# Influential Article Review - Investigating the Complements to Supervisory Leadership

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*This paper examines leadership. We present insights from a highly influential paper. Here are the highlights from this paper: Self-management is increasingly required by people in jobs with flexible schedules and locations, freelance arrangements, and other forms of organizational job design. Successful self-management requires a sense of engagement with one's work. We build from the substitutes for leadership literature to develop a model of work design focused on how complements to supervisory leadership foster work engagement. The model illustrates a parsimonious set of possible complements to supervisory leadership: feedback from the work itself, technology support of work, knowledge to work independently, electronic communication with supervisors, and alternative workplace use as predictors of work engagement. Results are from a two-period field study of a Nordic telecom company experienced with flexible work practices. Additionally, in time 2, we compare the data from this first organization with a Nordic transportation company that is less experienced with flexible work practices. Our results show the strongest relationships with work engagement are feedback from the work itself and technology support of work. Supervisor electronic communication also plays a role in work engagement, mediated by alternative workplace use. We highlight shifts in work design that can enable more flexible work settings while maintaining worker engagement in our increasingly digital organizations. For our overseas readers, we then present the insights from this paper in Spanish, French, Portuguese, and German.*

*Keywords: Complements to supervisory leadership, Substitutes for leadership, Flexible work, Engagement, Work design, Digital organizations, Telecommuting, Feedback*

## SUMMARY

- Summary of findings. Through a panel analysis in one organization and a comparison analysis with another organization , this research addressed a simple model of work design acknowledging how complements to supervisory leadership might influence work engagement in the increasingly frequent environment of flexible work arrangements. Considering characteristics from each of Morgeson and Humphrey's categories of work design, we found that feedback from work itself, technology support of work, supervisor electronic communication, and use of alternative workplaces all positively influence work engagement, but through different paths, seemingly depending on organizational norms and practices concerning flexible work. When organizational

culture and supports for alternative work locations is lacking , knowledge to work independently provides the support for alternative workplace use. Knowledge to work independently affected work engagement, via its impact on use of alternative workplaces, for the organization with less background and support for flexible work. In contrast, technological support for supervisor electronic communication provides the support for alternative workplace use in Org 1.

- Theoretical implications. Technology to support work, mediated modes of communicating with supervisors, and alternative workplace use are all growing aspects of work design. While research has provided mixed support for the substitutes for leadership research , the present results affirm that there is value in a complements to supervisory leadership approach given greater integration of technology into work and greater distribution of work across time, locations, and people. Digital work contexts may offer less, though still some, opportunity for the application of traditional supervisory leadership —thus the importance of our focus on complements to supervisory leadership where there is a presumption that supervisory leadership is also part of the individual work context. Previous research examined the value of shared leadership and structural supports in team contexts, as well as self-leadership in individual and team contexts .
- Managerial implications. We began this research with an appreciation for the opportunities and challenges provided by shifts to more fluid forms of organizing and digital technologies. The results suggest several practical implications for managers and organizational designers.
- Feedback from the work itself, foundational to early work on human factors and job enrichment, remains a powerful benefit for work engagement. It is important to note that our results follow from standard practice in the two organizations rather than from any program intentionally designed to leverage feedback. In settings where tools and training are designed to improve feedback, especially feedback focused on building greater knowledge to work independently of supervision, we may see even stronger engagement effects.
- Limitations and future research. The field research nature of this work limited some aspects of the study design. While the analyses include both panel and cross-sectional comparisons, we were not able to obtain panel data for the second organization. The individual-worker focus meant we could not control or test for team/group differences.
- Both the results and the limitations of this work suggest opportunities for future research. Work practices evolve. Future research that tracks this evolution, as well as refines the model with greater detail around specific forms of feedback and technology support of work, will be valuable. While this sample consisted of fairly traditional full-time employees, there is opportunity to validate the model with a broader population.
- Future research should extend the model and its assessment to include objective work task feedback and performance measures via supporting technologies or performance measures provided by a supervisor or independent party. Prior research suggests that increased work engagement results in better performance . With the increasing digitalization of work, access to more refined information around work process and outcomes provide unique opportunities for more nuanced examinations.
- The results showed a significant relationship between technology support of work and knowledge to work independently. A better understanding of the forms that such technology support takes would help elucidate this link.

**HIGHLY INFLUENTIAL ARTICLE**

We used the following article as a basis of our evaluation:

Griffith, T. L., Nordbäck, E. S., Sawyer, J. E., & Rice, R. E. (2018). Field study of complements to supervisory leadership in more and less flexible work settings. Journal of Organization Design, 7(1), 1–26.

This is the link to the publisher's website:
https://jorgdesign.springeropen.com/articles/10.1186/s41469-018-0034-5

## INTRODUCTION

The future of organizations is bright with opportunities to leverage technology and new perspectives on work and organizational boundaries. Snow et al. (2017), for example, provide a framework for the design of what they call digital organizations (e.g., organizations relying on digital technology across operations and communication). They highlight the importance of self-organization and taking opportunities to combine people, technology, and organizational design in new ways for effective and efficient work. Examples of such changes include virtual work, such as telecommuting (Gajendran and Harrison 2007), virtual teams (Gilson et al. 2015), independent contractors with simultaneous jobs of varying duration (e.g., gig work, Stanford 2017), work augmented using artificial intelligence (Brynjolfsson and Mitchell 2017), and more. Our field must rethink organizational designs given these changes in how work is done (Barley et al. 2017; Forman et al. 2014; Galbraith 2012; Snow et al. 2017).

In such changing contexts, self-management (e.g., Fjeldstad et al. 2012; Petrou et al. 2012), knowledge commons, protocols, and infrastructure (Fjeldstad et al. 2012) may be more effective than traditional hierarchical control (Snow et al. 2017), such as formal supervision. Here, we acknowledge this trend and look to the literature on work design for foundational dimensions that may serve to complement traditional supervisory leadership. Morgeson and Humphrey (2008), for example, offer task, social, and contextual sources of work characteristics as an integrative approach to describing work. We specifically highlight the aspects of work design that serve as complements to supervisory leadership in the development of worker engagement. This complements approach leverages Kerr and Jermier's (1978) substitutes for leadership concepts (i.e., characteristics of the person, work, or organization that can substitute, neutralize, or enhance leadership behaviors), as well as more recent work acknowledging the full range of leadership sources and their effects (e.g., Avolio et al. 2014; Hoch and Kozlowski 2014). That is, rather than fully substituting for leadership, the new digital contexts involving more self-management provide possibilities for complements to formal supervision that may enhance work engagement.

