validation and manual review of the research results [20]. In this review, the author focuses on the investigation of literature published in journals in 2020 and 2021. This is because the aim was to understand the impact of recent trends and developments. The authors wanted to understand how this research topic evolved during the last year, as well as how the results can be used as a starting point of new research initiatives. The research subject—and, thus, the conceptual boundaries—was defined by using the search terms "innovative work behavior," "innovative work behaviour," and "individual innovativeness." The author used Elsevier and EBSCO as the main sources for systematic database queries. This is because they were identified as the most relevant databases for scientific publications in the areas of management sciences. Only peer-reviewed journals were considered.

The following data extraction process was applied.

In sum, the author identified a total of 41 research studies for the subsequent analysis (November 1st, 2020).

Papers with a focus on teams' innovative work behavior, rather than individual innovative work behavior, were also excluded from the research process.

The process resulted in a total of 41 appropriate studies for the subsequent full-text analysis. Based on the grounded theory approach of reviewing the collected data and grouping them, and by using quantitative content analysis [21]. For a better structuring the studies were then grouped in the following four categories were identified as thematic areas: 1) new conceptualization and measurements of the term innovative work behavior, 2) the role of culture 3) the impact of societal trends, and 4) the impact of new management and organization styles. The four categories and how they interact and change our understanding of innovative work behavior will be explained in detail later.

TABLE I: Data Selection Process

No.	Step	results
1	Definition of the research objective	574.090
2	Framing of the research subject by setting conceptual boundaries	51.086
3	Data collection by using inclusion/exclusion criteria	6.684
4	Validation and manual review of the research results	41

The reasoning for focusing on these areas, and for grouping these aspects into the four categories listed above, can shed new light on the research topic of innovative work behavior. Due to the novelty of both innovative work behavior research and these new influences, these aspects have not been sufficiently considered and brought into context. This study first looks at changes to the core definition of the term "innovative work behavior," and calls for a different conceptualization of it. This is followed by evaluating the effect of strong globalization tendencies on innovative work behavior, by looking at the role of culture. Drawing the circle closer—from global to societal developments and trends, like mindfulness, down to changes in the core of the organization, like new management and organizational tendencies like flatter hierarchies—this paper further gives a holistic picture of some current influences on the topic of innovative work behavior that could not be examined before.

III. Findings

That innovation is crucial for organizational success is widely accepted. The literature similarly agrees that employees are at the core of organizational innovation. Thus, there is a broad under-standing of the underlying mechanisms that drive innovative work behavior. Not capitalizing on the innovative potential of employees would be a waste of one of the enterprise's biggest assets. However, many factors influence innovative work behavior. These range from individual to organizational; encompass personal, situational, and contextual aspects; and influence innovative work behavior either as mediating or moderating factors. In addition, the employees' and organizations' surroundings change, further influencing their innovative possibilities. Globalization spurs structural changes; new management styles are introduced; new social trends, like the rising popularity of mindfulness, occur. These all leave traces on the concept and understanding of innovative work behavior. How and why these changes occur, and what results they produce, has been analyzed in the following findings of peer-reviewed papers. These papers each discuss the topic of

innovative work behavior and were published in 2020 and 2021.

A. Conceptualization and Operationalization of the Term "Innovative Work Behavior"

One tendency that can be seen from analyzing research in 2020 and 2021 on innovative work behavior is that the term "innovative work behavior," as well as its definition and use, has been changing. The changes reflect the new, broader understanding of innovation itself. This updated vocabulary seems a natural development, as the concept of innovative work behavior has itself undergone several changes. The current understanding of innovative work behavior is that it consists of two stages: Initiation and implementation. Within initiation one distinguishes between idea exploration and idea generation and in the implementation stage between idea championing and idea implantation. This rough concept persists even though it being given different names and slightly different flavors when labelling them opportunity exploration, idea generation, and championing and application [22]. The understanding of innovation as being multi-staged and is an extension to the more limited concept of creativity put forth by Amabile [23] and was extended as the importance of stressing of the implementation aspect [24] was seen and taken into account.

