



Informal carers in Slovenia: an overview of key findings from recent studies by the Centre for Social Informatics

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Eurocarers Research Working Group

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Factors influencing informal carers' acceptance of assistive telecare systems in the pre- and post-implementation phase: A scoping study

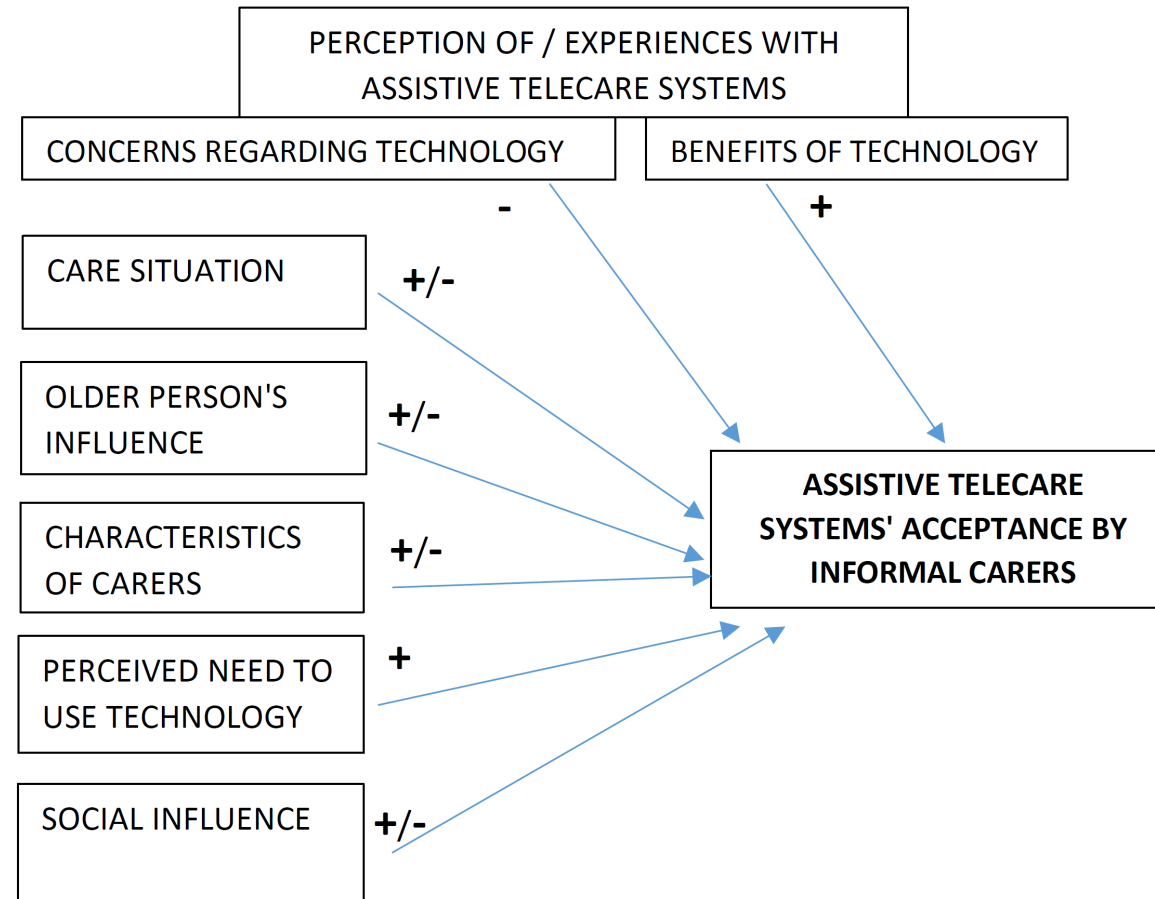


Figure. Key factors of the acceptance of assistive telecare systems by informal carers of older people (40 articles 2000 - 2021; scoping study)