While substitutes for leadership research finds mixed support (see Dionne et al. 2005 for a nuanced exchange of theoretical letters on the topic), we see an opportunity to reconsider its importance in more digital organizations. We take the opportunity to bring to the foreground aspects of the substitutes for leadership construct that might more precisely be called joint effects (Dionne et al.) as they work alongside supervisory leadership. That is, we do not argue for the replacement of supervision, but rather consider how aspects of work design (across task, social, contextual sources) can complement supervisory leadership. The topic itself is more important in settings with greater distribution of work across time, locations, people, technology, and employment categories, where there is less opportunity (and perhaps need) for the application of traditional supervisory leadership (Avolio et al. 2014; Bonet and Salvador 2017; Hoch and Kozlowski 2014).

Our focus is on worker engagement. Worker engagement offers the ability to predict performance (Zhong et al. 2016) and as a topic of keen interest (and concern) from managers (Gallup 2017) and scholars (Gerards et al. 2018; Knight et al. 2017) alike. Engagement is also especially important in settings where outcomes are hard to observe (Leiter and Bakker 2010). Moreover, due to the diminished opportunities of leaders to influence and motivate their subordinates over distance, location, and time in the new digital contexts (Bonet and Salvador 2017; Hoch and Kozlowski 2014), it is more likely that workers' engagement in their work is vital. Thus, our work is aligned with the recent call by Oldham and Fried (2016) to examine the impact of new work environments on employees' job characteristics and engagement.

We first theoretically develop our model of central complements to supervisory leadership that should foster work engagement and then assess it within two large Nordic organizations with differing flexible work norms, using one to test the model over time and the other to validate and compare the results across settings. The results show the value of feedback from the task itself, as well as technology support of work, use of alternative workplaces, and electronic communication with supervisors—all typical possibilities for complements to supervisory leadership in today's work environment. We contribute to a growing body of research on leadership (substitutes and complements) in the context of technologically supported settings,

as well as speak to aspects of research on work design in digital organizations characterized by more and less distributed and flexible work environments (Gibson et al. 2011; Snow et al. 2017).

## CONCLUSION

Tyre and Orlikowski (1994), and more recently Sun (2012), found that novel situations and/or situations where the outcomes did not match expectations could trigger a round of (or foster a window of opportunity for) adjustment in how work is done. Ongoing shifts in technology and expectations around work are likely to provide ample impetus for adjustments to work design. Our results offer a framework to leverage self-leadership, and other complements to supervisory leadership, in more and less virtual, flexible, distributed, and cross-organizational settings.

## APPENDIX

**FIGURE 1**
**CONCEPTUAL MODEL WITH STRUCTURAL PATHS MAPPED TO HYPOTHESES**

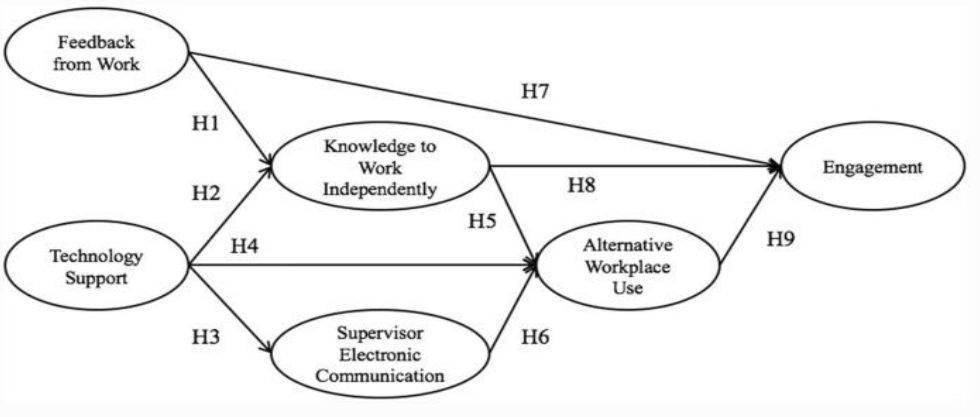
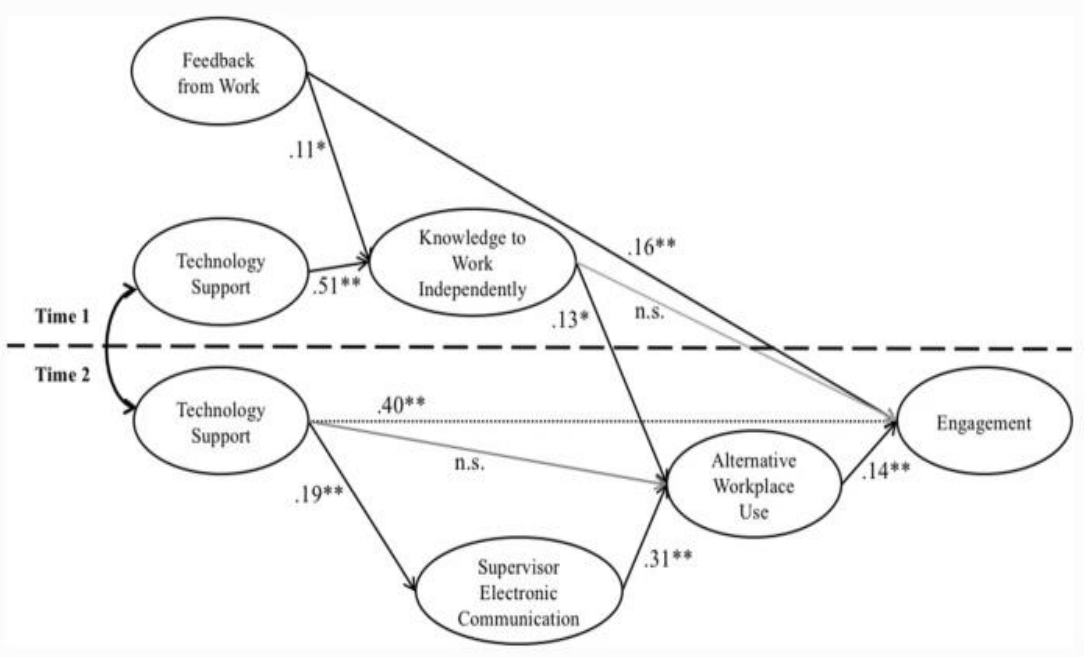
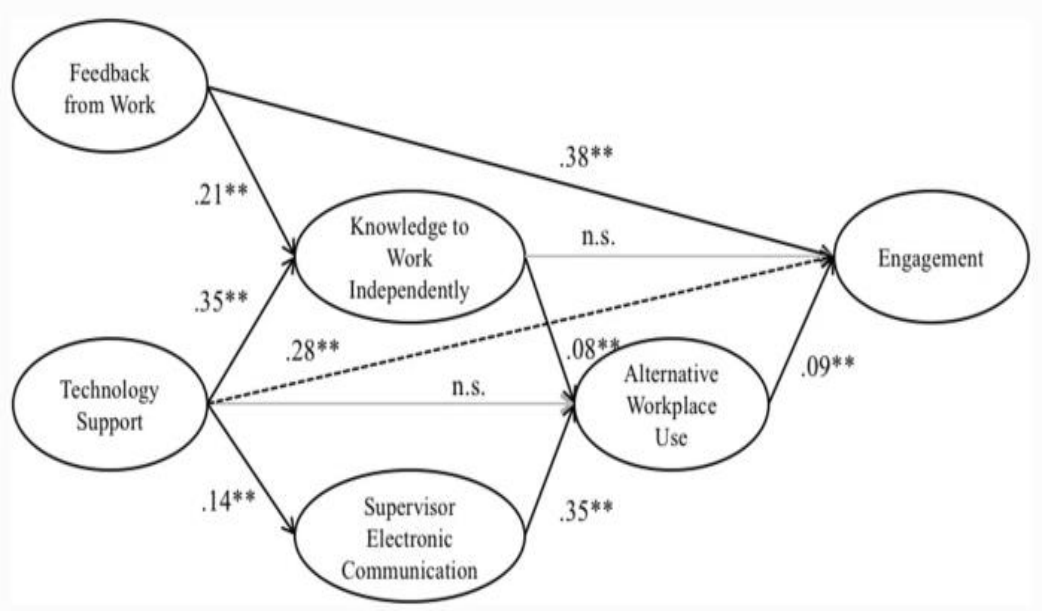