The scholars that left the biggest mark in this area where Scott and Bruce [25], and later De Jong and Den Hartog [22], who defined the term. As one would expect, those definitions prevail when looking at the usage of definitions and scales in the current studies. However, like when the need to go beyond the creativity aspect was seen, recent literature sees a similar trend and calls for a reevaluation. These calls for change express themselves through two main tendencies: calls to reassess the measurements used, and to reassess the phases. Firstly there has been a call for adapting the measurements [7] and secondly for broadening and extending the understanding of the different phases [26] which will be explained in more detail.

1) New conceptualization of innovative work behavior

Lambriex-Schmitz *et al*. [26] state that the three phases are important and still valid; however, they suggest introducing the additional phase of sustainability. They argue that this is important because many innovations and newly introduced processes fail in the long term. By introducing this fourth dimension, the problem of superficial innovation can be addressed. The acknowledgment that innovation is a multistage process and in addition a multi-stage-iterative process is thus taken into account.

Leaving out the important aspect of sustainability is too short-sighted. Following the definition of Lambriex-Schmitz *et al*. (2020), the phases of innovative behaviour should be extended from the three phases put forward by De Jong and Den Hartog (2010)—exploration, generation, and promotion and realization—to include a fourth phase, sustainability. In this way, as Lambriex-Schmitz *et al*. [26] argue, the definition would better acknowledge the fact that 80% of innovations fail. The authors further suggest that the phases of idea realization and idea sustainability be extended by introducing subdimensions, namely the distribution and the internal embedding of the idea.

Lambriex-Schmitz *et al*. [26] provide ample argumentation to support the necessity of introducing a new phase, as this is a central point in their study. Other researchers have also actively addressed this topic, though not as extensively. The existence of this recent literature demonstrates that innovative work behaviour is still an open topic of research.

Wynen *et al*. [27] independently addresses it when researching the effect of multiple organizational changes on managerial support for innovative work behaviour among Australian public service workers. The nature of the study design was to investigate the effect of organizational changes while recognizing that the multi-stage process needs to look deeper into the stages of idea realization and implementation. This is because that it is during these two phases that organizational changes become apparent, and this takes time. Independently, Liu *et al*. [8] picked up on the differing demands of innovative behaviour at different stages of the innovation process. Their study investigated how managers with a 'paradox mindset'—that is, a mindset in which they are energized by tension and conflict—affect the innovative work behaviour of employees. The authors rightly mention that this conflict-seeking mindset is required in the idea generation phase. This is because employees with a paradox mindset are likelier to confront difficulties and thereby handle contradictions better. As a result, the paradox mindset leads them to produce more ideas during this stage. At later stages of implementation, however, more ally-seeking and less conflict-driven behaviour is beneficial. The central research of Liu *et al*.'s paper [8] concerns the paradox mindset. It demonstrates how this ability to handle conflicting elements instead of avoiding them leads to broader attention spans and the ability to make more connections. Although the paper does not itself redefine the term of innovative work behaviour, by dealing with the different influences on the different stages of the innovation process, it supports the point that there are still gaps in understanding the multistage process of innovative work behaviour.

The debate about the various stages of innovative work behaviour is not a new one. Woods *et al*. [28]criticized the current conceptualization of innovative work behaviour, stating that it is not able to capture the multi-dimensional aspects of the process. Scholars like [15] made sure to define the importance of stages by extending the definition by Janssen ([24]s, pecifically mentioning that innovative work behaviour includes idea generation and idea implementation.

Miron-Spektor, Erez, and Naveh [29] introduced the term 'innovation paradox' to name the contradicting requirements at different points of time in the innovation process. Although their research was on team innovation, the process is the same for individual innovative work behaviour. Therefore, a more nuanced investigation of the different stages is called for in respect of individual innovative work behaviour as well. The fact that this phenomenon is labelled a paradox sufficiently demonstrates why this is not a quick fix.

The rethinking of the operationalization and conceptualization of innovative work behaviour, which is undertaken in the studies just reviewed, is not a mere thought experiment, or a nice but superficial addition to the literature.

Rather, it has fundamental implications for both past and future research. Lambriex-Schmitz *et al*. [26] rightly point out that the varying use of dimensions when researching innovative work behaviour could be the reason for contradictory results being reported. Taking the research on the influence of job demand on innovative work behaviour as an example, the results range from negative [30], to positive under the influence of mindfulness [2], to u-shaped [31].

