How can online communication enhance older adults' social connectivity?
Hage, Maria Louisa

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Summary

In this thesis, we studied how online communication can enhance older laggards’ social connectivity. Enhancing social connectivity of a growing older population is important, because social connectivity has been shown to increase healthy life expectancy. It is commonly assumed that online communication can enhance older laggards’ social connectivity.

However, well studied, age-based inequalities in adoption patterns may limit the effectiveness of online communication tool implementation. Older adults are often late to adopt new technologies and can therefore be considered laggards. Without intervention, online communication is likely to reinforce, rather than change, systematic inequalities in these adoption patterns. However, managing such technological interventions among laggard older populations is, by definition, challenging, and managerial guidelines are largely lacking. Based on these observations in the previous literature, we identified a knowledge gap related to how the implementation of online communication tools among older laggard populations can be managed.

Moreover, the effect of online communication on older laggards’ social connectivity is debated. Conflicting findings may be attributed to social, technological, and personal characteristics that influence the relationship between online communication tool adoption and older laggards’ social connectivity. The issue is then to find an efficacious combination of characteristics during the adoption process to enhance social connectivity. Because the available literature is largely silent on this issue, we identified a second knowledge gap concerning how older laggards’ adoption of online communication tools shapes changes in social connectivity.

Considering the two knowledge gaps described above, this thesis aimed to better understand how online communication can enhance older laggards’ social connectivity. We formulated two research questions to address these gaps.

The first question that addressed the implementation knowledge gap was: How can the implementation of online communication tools among older laggard populations be managed in such a way that implementation results in the desired local change? This question is addressed in Chapters 2 and 3.
In Chapter 2, we conducted a systematic literature review to identify the factors that influence e-Health implementation in rural areas. We concluded that seemingly contradicting findings can be explained by considering interactions between context, process, and content factors. More specifically, we proposed that, whereas geographical isolation hinders e-Health implementation, it stimulates subsequent adoption (context-content interaction). Next, without targeted interventions, e-Health implementation will reinforce multiple pre-existing socio-economic structures (process-context interaction). Finally, sustainable e-Health adoption requires strategic changes in ownership during implementation (content-process interaction). This chapter highlights the necessity of interventions aimed at changing pre-existing social structures and dynamic leadership when aiming to enhance older laggards’ social connectivity with IS-based applications. Without intervening, the highly educated, younger, and healthier older adults adopt and seize the potential benefits, whereas those lower educated, oldest, and frail are left untouched. Moreover, dynamic leadership is required to make change induced through interventions sustainable. These findings called for a further investigation of the precise mechanisms that underlie interactions between project and local systems, thus enabling the desired local change, especially among laggard populations.

Thus, we extended the insights from the systematic literature review by conducting an embedded case study of a multi-site information system (IS) implementation project that targeted an older laggard population. The results are reported in Chapter 3. Our theoretical assessment of the interactions between project and local systems resulted in a multi-site practice perspective and the deducing of three bridging mechanisms, i.e., practice alignment, shared action, and shifting actors. This perspective draws on literature that combines structuration theory with elements from socio-material studies in order to enable a detailed account of the relative contributions of human and IS actors in the project and local practices that allow for structural local change. The embedded case study empirically demonstrated the added value of bridging mechanisms. Moreover, it showed that desired IS-enabled local change often requires technological and social adjustments at the project site during implementation. Based on this finding, we argued that there are two interconnected dimensions of change in multi-site implementation projects: social-technological and project-local. Lastly, the empirical demonstration showed how the bridging mecha-
nisms manifested in managerial tactics, i.e., bridging tactics. We suggested that bridging tactics may be applied to manage local change in multi-site IS implementation projects, and thus move towards managed structuration. The findings of this embedded case study allow for a better understanding of the mechanisms that shape IS-enabled local change. However, even when IS is implemented successfully in older laggard populations, it does not imply enhanced social connectivity. Further analyses were required to explain why and how older laggards’ social connectivity is changed as a consequence of online communication tool adoption.