**FIGURE 2**
**ORG1 PANEL MODEL WITH STANDARDIZED PATH COEFFICIENTS**




Hypothesized model expanded over the two time periods with standardized path coefficients that have CR estimates greater than 1.96 (i.e., statistically significant at or beyond the $p < .05$ confidence level). *$p < .05$, **$p < .01$

**FIGURE 3**
**STANDARDIZED PATH COEFFICIENTS FOR THE COMBINED SAMPLE ORG1 AND ORG2, T2**




Estimated structural paths (standardized path coefficients) for the modified model. **$p < .01$

**TABLE 1**
**SCALE RELIABILITY (COEFFICIENT ALPHA), SCALE DESCRIPTIVE STATISTICS, AND CORRELATIONS AMONG STUDY VARIABLES**

| | Alpha T1/T2 | M | SD | Feedback | Work knowledge | Tech support | Engagement | Supervisor E-Com |
|---|---|---|---|---|---|---|---|---|
| Organization 1 $N = 718$ | | | | | | | | |
| Feedback from work itself | .92/.91 | 5.28 | 1.07 | | | | | |
| Knowledge to work independently | .80/.79 | 5.80 | .84 | .27** | | | | |
| Technology support of work | .86/.85 | 5.31 | 1.08 | .37** | .39** | | | |
| Work engagement | .94/.94 | 5.30 | 1.12 | .49** | .26** | .41** | | |
| Supervisor elect. communication | n/a[1] | 4.30 | 1.16 | .20** | .06 | .15** | .27** | |
| Alternative workplace | n/a[1] | 2.41 | .72 | .10** | .06 | .11** | .17** | .37** |
| Organization 2 $N = 290$ | | | | | | | | |
| Feedback from work itself | na/.92 | 5.01 | 1.14 | | | | | |
| Knowledge to work independently | na/.86 | 5.70 | 1.04 | .31** | | | | |
| Technology support of work | na/.79 | 5.36 | .91 | .37** | .39** | | | |
| Work engagement | na/.92 | 5.37 | 1.13 | .43** | .23** | .28** | | |
| Supervisor elect. communication | n/a[1] | 4.25 | 1.21 | .17** | −.06 | .06 | .22** | |
| Alternative workplace | n/a[1] | 1.96 | .84 | .23** | .14* | .16** | .22** | .36** |

The scale is formative and thus inter-item correlations and coefficient alpha are not applicable. *p < .05, **p < .01

**TABLE 2**
**UNCONSTRAINED MODEL MEASUREMENT AND STRUCTURAL PARAMETER ESTIMATES FOR ORG 1 PANEL**

## ANALYSIS

| | Estimate | SE | CR | *p* |
|---|---|---|---|---|
| Measurement coefficients | | | | |
| Q1<<Feedback | 1.000 | | | |
| Q2<<Feedback | 0.945 | 0.038 | 24.758 | *** |
| Q3<<Feedback | 0.995 | 0.045 | 22.265 | *** |
| Q4<<Knowledge | 0.648 | 0.051 | 12.669 | *** |
| Q5<<Knowledge | 1.000 | | | |
| Q6<<Knowledge | 0.636 | 0.049 | 13.043 | *** |
| Q7<<Tech Support T1 | 0.963 | 0.051 | 18.883 | *** |
| Q8<<Tech Support T1 | 1.000 | | | |
| Q9<<Tech Support T1 | 0.963 | 0.043 | 15.738 | *** |
| Q7<<Tech Support T2 | 0.903 | 0.050 | 17.911 | *** |
| Q8<<Tech Support T2 | 1.000 | | | |
| Q9<<Tech Support T2 | 0.624 | 0.039 | 15.982 | *** |
| Q10<<Engagement | 0.911 | 0.037 | 24.910 | *** |
| Q11<<Engagement | 0.996 | 0.028 | 35.660 | *** |
| Q12<<Engagement | 1.000 | | | |
| Path coefficients | | | | |
| H1: Feedback > Knowledge | 0.116 | 0.057 | 2.045 | * |
| H2: Tech Support T1 > Knowledge | 0.465 | 0.054 | 8.691 | *** |
| H3: Tech Support T1 > Supervisor E-Com | 0.189 | 0.054 | 3.498 | *** |
| H4: Tech Support T2 > Alternative Workplace | −0.004 | 0.033 | −0.115 | 0.908 |
| H5: Knowledge > Alternative Workplace | 0.083 | 0.037 | 2.228 | * |
| H6: Supervisor E-Com > Alternative Workplace | 0.182 | 0.030 | 6.004 | *** |
| H7: Feedback > Engagement | 0.183 | 0.062 | 2.978 | ** |
| H8: Knowledge > Engagement | −0.112 | 0.066 | −1.692 | 0.091 |
| H9: Alt Workplace > Engagement | 0.248 | 0.089 | 2.794 | ** |
| Unexpected Path: Tech Support > Engagement | 0.413 | 0.058 | 7.115 | *** |