Another argument in favour of re-evaluating the different phases of the innovation process to add the sustainability phase is that, by doing this, the influence of organizational factors also comes into play and can be taken into account. As mentioned earlier, the influences on innovative work behaviour vary from individual to organizational ones. The effects of these influences on the different phases might also vary. And, while idea generation could be executed by a single individual, other phases—like the sustainability phase—call for the adoption and inclusion of others. Additional research on phases that are dependent on organizational factors rather than individual ones will provide further insight into the role of these influencing factors, and thereby broaden overall understanding.

2) New measurement of innovative work behavior

Messmann and Mulder [7] introduce a new measure for innovative work behaviour—independent of the abovementioned studies—and approach it from a different angle. They take the necessity of understanding what facilitates innovative work behaviour as obvious, and offer additional insights into the mechanisms. They argue that what is lacking is a proper measurement that meets the quality criteria of objectivity, reliability, validity, and usability.

The usability criterion is emphasized. This is not because there is a lack of measures; rather, with increasing insight into the nature of innovative work behaviour, research models have become more complex. Hence, the currently used short measures of six to 10 items are not always sufficient, as they are not able to measure the 'dynamic, context-bound' nature of innovative work behaviour. The history of research into this topic has shown that innovative work behaviour cannot be reduced to single factors; it has social, reflective, activity-based, and context-bound dimensions. Each of these dimensions must be measured. However, simply adding more items to the scale to cover those aspects is not the solution. While this might lead to more accurate measures, these longer scales would not meet the criterion of usability (not to mention the fact that the costs of such research projects would explode).

Messmann and Mulder [7] challenge the suggestion from Lambriex-Schmitz *et al*. [26] that researchers should add subdimensions, as they see usability suffering. Instead of adding new subdimensions, Messmann and Mulder [7] argue that researchers should be more specific in the formulation of items. They see generality as the biggest shortcoming in the current measures, arguing that they leave too much room for interpretation. The current measure "generate creative ideas" from Scott and Bruce [25] is, indeed, too generic. Further, it lacks connection to the workplace context.

Considering workplace context, another aspect of the recently published studies comes into play: the broadened scope of research on the topic of innovative work behaviour also broadens the industries being researched. The time when innovative work behaviour was restricted to R&D departments or knowledge workers is over. Research about innovative work behaviour in 2020 alone ranged through a multitude of industries and verticals, from forensic service organizations [15] to nursing [11], the service sector [3], hotel staff [6], [32], engineers and designers [33], public sector workers [27], and teachers [26].

As the breadth and diversity of this research shows, while Messmann and Mulder [7] were right to criticize Scott and Bruce's ([25] overly generic formulation, there is also a problem with a definition that is too narrow. There is a worry that too much specificity in the definition—of either innovative workplace behaviour in general, or of its phases or measures—would limit the industries in which innovation is recognized and researched. By asking for the generation of creative ideas in general, as Scott and Bruce [25] suggest, but following Messmann and Mulder's [7] suggestion for taking a more context-bound approach, the scope of research can remain broad, but, at the same time, concretely link the experiences with innovation development to their workplace context.

This, and the addition of components to reflect the activity-based measurement and social and reflective activities, have led to the construction of a new, one-dimensional innovative work behaviour scale. It is important to note that though this scale is short, every dimension is covered with its two items. The aspect of sustainability called for by Lambriex-Schmitz et. [26], however, is not specifically added.

Lambriex-Schmitz *et al*. [26], Wynen *et al*. [27], and Messmann and Mulder [7] each provide valuable contributions to rethinking innovative workplace behaviour. Although each approaches the measurement process from a different angle, their reasoning—whether supporting a call for adding additional phases [26], more intense consideration of single phases like implementation [27], or new measures [7]—acknowledges the need for taking longitudinal effects into account. Thus, together they provide an answer to the question of what is brought up by the majority of published studies in 2020: the necessity for longitudinal observation [2], [3], [5], [6], [11]-[15], [32], [34],

What can be summarized from the findings of this section is that, with the growing insights into the underlying mechanisms of innovative work behaviour, the measures and the conceptualization of the term itself are being re-evaluated to better meet the call for longitudinal perspectives. Especially under consideration is the number of phases in the innovation process.

Now that the changes regarding the concept of innovative work behaviour itself have been examined, the following section explores external aspects influencing the research on innovative work behaviour. The impact of globalization [35] on innovation, and, so, also on innovative work behaviour, is first considered.