Informal carers of older people in Slovenia (40 years or more)*

Research

Slovenia

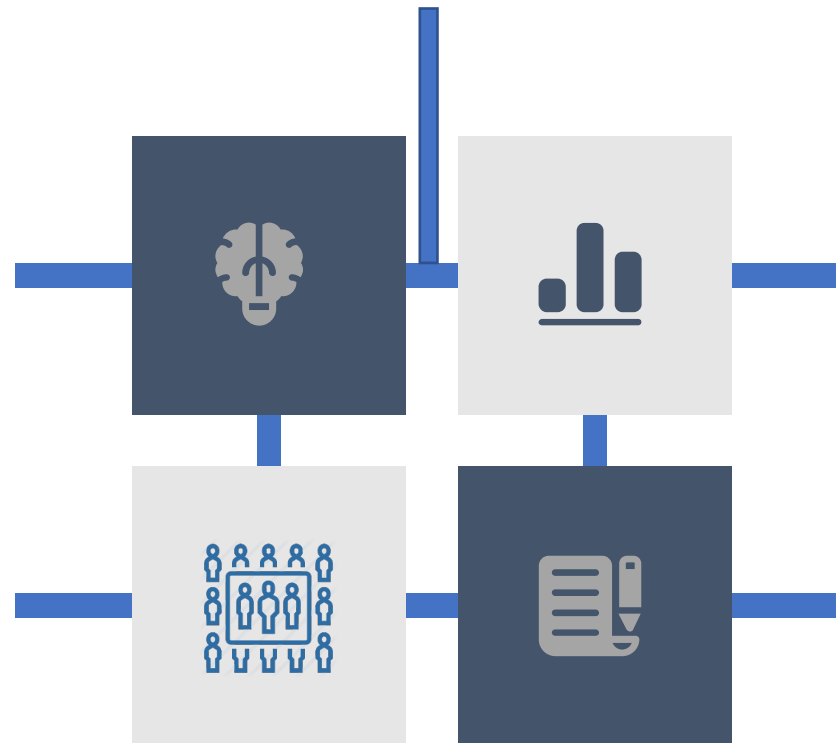
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Apr - May 2021

Sample

Total: 612

informal carers of
older people at
least 40 years old



The study has received ethical approval from the Committee for Ethics in Research at the Faculty of Social Sciences on 12 March 2021 (801-2021-020/JG).

Instruments

Preservance time (Pt) (Kraijo et al. 2014), Self-rated burden scale (SRB) (van Exel et al., 2004), CarerQol instrument-7D (Brouwer et al., 2006), Technology commitment scale (TC Scale) (Neyer et al. 2012), individual questions from: Eurofamcare cat_uk1 (Eurofamcare consortium 2004), eConnected_Family_Caregiver_Study (National Alliance for Caregiving, 2011), Relationship Quality Index (Boots, et al., 1998), Study on the consequences of the COVID-19 outbreak on informal/family/unpaid carers across Europe (Eurocarers, 2021) & questions on specific functionalities of telecare developed by the research team

The effects of COVID-19 on ICs of older people

● Main effects of COVID-19 on ICs:

- **Increased pressure** on informal carers
- **Deterioration** in ICs' **psychological well-being** (28.3%), **financial situation** (26.9%) and **health** (17.5%).
- ICs reported an **increase in worries** about the care recipient's future (35.3%) and the **burden** of caregiving (25.8%).

● Most affected groups of ICs:

- **Primary carers**: The increase in burden, type of tasks, and frequency of visits was more pronounced for them than for secondary ICs or ICs sharing care with another person.
- **Women** reported a greater impact of pandemic on some aspects of care than men.
- **ICs of older people with dementia**: higher burden of care, lack of support in caregiving, own health issues, difficulty balancing caregiving with other commitments (63%)
- **Working ICs** reported difficulty in balancing caregiving with other commitments (23.5%). More distant ICs reported these balancing difficulties than proximate ICs.