*p < .05
**p < .01
***p < .001

**TABLE 3**

**UNCONSTRAINED MODEL MEASUREMENT AND STRUCTURAL PARAMETER ESTIMATES BY ORGANIZATION (T2 ONLY)**

| Measurement and path coefficients | Organization 1 | | | | Organization 2 | | | |
|---|---|---|---|---|---|---|---|---|
| | Estimate | SE | Std. est | *p* | Estimate | SE | Std. est | *p* |
| Q1<<Feedback | 1.00 | | 0.89 | | 1.00 | | 0.89 | |
| Q2<<Feedback | 0.90 | 0.02 | 0.90 | ** | 0.93 | 0.02 | 0.89 | ** |
| Q3<<Feedback | 0.93 | 0.02 | 0.90 | ** | 0.90 | 0.02 | 0.91 | ** |
| Q4<<Knowledge | 0.77 | 0.04 | 0.71 | ** | 0.72 | 0.03 | 0.75 | ** |
| Q5<<Knowledge | 1.00 | | 0.83 | | 1.00 | | 0.83 | |
| Q6<<Knowledge | 0.74 | 0.04 | 0.79 | ** | 0.80 | 0.03 | 0.79 | ** |
| Q7<<Tech Support | 0.70 | 0.03 | 0.90 | ** | 0.71 | 0.03 | 0.71 | ** |
| Q8<<Tech Support | 1.00 | | 0.71 | | 1.00 | | 0.89 | |
| Q9<<Tech Support | 0.96 | 0.04 | 0.82 | ** | 0.95 | 0.03 | 0.82 | ** |
| Q10<<Engagement | 0.96 | 0.02 | 0.94 | ** | 0.96 | 0.01 | 0.93 | ** |
| Q11<<Engagement | 1.00 | | 0.95 | | 1.00 | | 0.95 | |
| Q12<<Engagement | 0.81 | 0.03 | 0.79 | ** | 0.76 | 0.02 | 0.78 | ** |
| H1: Feedback > Knowledge | 0.18 | 0.03 | 0.21 | ** | 0.18 | 0.03 | 0.21 | ** |
| H2: Tech Support > Knowledge | 0.30 | 0.03 | 0.35 | ** | 0.30 | 0.03 | 0.35 | ** |
| H3: Tech Support > Supervisor E-Com | 0.17 | 0.04 | 0.16 | ** | 0.08 | 0.07 | 0.08 | 0.22 |
| H4: Tech Support > Alternative Workplace | 0.03 | 0.03 | 0.04 | 0.28 | 0.02 | 0.05 | 0.02 | 0.76 |
| H5: Knowledge > Alternative Workplace | 0.02 | 0.03 | 0.01 | 0.55 | 0.15 | 0.06 | 0.16 | ** |
| H6: Supervisor E-Com > Alternative Workplace | 0.22 | 0.02 | 0.35 | ** | 0.27 | 0.04 | 0.36 | ** |
| H7: Feedback > Engagement | 0.49 | 0.03 | 0.38 | ** | 0.40 | 0.03 | 0.39 | ** |
| H8: Knowledge > Engagement | 0.05 | 0.05 | 0.04 | 0.35 | 0.00 | 0.08 | 0.00 | 0.98 |
| H9: Alt Workplace > Engagement | 0.13 | 0.04 | 0.08 | ** | 0.13 | 0.04 | 0.11 | ** |
| Path: Tech Support > Engagement | 0.31 | 0.04 | 0.29 | ** | 0.23 | 0.06 | 0.22 | ** |

**p < .01

**TABLE 4**
**NESTED MODEL FIT COMPARISON**

| CMIN | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | NPAR | CMIN | DF | *p* | CMIN/DF | $\Delta\chi^2$ | $\Delta df$ |
| Unconstrained | 58 | 780.16 | 180 | .000 | 4.33 | – | – |
| Structural weights | 52 | 788.70 | 186 | .000 | 4.24 | 8.54 | $6^{n.s.}$ |
| Structural residuals | 50 | 809.67 | 188 | .000 | 4.31 | 20.97 | $2^{**}$ |
| Saturated model | 238 | 0.00 | 0 | | | | |
| Independence model | 28 | 8787.20 | 210 | .000 | 41.84 | | |

| Fit indices | Baseline comparisons | | | | | |
|---|---|---|---|---|---|---|
| Model | NFI | RFI | IFI | TLI | | |
| | Delta1 | rho1 | Delta2 | rho2 | CFI | AIC |
| Unconstrained | 0.911 | 0.896 | 0.930 | 0.918 | 0.930 | 896.16 |
| Structural weights | 0.910 | 0.890 | 0.930 | 0.921 | 0.930 | 892.70 |
| Structural residuals | 0.908 | 0.897 | 0.928 | 0.919 | 0.928 | 909.66 |
| Saturated model | 1.000 | – | 1.000 | – | 1.000 | 476.00 |
| Independence model | 0 | 0 | 0 | 0 | 0 | 8843.20 |

**p < .01

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**TRANSLATED VERSION: SPANISH**

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

**VERSION TRADUCIDA: ESPAÑOL**

A continuación se muestra una traducción aproximada de las ideas presentadas anteriormente. Esto se hizo para dar una comprensión general de las ideas presentadas en el documento. Por favor, disculpe cualquier error gramatical y no responsabilite a los autores originales de estos errores.

**INTRODUCCIÓN**

El futuro de las organizaciones es brillante con oportunidades para aprovechar la tecnología y nuevas perspectivas sobre el trabajo y los límites organizativos. (2017), por ejemplo, proporcionan un marco para el diseño de lo que llaman organizaciones digitales (por ejemplo, organizaciones que dependen de la tecnología digital en todas las operaciones y la comunicación). Destacan la importancia de la auto-organización y la oportunidad de combinar las personas, la tecnología y el diseño organizacional de nuevas maneras para un trabajo eficaz y eficiente. Ejemplos de tales cambios incluyen el trabajo virtual, como el teletrabajamiento (Gajendran y Harrison 2007), los equipos virtuales (Gilson et al. 2015), contratistas independientes con trabajos simultáneos de duración variable (por ejemplo, trabajo de concierto, Stanford 2017), trabajo aumentado con inteligencia artificial (Brynjolfsson y Mitchell 2017), y más. Nuestro campo debe repensar los diseños organizativos dados estos cambios en la forma en que se realiza el trabajo (Barley et al. 2017; 2014; Galbraith 2012; Snow et al. 2017).