B. The Role and Impact of Culture

New light was shed on the question of how cultural

background influences the perception and outcome of innovative work by looking at study designs from 2020. In this section, two studies of particular interest are reviewed: one conducted in two different countries simultaneously [3] and the second with employees from multinational companies in a single country [12], [33].

Ahmed Iqbal *et al*. [3] conducted their research on ethical leadership and innovative work behaviour. A side effect of their research was the different results from Pakistan and the UK with the same survey and study design. Both of them were from the service sector. While the sample from Pakistan was consistent with past studies in showing that ethical leadership positively influences innovative work behaviour, the sample from the UK showed a comparatively insignificant relationship between ethical leadership and innovative work behaviour. This difference could stem from different work environments, or—as the study authors mention—from the multiethnicity in the UK sample, leading to a different assessment of leadership styles. This is an indicator that theories tested in one culture should be retested in different cultural settings, and demonstrates that the call for finding and accounting for cultural gaps in organizational behaviour research is justified.

Tsegaye and Malik [33]specifically looked at the role culture plays in innovative work behaviour by studying multicultural employees. After collecting data on social factors, such as cultural value orientation, and personal factors, such as psychological capital, they demonstrated that individual value orientation plays a more significant role than national value orientation. They proved that cultural value orientation and psychological capital determine innovative behaviour, regardless of national culture, organizational culture, tenure, and age-level differences. This finding sheds an interesting light on the debate about the possibility of transferring study results from different cultural settings.

Concerning national cultures, Tsegaye and Malik [33] demonstrated that following the cultural value orientation of Hofstede [36], masculine cultural value orientation increases innovative work behaviour tendencies. They further found that when power distance, uncertainty avoidance, and collectivism are increased, this has negative effects on innovative work behaviour. This must be seen, however, in the light of personal factors; as the study showed, the negative impact of power distance and uncertainty avoidance was lower for employees with a high psychological capital, while masculinity increased the negative impact. Hence, Tsegaye and Malik [33] were able to demonstrate the point that taking into account the moderating effects of psychological capital is necessary when discussing the effects of cultural differences. This is because the cultural value orientation of an individual can differ from the national culture. These findings can also be seen in the bigger context so that employees are not mere passive reactors to external stimuli like culture, but active reactors who influence work outcomes by bringing their own characteristics to the table.

Although the focus of Ali *et al*. [12] was on the link between managerial coaching and innovative work behaviour, the finding of this study among software companies in Pakistan brings up an interesting aspect concerning culture perception. Considering that in Pakistan—a high-power distance culture, where management concepts like managerial coaching might not be as effective as in low-power distance countries—managerial coaching was found to have an influence on the innovative work behaviour of employees. This result could be seen as proving the point above that the external culture is only one among many. Hence, it should not be taken for granted that employees' individual values will conform to those of the larger culture.

The author has now explained how changes in the conceptualization and measures of the term 'innovative behaviour' have influenced research in this topic and has reviewed new insights from different cultural perceptions around the globe. One result of globalization is that certain trends and tendencies can be seen as influencing society worldwide. This now leads one to look at the effects societal changes at large have on innovative work behaviours. By investigating how members of society respond to increasing workloads and perceived stress, this paper argues that an increasing demand for mindfulness practice is universal.

C. The Impact of Societal Trends

The nature of work and how society views work have both changed rapidly in recent years, and continue to change. The rise of digitalization has led to the blurring of the boundaries between work and leisure; as a result, today's employees are expected to sacrifice ever greater parts of their personal competences and resources for the company, even without monetary compensation. Employees' reasons for doing this are not necessarily based on pressure but can be as simple as 'liking their job', as Nöhammer and Stichlberger [16] showed. However, this bigger investment can also lead to stress. Understanding how, if, and why, this influences innovative work behaviour is, therefore, an important avenue for research. This section reviews two important recent influences—increased work stress and the rising popularity of mindfulness—and discusses their effects on innovative work behaviour.

1) Work stress

The nature of work and how society views work have both changed rapidly in recent years, and continue to change. The rise of digitalization has led to the blurring of the boundaries between work and leisure; as a result, today's employees are expected to sacrifice ever greater parts of their personal competences and resources for the company, even without monetary compensation. Employees' reasons for doing this are not necessarily based on pressure but can be as simple as 'liking their job', as Nöhammer and Stichlberger (2019) showed. However, this bigger investment can also lead to stress. Understanding how, if, and why, this influences innovative work behaviour is, therefore, an important avenue for research. This section reviews two important recent influences—increased work stress and the rising popularity of mindfulness—and discusses their effects on innovative work behaviour.