Predictors of willingness to use TC among Slovenian ICs of older people.

- We found a **high level of interest in telecare** (54.9% - 74.6% of ICs would probably or definitely want to use TC) devices among ICs of older people in Slovenia -> surprising as these technologies are not widespread in Slovenia.
- **41% of ICs thought telecare was more useful than before** the pandemic
- **Informal care situation** is an important **predictor** of **willingness to use personal alarm systems (PAS)**, as five of eight regressors made a statistically significant contribution to predicting PAS (*fall experience, older persons age 85+, time distance between IC and OP, provision of emotional support, perseverance time - ability to maintain the care*).
- When studying the willingness to use telecare among ICs, we should **pay attention to the heterogeneity of telecare functionalities**:
 - Factor analysis showed two distinct factors (PAS, mobility related devices - MRD)
 - The explanatory power of the model based on the dependent variable measuring willingness to use all four types of telecare services together was lower;
- Our initial analysis shows that several other independent variables have a statistically significant influence on the willingness to use mobility-related devices (compared to the willingness to use PAS) (*e.g. OPs health status, number of persons cared for by IC*).

Exploring reciprocity in perceptions on telecare within the informal carer–care receiver dyad

Key findings (n=22 dyads of ICs of older people and older people, Slovenia, qualitative 4-months intervention study, 44 interviews with ICs):

- **Informal carers' perceptions and acceptance of telecare are intertwined with their care recipients' perceptions** of technology since their technology acceptance decisions depended significantly on them.
- There is **reciprocity in both the decision-making and perceptions of telecare**, which should be considered while exploring telecare's acceptance factors among older adults and informal carers.
- Study provided evidence of the **agreement** between the older care recipients and their informal carers in several dyads regarding the benefits of telecare use.
- This reciprocity in views on telecare combined with other acceptance factors, like family dynamics and the informal carer–care recipient relationship in a dyad, as well as decision-making processes within dyads regarding telecare use, warrants further empirical and conceptual research.

Informal Caregivers' Perceptions of Self-Efficacy and Subjective Well-Being when Using Telecare in the Home Environment: A Qualitative Study