En estos contextos cambiantes, la autogestión (por ejemplo, Fjeldstad et al. 2012; 2012), conocimiento común, protocolos e infraestructura (Fjeldstad et al. 2012) pueden ser más eficaces que el control jerárquico tradicional (Snow et al. 2017), como la supervisión formal. Aquí, reconocemos esta tendencia y buscamos la literatura sobre el diseño del trabajo para las dimensiones fundamentales que pueden servir para complementar el liderazgo supervisor tradicional. Morgeson y Humphrey (2008), por ejemplo, ofrecen fuentes de trabajo de tareas, sociales y contextuales como un enfoque integrador para describir el trabajo. Destacamos específicamente los aspectos del diseño de trabajo que sirven como complementos al liderazgo supervisor en el desarrollo de la participación de los trabajadores. Este enfoque complementa los sustitutos de Kerr y Jermier (1978) por conceptos de liderazgo (es decir, características de la persona, trabajo u organización que pueden sustituir, neutralizar o mejorar los comportamientos de liderazgo), así como el trabajo más reciente que reconoce toda la gama de fuentes de liderazgo y sus efectos (por ejemplo, Avolio et al. 2014; Hoch y Kozlowski 2014). Es decir, en lugar de sustituir plenamente el liderazgo, los nuevos contextos digitales que implican una mayor autogestión ofrecen posibilidades de complementos a la supervisión formal que pueden mejorar la participación en el trabajo.

Si bien los sustitutos de la investigación de liderazgo encuentran un apoyo mixto (véase Dionne et al. 2005 para un intercambio matizado de cartas teóricas sobre el tema), vemos una oportunidad para reconsiderar su importancia en organizaciones más digitales. Aprovechamos la oportunidad para poner en primer plano aspectos de los sustitutos de la construcción de liderazgo que podrían llamarse más precisamente efectos conjuntos (Dionne et al.) Ya que trabajan junto con el liderazgo supervisor. Es decir, no abogamos por la sustitución de la supervisión, sino que consideramos cómo los aspectos del diseño del trabajo (a través de las tareas, las fuentes sociales y contextuales) pueden complementar el liderazgo supervisor. El tema en sí es más importante en entornos con una mayor distribución del trabajo a través del tiempo, las ubicaciones, las personas, la tecnología y las categorías de empleo, donde hay menos oportunidades (y tal vez necesidad) para la aplicación del liderazgo de supervisión tradicional (Avolio et al. 2014; Bonet y Salvador 2017; Hoch y Kozlowski 2014).

Nos centramos en la participación de los trabajadores. El compromiso de los trabajadores ofrece la capacidad de predecir el rendimiento (Zhong et al. 2016) y como un tema de gran interés (y preocupación) de los gerentes (Gallup 2017) y académicos (Gerards et al. 2018; 2017) por igual. El compromiso también es especialmente importante en entornos donde los resultados son difíciles de observar (Leiter y Bakker 2010). Además, debido a la disminución de las oportunidades de los líderes para influir y motivar a sus subordinados a lo largo de la distancia, la ubicación y el tiempo en los nuevos contextos digitales (Bonet y Salvador 2017; Hoch y Kozlowski 2014), es más probable que la participación de los trabajadores en su trabajo sea vital. Por lo tanto, nuestro trabajo está alineado con la reciente llamada de Oldham y Fried (2016) para examinar el impacto de los nuevos entornos de trabajo en las características laborales y el compromiso de los empleados.

Primero desarrollamos teóricamente nuestro modelo de complementos centrales para el liderazgo supervisor que debe fomentar el compromiso laboral y luego evaluarlo dentro de dos grandes organizaciones nórdicas con diferentes normas de trabajo flexibles, utilizando uno para probar el modelo a lo largo del tiempo y el otro para validar y comparar los resultados en todos los entornos. Los resultados muestran el valor de la retroalimentación de la propia tarea, así como el apoyo tecnológico del trabajo, el uso de lugares de trabajo alternativos y la comunicación electrónica con los supervisores, todas las posibilidades típicas de complementos para el liderazgo supervisor en el entorno de trabajo actual. Contribuimos a un creciente cuerpo de investigación sobre liderazgo (sustitutos y complementos) en el contexto de entornos tecnológicamente apoyados, así como hablamos de aspectos de investigación sobre el diseño del trabajo en organizaciones digitales caracterizados por entornos de trabajo cada vez menos distribuidos y flexibles (Gibson et al. 2011; Snow et al. 2017).

## CONCLUSIÓN

Tyre y Orlikowski (1994), y más recientemente Sun (2012), encontraron que situaciones novedosas y/o situaciones en las que los resultados no coincidían con las expectativas podrían desencadenar una ronda de (o fomentar una ventana de oportunidad para) el ajuste en la forma en que se hace el trabajo. Es probable que los cambios continuos en la tecnología y las expectativas en torno al trabajo proporcionen un amplio impulso para los ajustes en el diseño del trabajo. Nuestros resultados ofrecen un marco para aprovechar el auto-liderazgo, y otros complementos para el liderazgo supervisor, en entornos cada vez menos virtuales, flexibles, distribuidos y entre organizaciones.

## TRANSLATED VERSION: FRENCH

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

## VERSION TRADUITE: FRANÇAIS

Voici une traduction approximative des idées présentées ci-dessus. Cela a été fait pour donner une compréhension générale des idées présentées dans le document. Veuillez excuser toutes les erreurs grammaticales et ne pas tenir les auteurs originaux responsables de ces erreurs.

## INTRODUCTION

L'avenir des organisations est prometteur avec des occasions de tirer parti de la technologie et de nouvelles perspectives sur le travail et les frontières organisationnelles. Snow et coll. (2017), par exemple, fournissent un cadre pour la conception de ce qu'ils appellent les organisations numériques (p. Ex., les organisations qui s'appuient sur la technologie numérique dans les opérations et la communication). Ils soulignent l'importance de l'auto-organisation et de la possibilité de combiner les gens, la technologie et la

conception organisationnelle de nouvelles façons pour un travail efficace et efficient. Parmi ces changements, citons le travail virtuel, comme le télétravail (Gajendran et Harrison 2007), les équipes virtuelles (Gilson et al., 2015), les entrepreneurs indépendants ayant des emplois simultanés de durée variable (p. Ex., le travail de concert, Stanford 2017), le travail accru à l'aide de l'intelligence artificielle (Brynjolfsson et Mitchell, 2017), et plus encore. Notre domaine doit repenser les conceptions organisationnelles compte tenu de ces changements dans la façon dont le travail est effectué (Barley et coll. 2017; Forman et coll. 2014; Galbraith 2012; Snow et coll. 2017).