Looking at the impact of stress on innovative work behaviour is interesting, as past research in this area has shown mixed results ranging from negative [30], to positive [37], to U-shaped [31]. This is especially interesting as the model used in the research is the same, namely the JD-R

model. Because of the shared model, neither uncommon understandings nor different conceptualizations can explain these conflicting findings.

These mixed results, therefore, serve as a perfect example and proof of the need for more research. Even a question as simple as whether an increased workload is good or bad for innovative work behaviour can only be answered with an 'it depends'. This shows not just the complexity of the topic but also that it is not linear. Montani *et al*. [31] pointed out that the relation of workload to innovative work behaviour is inverted u-shaped, meaning that moderate workload benefits innovative work behaviour the most. However, it is important to note that workload does not influence innovative workload directly; rather, it influences it through work engagement, which, in this case, serves as a mediator.

Stress serves as a great example of the important role of moderating factors. Only by understanding these moderating factors does the attempt to grasp a concept as complex and multifaceted as innovative work behaviour make sense. Stress can both foster innovative behaviour and hinder it [38], depending on the perception of the individual and the context. A deadline, for example, can be seen as a challenge or can cause additional time pressure, resulting in increased stress. This also explains why one of the most-cited theories, which is regarded as a foundation for research on innovative work behaviour, is the JD-R model by Bakker and Demerouti [39]. Through its understanding of job demands that require effort and job resources that provide support, this model corroborates the claim that context and perception influence the effect.

Bani-Melhem *et al*. [32] looked at the role stress plays in innovative work behaviour. As is the case with leadership styles, research into the effects of stress offers different and sometimes contradicting results. One explanation for this variation may be that the moderating conditions differ.

Bani-Melhem *et al*. [32] found work-related curiosity to have a significant positive impact on innovative work behavior. They posited that this is because curious employees' intrinsic motivation lies in exploring, rethinking, and complex thinking that opens up new solutions. So, while stress has a negative effect on innovative work behavior, an employee's curious mindset can turn the negative effect of stress into a positive one. The essential trait of curiosity, wanting to understand the unknowns, might also be the way out of stressful situations; it can thus be seen as a switch or lever, turning stress into a positive challenge. These results again show the importance of what Messmann and Mulder [7] called the context-bound perspective of innovative work behavior. It is not the stress itself, but how it is perceived, that negatively or positively affects the employee's reaction to it.

Montani *et al*. [17]also looked at a special form of stress, namely job insecurity. They demonstrated that job insecurity reduced the intrinsic motivation of employees and, so, had a negative influence on innovative work behaviour. This builds on earlier work by Montani *et al*. [40] which showed that high-activated negative feelings can effectively energize innovation related-behaviour. He used the conversation of resources theory of Hobfoll *et al*. [41] to show that high-activated negative affective experiences triggered by job-specific situations can motivate employees to improve the situation, thereby demonstrating innovative work behaviour. This act of improving the situation itself leads to the accumulation of new resources. Mindfulness increases the engagement in innovative behaviour; hence, by equipping employees with mindfulness skills, an organization might make them better able to deal with their low-activated negative feelings. There is a limit to the usefulness of mindfulness skills, however, as there are boundary conditions to the ability to activate positive feelings.

A parallel can be drawn between curiosity and mindfulness. Just as mindfulness practice changes the perception of stress and stressors, character traits like curiosity can do the same thing. Both curiosity and mindfulness act as moderators. And, like mindfulness, curiosity can be a coping mechanism that increases the employee's adaptability to situations.

So, is mindfulness training a solution to mitigating the negative effects of work stress on employee innovation? Scholars ([2], [38] have recently pointed out the possibility that increased mindfulness changes the perception of job demand, and argued that it can be used as a coping strategy. What was formerly seen as a hindrance is now seen as a challenge.

2) Mindfulness

Although research into mindfulness started before 2020, the number of studies on this topic has rapidly increased in the past year.