Therefore, the second part of this thesis was devoted to a study of the adoption of online communication tools by older laggards, and its effect on social connectivity. It provided an answer to the following question: How do adoption factors and mechanisms shape the effect of online communication on older laggards’ social connectivity?

The results were presented in Chapters 4 and 5.

In Chapter 4, we introduced an alternative perspective on adoption among older laggard populations by viewing their adoption as a situated change process. We conceptualized older laggards as social actors. We found three mechanisms that underlie the adoption process: knowledge development, value alignment, and emotional coping. Their interplay shapes particular changes in older laggards’ social connectivity. Whereas the observed changes in social connectivity have been reported elsewhere, the novelty of this study lies in the connections it makes between the interplay of adoption mechanisms and changes in social connectivity. We concluded that changes in social connectivity are situated in the sense that they are dependent on the socio-technical context in which they occur, as well as the personal reflections on, and responses to, this context. Extending this thought, we proposed that interactive forms of online communication (e.g., repeated liking, posting, and emailing with many contacts) do not necessarily contribute to social connectivity. Instead, enhanced social connectivity most likely occurs when the type of online communication is in accordance with older laggards’ knowledge base, values, perceptions of social norms, and emotional experiences. If this is the case, even passive and occasional use might contribute to social connectivity. In addition, we observed that the direct effect of online communication did not generate the most prominent changes in older laggards’ social connectivity. Instead, its indirect effect proved to be of greater significance by allowing new or more meaningful interactions in various offline settings. A
situated perspective on older laggards’ adoption also explains this finding by conceptualizing older laggards not as mere users, but as multi-dimensional social actors. Such a conceptualization highlights the possibility of online communication-enabled change within all social actor dimensions, both online and offline. Moreover, a situated perspective considers interactions between the individual, and the social group or groups to which the individual belongs, as well as the older laggards’ reflections on the role online communication plays within those groups to explain offline changes in older laggards’ social connectivity.

Finally, we assessed the overall impact of online communication on older adults’ social connectivity (Chapter 5). Surprisingly, and somewhat inconsistently with high expectations among some policy makers and researchers, our findings showed that the direct effect of online communication is largely non-existent. There is one exception: we observed that older adults with few social connections experienced a negative effect of online communication. We found that different types of social connections, such as connectivity with neighbors and friendships, are affected differently by distinct forms of online communication, i.e., email and Facebook use. We explained these deviating patterns by looking at the defining characteristics of specific types of social connectivity (geographical proximity and emotional closeness) and online communication tools (i.e., low information richness and high privacy risk), and how they combine. The significant interaction effect with initial social connectivity suggests a “buffer effect” whereby the better connected can buffer the negative effects of online communication. Therefore, not only are socially disadvantaged groups less likely to adopt online communication tools, but when they do adopt online communication tools, it may harm their social connectivity disproportionally. These findings confirmed the conclusion drawn from the literature review presented in Chapter 2: in itself, online communication adoption reinforces, rather than changes, pre-existing structures of inequality, thus fuelling a need for targeted interventions and dynamic leadership.

Based on the results, we draw five main conclusions:

1. This thesis warns us to be cautious with generic investments in, and promotion of, online communication when aiming to enhance the social connectivity of old-
er laggards because any impact of online communication depends on personal, technological, and social mechanisms and factors.

2. Without interventions that aim to change pre-existing socio-economic structures, the implementation of online communication tools reinforces socio-economic inequality.

3. Online communication tends to have a disproportional negative effect on the older “have-nots” because it benefits the well connected while harming isolated older adults.

4. To understand the effect of online communication on older laggards’ social connectivity, a situated change perspective on adoption is required that goes beyond the identification of adoption factors.

5. Although a situated change perspective implies that implementers’ influence on local change outcomes is limited, implementation and adoption mechanisms are proposed that implementers can use to stir local change.