Dans ces contextes changeants, l'autogestion (p. Ex., Fjeldstad et coll., 2012; Petrou et coll. 2012), les biens communs de connaissances, les protocoles et l'infrastructure (Fjeldstad et al., 2012) peuvent être plus efficaces que le contrôle hiérarchique traditionnel (Snow et al., 2017), comme la supervision formelle. Ici, nous reconnaissons cette tendance et nous nous regardons vers la littérature sur la conception du travail pour les dimensions fondamentales qui peuvent servir à compléter le leadership de supervision traditionnel. Morgeson et Humphrey (2008), par exemple, offrent des sources de travail, sociales et contextuelles comme une approche intégrative pour décrire le travail. Nous soulignons spécifiquement les aspects de la conception du travail qui servent de compléments au leadership de supervision dans le développement de l'engagement des travailleurs. Cette approche complète les avantages de Kerr et Jermier (1978) pour remplacer les concepts de leadership (c.-à-d. Les caractéristiques de la personne, du travail ou de l'organisation qui peuvent remplacer, neutraliser ou améliorer les comportements de leadership), ainsi que des travaux plus récents reconnaissant toute la gamme des sources de leadership et leurs effets (p. Ex., Avolio et al., 2014; Hoch et Kozlowski 2014). C'est-à-dire que, plutôt que de se substituer entièrement au leadership, les nouveaux contextes numériques impliquant plus d'autogestion offrent des possibilités de compléments à une supervision formelle qui peuvent améliorer l'engagement au travail.

Bien que les substituts de la recherche sur le leadership trouvent un appui mitigé (voir Dionne et coll. 2005 pour un échange nuancé de lettres théoriques sur le sujet), nous voyons l'occasion de reconsidérer son importance dans les organisations plus numériques. Nous en profitent pour mettre au premier plan des aspects des substituts de la construction du leadership qui pourraient plus précisément être appelés effets conjoints (Dionne et al.) Alors qu'ils travaillent aux côtés du leadership de supervision. Autrement dit, nous ne plaidons pas pour le remplacement de la supervision, mais examinons plutôt comment certains aspects de la conception du travail (entre les tâches, les sources sociales et contextuelles) peuvent compléter le leadership en matière de supervision. Le sujet lui-même est plus important dans les milieux où la répartition du travail se répartit davantage entre le temps, les lieux, les personnes, la technologie et les catégories d'emploi, où il y a moins de possibilités (et peut-être de besoins) pour l'application du leadership traditionnel en matière de supervision (Avolio et al., 2014; Bonet et Salvador 2017; Hoch et Kozlowski 2014).

Nous mettons l'accent sur l'engagement des travailleurs. L'engagement des travailleurs offre la possibilité de prédire le rendement (Zhong et al., 2016) et comme sujet d'intérêt et d'inquiétude de la part des gestionnaires (Gallup 2017) et des chercheurs (Gerards et al., 2018; Knight et coll. 2017) de même. L'engagement est également particulièrement important dans les milieux où les résultats sont difficiles à observer (Leiter et Bakker 2010). En outre, en raison de la diminution des possibilités des dirigeants d'influencer et de motiver leurs subordonnés sur la distance, l'emplacement et le temps dans les nouveaux contextes numériques (Bonet et Salvador 2017; Hoch et Kozlowski 2014), il est plus probable que l'engagement des travailleurs dans leur travail soit vital. Ainsi, notre travail s'aligne sur l'appel récent d'Oldham et Fried (2016) pour examiner l'impact des nouveaux environnements de travail sur les caractéristiques d'emploi et l'engagement des employés.

Nous développons d'abord théoriquement notre modèle de compléments centraux au leadership de supervision qui devrait favoriser l'engagement au travail, puis l'évaluer au sein de deux grandes organisations nordiques ayant des normes de travail flexibles différentes, en utilisant l'une pour tester le modèle au fil du temps et l'autre pour valider et comparer les résultats entre les contextes. Les résultats montrent la valeur de la rétroaction de la tâche elle-même, ainsi que le soutien technologique du travail, l'utilisation de lieux de travail alternatifs, et la communication électronique avec les superviseurs, toutes les possibilités typiques pour compléter le leadership de supervision dans l'environnement de travail

d'aujourd'hui. Nous contribuons à une recherche croissante sur le leadership (substituts et compléments) dans le contexte des milieux soutenus par la technologie, ainsi que nous parlons d'aspects de la recherche sur la conception de travail dans les organisations numériques caractérisées par des environnements de travail de plus en plus distribués et flexibles (Gibson et al., 2011; Snow et coll. 2017).

## CONCLUSION

Tyre et Orlikowski (1994), et plus récemment Sun (2012), ont constaté que de nouvelles situations et/ou situations où les résultats ne correspondaient pas aux attentes pouvaient déclencher une série d'ajustements (ou favoriser une fenêtre d'opportunité) dans la façon dont le travail est effectué. Les changements continus dans la technologie et les attentes autour du travail sont susceptibles de donner une impulsion suffisante pour les ajustements à la conception du travail. Nos résultats offrent un cadre pour tirer parti de l'auto-leadership, et d'autres compléments au leadership de supervision, dans des contextes de plus en plus virtuels, flexibles, distribués et interorganisationnels.

## TRANSLATED VERSION: GERMAN

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

## ÜBERSETZTE VERSION: DEUTSCH

Hier ist eine ungefähre Übersetzung der oben vorgestellten Ideen. Dies wurde getan, um ein allgemeines Verständnis der in dem Dokument vorgestellten Ideen zu vermitteln. Bitte entschuldigen Sie alle grammatikalischen Fehler und machen Sie die ursprünglichen Autoren nicht für diese Fehler verantwortlich.

## EINLEITUNG

Die Zukunft von Organisationen ist rosig mit Möglichkeiten, Technologie zu nutzen und neue Perspektiven auf Arbeit und Organisationsgrenzen. Snow et al. (2017) bieten beispielsweise einen Rahmen für die Gestaltung von so viel wie digitalen Organisationen (z. B. Organisationen, die sich auf digitale Technologie in Betrieb und Kommunikation verlassen). Sie unterstreichen die Bedeutung der Selbstorganisation und der Nutzung von Möglichkeiten, Menschen, Technologie und Organisationsdesign auf neue Weise für effektives und effizientes Arbeiten zu kombinieren. Beispiele für solche Veränderungen sind virtuelle Arbeit, wie Telearbeit (Gajendran und Harrison 2007), virtuelle Teams (Gilson et al. 2015), unabhängige Auftragnehmer mit gleichzeitiger Dauer (z. B. Gig-Arbeit, Stanford 2017), Arbeit, die mit künstlicher Intelligenz ergänzt wird (Brynjolfsson und Mitchell 2017) und vieles mehr. Unser Fachgebiet muss angesichts dieser Veränderungen in der Art und Weise, wie die Arbeit geleistet wird, die Organisationsentwürfe überdenken (Barley et al. 2017; Forman et al. 2014; Galbraith 2012; Schnee et al. 2017).