Montani *et al*. [40] took a first step four years ago by looking at the ways mindfulness and affect activation can help steer negative emotions in the right direction. Low-activated negative affects lead to maladaptive ruminative thoughts and, so, take up precious energies which the individual could better use elsewhere. While looking at the effects of mindfulness on employee innovation, Montani *et al*. [40] found that the experience of feelings of tension or worry might be beneficial to individual innovativeness. Their research, therefore, indicates that experiencing negative emotions can actually lead employees to come up with novel and useful solutions to change their stressful or worrying state.

While Montani *et al*. [40] looked into the influence of mindfulness and affect activation specifically, there is also research to indicate negative affects can foster employee creativity under other circumstances. George and Zhou looked into this phenomenon in 2001 [42]. As stated earlier, it is important to distinguish between innovative work behaviour and creativity, the critical differentiator being the implementation. It could be the case, for example, that negative affects foster new ideas but that overall job frustration leads employees to boycott the organization by choosing not to implement their ideas. In this case, the employees' creativity, but not their innovative work behaviour, would be increased.

Four years after their 2016 study, Montani *et al*. [40] approached the topic of mindfulness again, this time looking at adequate workload. They found that a moderate workload is most beneficial for innovative work behaviour, and further demonstrated that mindfulness can be an effective moderator as it changes the perception of workload and helps

individuals manage stress. Among the employees confronted with moderate workload, those with high levels of mindfulness showed a higher likelihood for work engagement and, so, for innovative work behaviour. This study, therefore, establishes that it is not mindfulness per se, but rather the combination of high personal resources, such as mindfulness with moderate work demands, that is the most influential for employee motivation.

Montani *et al*. [31] extended the earlier indicated finding of an inverted u-shaped relationship between workload and innovative work behaviour, showing that mindfulness serves as an important moderator by increasing the individual's ability to deal with stress. This also has implications for the model used: According to their findings, job demands can lead to greater motivation. It is important to note, however, that their research refers to moderate levels. This leads to an extended understanding of the JD-R model as it emphasizes the important role of personal resources that can buffer job demands. The combination of high personal resources like mindfulness with moderate demands influences motivation most positively.

By laying out the importance of mindfulness, and its moderating effect on workload perception, the research of Montani *et al*. [34] contributes to a better understanding of which personal factors facilitate, and which hinder, innovative behaviour. Workload—which can be considered a neutral work-related contextual factor—might be influenced by a deeply personal condition like mindfulness. The same goes for the negative effects of job insecurity, which can be buffered by mindfulness [17].

Ngo *et al* [43] looked at the aspect of creativity, which is part of innovative work behaviour, and showed that mindfulness enabled employees to indulge more in the creative process.

Martín-Hernández *et al*. [2] bring an additional aspect to the table, thanks to their study design. The authors examine job control and mindfulness separately, but, at the same time, are able to show that the effect of improvements in mindfulness is significantly higher than improvements in job control. The implications for management are significant. The study of Martín-Hernández *et al*. [2] suggests that enabling employees to become more mindful is more effective than granting them a higher degree of job control. Instead of changing the workplace surroundings, supporting employees in changing their attitudes to better cope with the situation can, therefore, be a valuable new tool for management.

3) Changes to theoretical framework

Recent mindfulness research has shed new light on a possible coping mechanism for stress and mediator for innovative work behaviour. Moreover, research in this field has generated additional insights into one of the frameworks being used to understand innovative work behaviour: the JD-R model.

Various scholars have used the JD-R model to look into the resource aspect of mindfulness [2], [34] and how it influences innovative work behaviour. Seen as a personal resource, mindfulness has been shown to increase job control and, hence, to moderate the innovativeness of the individual.

The changing relationship of society and employees with work has resulted in increased stress, which has further led to the increasing popularity of mindfulness as a coping mechanism. As discussed in the previous section, recent research suggests that mindfulness has an important moderating influence on employees' innovative work behaviour. An additional important influence has been the higher awareness of corporate sustainability. Just as enterprises have recently begun to discover the value of their employees as an asset, they have also started to see the necessity of corporate social responsibility and the benefits it brings to the company [44].

4) Corporate social responsibility

Afridi *et al*. [6] found that the perception of corporate social responsibility has a substantial influence on innovative work behavior, with volunteerism and authenticity acting as mediators. Socially responsible corporate activities are perceived positively by an enterprise's employees, thus enhancing positive feelings and leading to more engaged behavior. Afridi *et al*. [6] surveyed employees and supervisors from 5-star-hotels in Pakistan. They found that innovative work behavior can be increased by investing in corporate social responsibility activities.