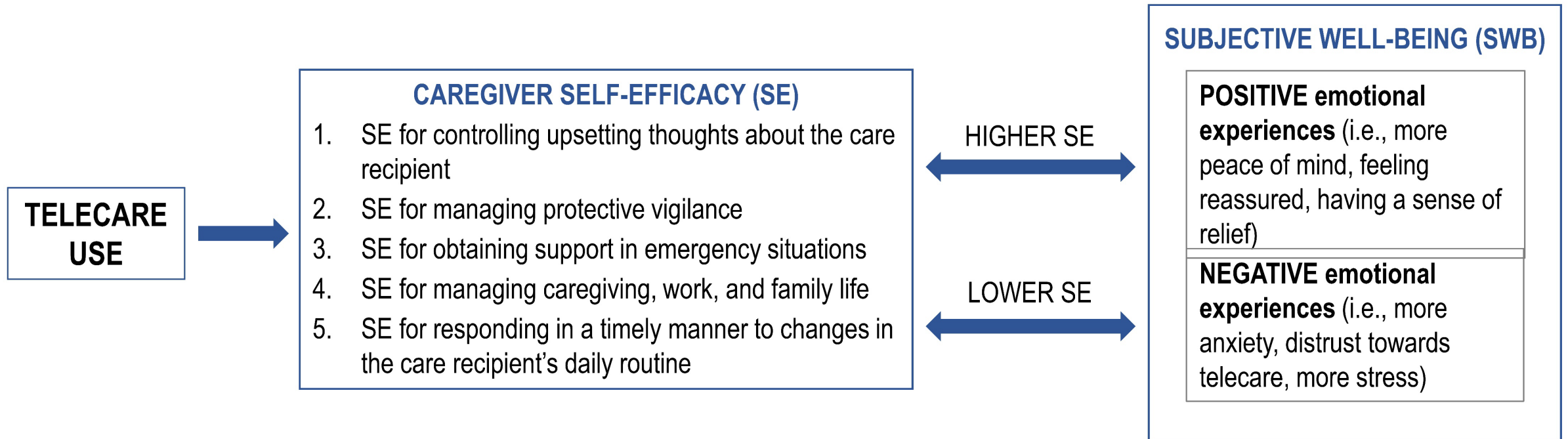


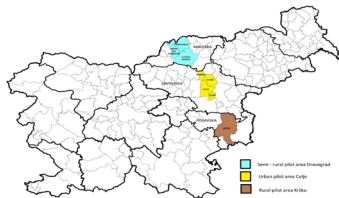
Figure. ICs' SE dimensions regarding telecare (n=22 ICs of older people, Slovenia, qualitative 4-months intervention study).

Title: The psychosocial outcomes of e-care technology use for long-term care recipients and informal carers

Lea Lebar, Simona Hvalič-Touzery, Vesna Dolničar, Mateja Nagode, Izidor Natek

INTRODUCTION

- The study addresses the gap in the evidence on the psychosocial outcomes of e-care technology use among long-term care recipients (CR) and informal carers (IC).
- E-care included various functionalities: user triggered alarm button, environmental monitors (e.g. activity sensors), mobility-related devices (e.g. fall detection).
- Presented are results from the 3 pilot sites (see map), from national project "Evaluating pilot projects in the field of long-term care in Slovenia".



METHODS

- Intervention study based on one-group post-test design: 79 CR and 42 ICs tested e-care technology from 6 to 12 months in a community setting.
- Mixed-method design quantitative (QUAN) + qualitative (qual) (Creswell, Plano Clark, 2017).

QUAN:

CR: PIADS-10 scale (CR) (Jutai & Day, 2002) which generates a total score, ranging between -3 and +3, that is averaged across 10 items ($\alpha > 0,9$)

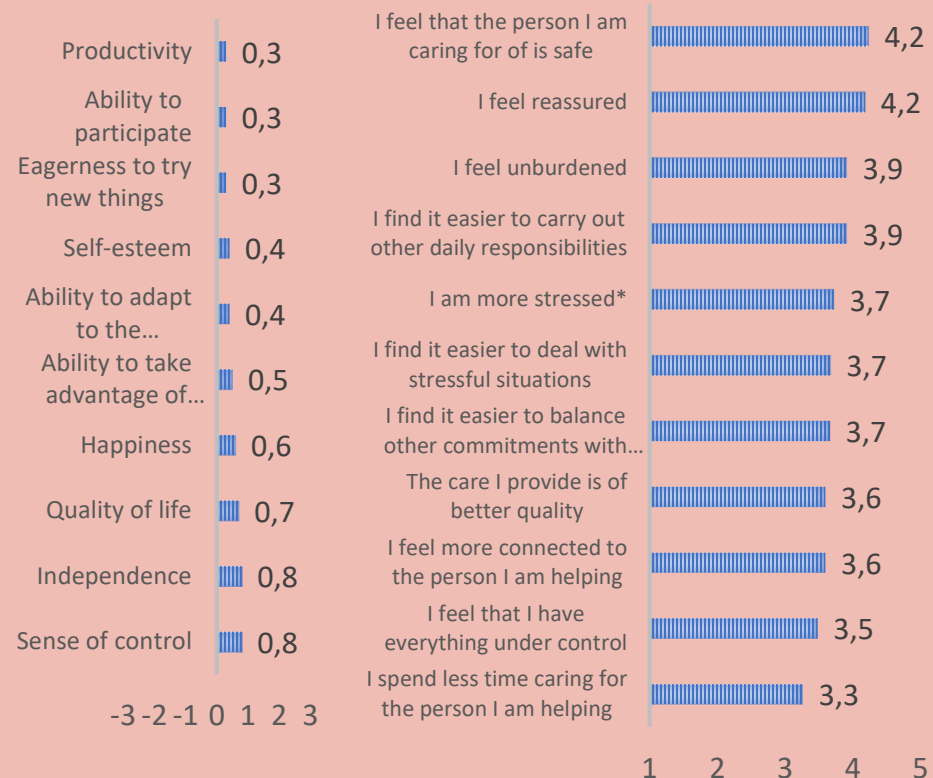
IC: Scale on outcomes of e-care technology use among IC (Hvalič Touzery et al., 2019) (sample items: *I find it easier to carry out other daily responsibilities, I feel unburdened, I feel reassured*) (Hvalič Touzery et. al, 2019, $\alpha = 0,897$)