In solchen sich wandelnden Kontexten, Selbstverwaltung (z.B. Fjeldstad et al. 2012; Petrou et al. 2012), Wissen Commons, Protokolle und Infrastruktur (Fjeldstad et al. 2012) kann effektiver als traditionelle hierarchische Kontrolle (Snow et al. 2017), wie formale Überwachung. Hier erkennen wir diesen Trend an und schauen auf die Literatur über Arbeitsgestaltung für grundlegende Dimensionen, die dazu dienen können, die traditionelle Aufsichtsführung zu ergänzen. Morgeson und Humphrey (2008) zum Beispiel bieten Aufgaben-, Sozial- und Kontextquellen von Arbeitsmerkmalen als integrativen Ansatz zur Arbeitsbeschreibung. Wir heben insbesondere die Aspekte der Arbeitsgestaltung hervor, die als Ergänzung zur Aufsichtsführung bei der Entwicklung des Arbeitnehmerengagements dienen. Dieser Ansatz ergänzt Kerr und Jermiers (1978) Ersatz für Führungskonzepte (d. H. Merkmale der Person, Arbeit oder

Organisation, die Führungsverhalten ersetzen, neutralisieren oder verbessern können) sowie neuere Arbeiten, die die gesamte Bandbreite von Führungsquellen und deren Auswirkungen anerkennen (z. B. Avolio et al. 2014; Hoch und Kozlowski 2014). Das heißt, anstatt die Führung vollständig zu ersetzen, bieten die neuen digitalen Kontexte, die mehr Selbstverwaltung beinhalten, Möglichkeiten für Ergänzungen der formalen Aufsicht, die das Arbeitsengagement verbessern können.

Während Ersatzfürgelungen der Führungsforschung gemischte Unterstützung finden (siehe Dionne et al. 2005 für einen differenzierten Austausch theoretischer Briefe zu diesem Thema), sehen wir eine Chance, ihre Bedeutung in mehr digitalen Organisationen zu überdenken. Wir nutzen die Gelegenheit, um die Aspekte des Ersatzes für Führungskonstrukte in den Vordergrund zu rücken, die genauer als gemeinsame Effekte (Dionne et al.) Bezeichnet werden könnten, da sie neben der Aufsichtsführung zusammenarbeiten. Das heißt, wir plädieren nicht für die Ablösung der Aufsicht, sondern überlegen, wie Aspekte der Arbeitsgestaltung (aufgabenübergreifend, soziale, kontextuelle Quellen) die Aufsichtsführung ergänzen können. Das Thema selbst ist wichtiger in Umgebungen mit einer größeren Verteilung der Arbeit über Zeit, Standorte, Menschen, Technologie und Beschäftigungskategorien, wo es weniger Möglichkeiten (und vielleicht Notwendigkeit) für die Anwendung der traditionellen Aufsichtsführung gibt (Avolio et al. 2014; Bonet und Salvador 2017; Hoch und Kozlowski 2014).

Unser Fokus liegt auf dem Engagement der Arbeitnehmer. Das Engagement der Arbeitnehmer bietet die Möglichkeit, Die Leistung vorherzusagen (Zhong et al. 2016) und als Thema von großem Interesse (und Besorgnis) von Managern (Gallup 2017) und Wissenschaftlern (Gerards et al. 2018; Knight et al. 2017) gleichermaßen. Engagement ist auch besonders wichtig in Umgebungen, in denen Ergebnisse schwer zu beobachten sind (Leiter und Bakker 2010). Darüber hinaus aufgrund der verminderten Möglichkeiten von Führungskräften, ihre Untergebenen über Distanz, Standort und Zeit in den neuen digitalen Kontexten zu beeinflussen und zu motivieren (Bonet und Salvador 2017; Hoch und Kozlowski 2014), ist es wahrscheinlicher, dass das Engagement der Arbeitnehmer in ihrer Arbeit von entscheidender Bedeutung ist. Damit orientiert sich unsere Arbeit an der jüngsten Aufforderung von Oldham und Fried (2016), die Auswirkungen neuer Arbeitsumgebungen auf die Arbeitseigenschaften und das Engagement der Mitarbeiter zu untersuchen.

Wir entwickeln zunächst theoretisch unser Modell der zentralen Ergänzungen zur Aufsichtsführung, die das Arbeitsengagement fördern und dann innerhalb von zwei großen nordischen Organisationen mit unterschiedlichen flexiblen Arbeitsnormen bewerten sollten, wobei eine zum Testen des Modells im Zeitverlauf und die andere zur Validierung und zum Vergleich der Ergebnisse in den Einstellungen verwendet wird. Die Ergebnisse zeigen den Wert des Feedbacks aus der Aufgabe selbst sowie die technologietechnische Unterstützung der Arbeit, die Nutzung alternativer Arbeitsplätze und die elektronische Kommunikation mit Vorgesetzten – alles typische Möglichkeiten zur Ergänzung der Aufsichtsführung im heutigen Arbeitsumfeld. Wir tragen zu einer wachsenden Forschungsarbeit zu Führungsqualitäten (Substituten und Ergänzungen) im Kontext technologisch unterstützter Umgebungen bei und sprechen zu Aspekten der Forschung zum Arbeitsdesign in digitalen Organisationen, die sich durch immer weniger verteilte und flexible Arbeitsumgebungen auszeichnen (Gibson et al. 2011; Schnee et al. 2017).

## SCHLUSSFOLGERUNG

Tyre und Orlikowski (1994) und in jüngerer Zeit Sun (2012) stellten fest, dass neuartige Situationen und/oder Situationen, in denen die Ergebnisse nicht den Erwartungen entsprachen, eine Runde von (oder ein Zeitfenster für eine Gelegenheits-)Anpassung in der Art und Weise, wie Arbeit geleistet wird, auslösen könnten. Die anhaltenden technologischen Veränderungen und die Erwartungen rund um die Arbeit dürften reichlich Impulse für Anpassungen des Arbeitsdesigns geben. Unsere Ergebnisse bieten einen Rahmen für die Hebelwirkung von Selbstführung und andere Ergänzungen zur Aufsichtsführung in mehr und weniger virtuellen, flexiblen, verteilten und organisationsübergreifenden Umgebungen.