In addition to the influence of increased stress and the growing importance of corporate social responsibility, the increased usage of social media is shaping workplaces around the world. Exposure to innovations need not take on a physical form, but can display itself in joining different social networks.

5) Social networks and social media

Cheng *et al*., [18] examined the impact of social media use as a work communication tool on employee innovative performance. They found that social media use can increase employee innovative performance and work engagement. Their focus was on work engagement as the link to performance; however, the exposure to innovations by engaging in social networks could be investigated further. Cheng *et al*. [18] themselves link the proximity of open innovation to empowerment by social media.

Resuming the discussion of the impact of societal changes—like increased stress and workload—and the resultant popularity of coping mechanisms like mindfulness, the increased importance of corporate social responsibility, and the impact of social networks and social media—it can be concluded that new societal influences leave a mark on the workplace and shape innovative work behaviour. The abovementioned improvements in the measurement and conceptualization of innovative work behaviour, in combination with an awareness of these new influences, will help provide a better understanding of how societal changes influence the motivation to bring innovation to work.

Lastly, globalization and societal changes also influence work culture. New management styles like transformational and ethical leadership, as well as the new ways organizations work, shape the work behaviour of employees. Several studies published in 2020 on innovative work behaviour were concerned with understanding the way these changes to work culture affect employees.

D. The Impact of New Management and Leadership Styles

Leaders exert a great influence on the behaviour of employees [4], [13], [11], and leadership is considered one of the most important among the situational factors that affect innovation. However, the change towards flatter hierarchies and new ways of working have had a profound effect on leadership styles. This affects research in two ways.

Firstly, there is now a broader diversity of leadership styles. One example of a new and influential style is transformational leadership. Secondly, this growing diversity requires research to keep up the pace by studying the influence upcoming leadership styles have on innovative work behaviour in comparison with older ones. In addition, as the understanding of the contextual relations and interconnectedness of influences on innovative work behaviour grows, this also needs to be reflected in research on new leadership styles. Several studies in 2020 were concerned with these topics.

Ahmed Iqbal *et al*. [3] studied the effect ethical leadership has on innovative work behaviour and the role of thriving at work as a mediator. This study also brings up the connection between thriving, deliberate engagement, and personal growth. The acknowledgment of this connection has been defined as 'growth culture', and is followed by companies such as Netflix. The influence of growth culture on innovation is an aspect that has not been considered so far.

Afsar and Umrani [11] focus on transformational leadership. They bring up the interesting aspect of the role of knowledge, power, and trust in this leadership concept. Trust lowers the barrier of perceived vulnerability and lessens the need to use knowledge as a power demonstration; hence, it lessens the need to hoard power and encourages sharing. Alheet *et al*. [13] also stress the inspirational element of transformational leadership as one of the key factors for stimulating innovative work behaviour in employees.

Just as contextual understanding is important when comparing different influences, the same is true for leadership styles. It is important to understand not only the singular influence of certain styles, but also the style that performs better in relation to the other. Alheet *et al*. [13] shed light on this by comparing the different kinds of influence of different leadership styles; namely, transformational leadership, transactional leadership, and laissez-faire leadership.

The transactional leadership style seems to be the farthest from creating an environment that fosters innovative work behaviour. With its focus on punishment in case of low performance and stringent, strict instruction—rather than stimulating and encouraging freedom, as transformational leadership does—transactional leadership runs contrary to the components discovered to have a positive influence on innovation; namely, autonomy and self-efficacy. However, this seemingly obvious conclusion provides another example of the broader research required in this field. What might seem obvious at first sight was challenged by a study by Khan *et al*. [45], which showed that transactional leadership was able to stimulate innovative work behaviour at almost the same level and degree as transformational leadership.

The laissez-faire leadership style aims neither to pressure nor stimulate. Rather, it advocates letting employees be, and only interfering when absolutely required. It, therefore, provides interesting insights into the influence of leadership styles on innovative work behaviour. While transactional and transformational leadership styles have a clear direction, the laissez-faire leadership style leaves an open space. From the research perspective, this is interesting, since it allows one to see what happens in this comparatively hands-off case in comparison to other, more directed forms of leadership.

Alheet *et al*. [13] found the laissez-faire leadership style to have a significant negative impact on innovative work behaviour. They conclude that it conforms to the passive-avoidant style. They further discovered the same significant negative impact in the case of the transactional leadership style. Transformational leadership, however, was found to have a strong positive impact on innovative work behavior in comparison to the transactional and laissez-faire styles.

This latest research gives clear indications of how organizations and managers should evaluate their management styles. Furthermore, it provides a sense of security for those who want to introduce new styles into their organization, by suggesting that new leadership styles—like transformational leadership—provide the benefit of helping organizations get the best out of their employees in terms of innovation.

IV. Conclusion, Gaps in Research and Limitations

Innovation stems from—and is applied by—the individual. For this reason, it is of utmost importance that organizations understand what drives their employees to innovate. Even though the concept of innovative work behaviour has been the subject of research since 1997—when Scott and Bruce first tackled it—it has not lost its relevance.

This study strengthens and broadens our understanding of innovative work behaviour under the lens of modern management developments and trends. With the rising need for innovation, understanding innovative work behaviour is becoming more and more important. However, changes like the effects of globalization, increased stress and workload, and coping mechanisms like mindfulness or the increased use of social media—as well as new leadership styles like transformational or ethical leadership—all call for a re-evaluation and better understanding of how those changes influence innovative work behaviour, as well as a better grasp of what the mediators or moderators are. In addition, with the introduction of new measures for innovative work behaviour and the rethinking of the conceptualization by adding additional phases, continuing changes in the research field of innovative work behaviour are to be expected.

This paper can help managements when they execute new organizational designs. Two main tendencies can be seen in the literature reviewed. First, though the topic of innovative work behaviour has been researched for over 20 years, new insights continue to come up on account of the subject's multidimensionality. Second, a shift towards a better understanding of the moderating effects can be seen; this is helpful in explaining the contradictory results of past research.

A. Gaps in Research

Although new leadership styles have been addressed, several topics that are discussed in innovation management and modern organizations—e.g., new work forms like design thinking [46] or agile work methods [47], and new organizational models like holacracy [48]—do not yet show up in the research. Additionally, digital transformation is continuing to shape society and the workplace [49]. Understanding how digital transformation influences the workplace in general, and the innovative work behavior of individuals in particular, is thus of high interest.

Another topic that has heavily shaped 2020 and which, due to its novelty, is not showing itself in the research, is COVID-19 and the associated changes in workplace dynamics [50]. The rise of remote work has implications for the communication between managers and employees, and calls for a better understanding of how a high level of innovativeness of individuals can be secured. Researching the full implications of remote work and other COVID-related changes will be an interesting challenge ahead. The latest findings about innovative work behavior that have been reviewed in this paper can help better understand the concept. Thus, they may be useful for finding beneficial work behavior patterns, and for better understanding the benefits and risks for corporations in having their workforce managed remotely.

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B. Limitations

The limitations of this study may serve as a catalyst for future research.

First, looking at the individual was the main focus of this study. However, the influence of teams, groups, and departments also plays a significant role in influencing innovative work behaviour. For this reason, further research into the 'schema collectivization' understanding, which considers how the individual then re-influences the team and group, needs to be undertaken [3].

Second, amongst the limitations mentioned in the majority of studies used in this research is the call for more longitudinal studies [8]. Geographical limitations are a known point of weakness. For example, while Alheet *et al*. [13] provide useful insights into the impact of different leadership styles on innovative work behaviour—suggesting that transformational leadership was the only one with a strongly positively relationship—this finding needs to be seen in the light of the data collection, which was limited to a single university in Jordan. Hence, before drawing wider conclusions, this requires further research and investigation. By the nature of this paper being a conceptual literature review, the limitations of the papers mentioned are multiplied [51].

The third limitation is the fact that the main focus was on studies published in 2020. Broadening the scope to the year 2015 would help see further developments. This limitation was imposed partly to allow for a deeper look at topics like mindfulness, to demonstrate how a particular string of research developed and would be insightful for other areas as well.

Conflict of Interest

The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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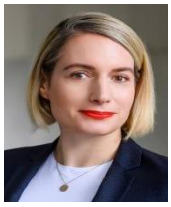

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