## TRANSLATED VERSION: PORTUGUESE

Below is a rough translation of the insights presented above. This was done to give a general understanding of the ideas presented in the paper. Please excuse any grammatical mistakes and do not hold the original authors responsible for these mistakes.

## VERSÃO TRADUZIDA: PORTUGUÊS

Aqui está uma tradução aproximada das ideias acima apresentadas. Isto foi feito para dar uma compreensão geral das ideias apresentadas no documento. Por favor, desculpe todos os erros gramaticais e não responsacule os autores originais responsáveis por estes erros.

## INTRODUÇÃO

O futuro das organizações é brilhante com oportunidades para alavancar a tecnologia e novas perspetivas sobre o trabalho e as fronteiras organizacionais. A Snow et al. (2017), por exemplo, fornece um quadro para o design daquilo a que chamam organizações digitais (por exemplo, organizações que dependem da tecnologia digital através de operações e comunicação). Destacam a importância da auto-organização e aproveitam oportunidades para combinar pessoas, tecnologia e design organizacional de novas formas de um trabalho eficaz e eficiente. Exemplos de tais mudanças incluem trabalhos virtuais, como telecomuting (Gajendran e Harrison 2007), equipas virtuais (Gilson et al. 2015), empreiteiros independentes com empregos simultâneos de duração variada (por exemplo, gig work, Stanford 2017), trabalho aumentado usando inteligência artificial (Brynjolfsson e Mitchell 2017), e muito mais. O nosso campo deve repensar os desenhos organizacionais, dadas estas alterações na forma como o trabalho é feito (Barley et al. 2017; Forman et al. 2014; Galbraith 2012; Neve e etc. 2017).

Neste contexto em mudança, a autogestão (por exemplo, Fjeldstad et al. 2012; Petrou et al. 2012), conhecimentos, protocolos e infraestruturas (Fjeldstad et al. 2012) podem ser mais eficazes do que o controlo hierárquico tradicional (Neve e al. 2017), como a supervisão formal. Aqui, reconhecemos esta tendência e olhamos para a literatura sobre o design de trabalho para dimensões fundamentais que podem servir para complementar a liderança tradicional da supervisão. Morgeson e Humphrey (2008), por exemplo, oferecem fontes de tarefa, sociais e contextuais de características do trabalho como uma abordagem integrativa para descrever o trabalho. Destacamos especificamente os aspetos do design de trabalho que servem de complemento à liderança de supervisão no desenvolvimento do envolvimento dos trabalhadores. Isto complementa a abordagem que alavanca os substitutos de Kerr e Jermier (1978) para conceitos de liderança (por exemplo, características da pessoa, trabalho ou organização que podem substituir, neutralizar ou melhorar comportamentos de liderança), bem como o trabalho mais recente reconhecendo toda a gama de fontes de liderança e seus efeitos (por exemplo, Avolio et al. 2014; Hoch e Kozlowski 2014). Ou seja, em vez de substituir totalmente a liderança, os novos contextos digitais que envolvem mais auto-gestão proporcionam possibilidades de complementos à supervisão formal que podem potenciar o envolvimento do trabalho.

Enquanto os substitutos da investigação de liderança encontram apoio misto (ver Dionne et al. 2005 para uma troca de nuances de letras teóricas sobre o tema), vemos uma oportunidade de reconsiderar a sua importância em organizações mais digitais. Aproveitamos a oportunidade para trazer para o primeiro plano aspetos dos substitutos para a construção de liderança que podem ser mais precisamente chamados de efeitos conjuntos (Dionne et al.) Uma vez que trabalham ao lado da liderança de supervisão. Ou seja, não defendemos a substituição da supervisão, mas consideramos como os aspetos da conceção do trabalho (através de fontes de tarefa, sociais e contextuais) podem complementar a liderança da supervisão. O tema em si é mais importante em configurações com maior distribuição do trabalho ao longo do tempo, locais, pessoas, tecnologia e categorias de emprego, onde há menos oportunidades (e talvez necessidade) para a aplicação da liderança tradicional de supervisão (Avolio et al. 2014; Bonet e Salvador 2017; Hoch e Kozlowski 2014).

O nosso foco é o envolvimento dos trabalhadores. O envolvimento dos trabalhadores oferece a capacidade de prever o desempenho (Zhong et al. 2016) e como um tema de interesse (e preocupação) dos gestores (Gallup 2017) e dos estudiosos (Gerards et al. 2018; Knight et al. 2017) iguais. O envolvimento também é especialmente importante em cenários onde os resultados são difíceis de observar (Leiter e Bakker 2010). Além disso, devido à reduzida oportunidade dos líderes de influenciar e motivar os seus subordinados à distância, localização e tempo nos novos contextos digitais (Bonet e Salvador 2017; Hoch e Kozlowski 2014), é mais provável que o envolvimento dos trabalhadores no seu trabalho seja vital. Assim, o nosso trabalho está alinhado com o recente apelo de Oldham e Fried (2016) para examinar o impacto de novos ambientes de trabalho nas características de trabalho e envolvimento dos colaboradores.

Primeiro, teoricamente, desenvolvemos o nosso modelo de complementos centrais para a liderança de supervisão que deve fomentar o envolvimento no trabalho e depois avaliá-lo dentro de duas grandes organizações nórdicas com diferentes normas de trabalho flexíveis, utilizando uma para testar o modelo ao longo do tempo e a outra para validar e comparar os resultados em configurações. Os resultados mostram o valor do feedback da tarefa em si, bem como o apoio tecnológico ao trabalho, a utilização de locais de trabalho alternativos e a comunicação electrónica com os supervisores — todas as possibilidades típicas de complementos à liderança de supervisão no ambiente de trabalho de hoje. Contribuímos para um crescente corpo de investigação sobre liderança (substitutos e complementos) no contexto de configurações tecnologicamente apoiadas, bem como para falar de aspetos de investigação sobre design de trabalho em organizações digitais caracterizadas por ambientes de trabalho cada vez mais distribuídos e flexíveis (Gibson et al. 2011; Neve e etc. 2017).

## CONCLUSÃO

Tyre e Orlikowski (1994), e mais recentemente Sun (2012), descobriram que situações novas e/ou situações em que os resultados não correspondiam às expectativas poderiam desencadear uma ronda de (ou fomentar uma janela de oportunidade para) ajustamento na forma como o trabalho é feito. As mudanças contínuas na tecnologia e as expectativas em torno do trabalho são suscetíveis de dar um amplo impulso para os ajustamentos à conceção do trabalho. Os nossos resultados oferecem um quadro para alavancar a auto-liderança, e outros complementos à liderança de supervisão, em ambientes cada vez mais virtuais, flexíveis, distribuídos e inter-organizacionais.