QUAL:

Semi-structured telephone interviews with 7 CR and 9 IC during the first wave of COVID-19 pandemic, content analysis



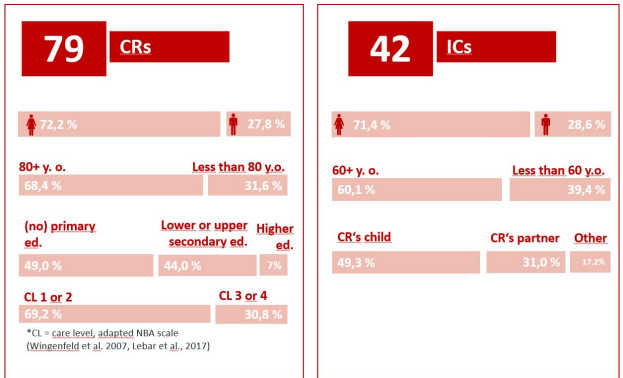
CRs see the biggest impact of using e-care technology on their quality of life, sense of control and independence. The impact on ICs is mainly psychological: reassurance, perceived safety of CR, perceived reduced burden, perceived ease of carrying out other daily responsibilities.



PIADS-10 scale: Psycho-social outcomes of e-care technology use for CRs / ICs (scale: -3 (decrease) to 3 (increase), \bar{x})

Outcomes of e-care technology use among IC (scale: 1 (not true of me) to 5 (very true of me), \bar{x}) * recorded

SAMPLE CHARACTERISTICS



RESULTS

CR: Most commonly reported psychological outcomes: increased sense of control, independence, quality of life. Semi-structured interviews confirmed an additional dimension (not part of the short PIADS-10, but the PIADS-26 scale): Feeling safe (rather than feeling vulnerable or insecure). No statistically significant influence of demographic variables and level of care on outcomes was found.

IC: Most reported positive psychological outcomes: **perceived safety** of CR ($\bar{x}=4,2$, $SD=0,8$), **reassurance** ($\bar{x}=4,2$, $SD=0,9$), **perceived reduced burden** ($\bar{x}=3,9$, $SD=1,1$) and **perceived ease of carrying out other daily responsibilities** ($\bar{x}=3,9$, $SD=1,2$). The interviews confirmed higher levels of reassurance and perceived safety of CR.

Both groups report **negative outcomes**, related to false alarms (increased fear). CRs report fear of damaging the equipment.

DISCUSSION

The study found (mostly) **positive psychological outcomes of e-care technology use for CRs and ICs**. E-care was tested by long-term care recipients and the results show the impact on the two most important aspects for this target group: the feeling of control and independence. Further research should explore in more detail the negative effects that were largely excluded from our quantitative phase.



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Recent publications (in English)

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<https://www.mdpi.com/2308-3417/7/5/86/pdf>
- HVALIČ TOUZERY, Simona, SMOLE OREHEK, Kaja, DOLNIČAR, Vesna (2021). **Exploring reciprocity in perceptions on telecare within the informal carer-care receiver dyad**. *Teorija in praksa : revija za družbena vprašanja*. jul-sep., 58(3): 840-859, 929-930. DOI: [10.51936/tip.58.3.840-859](https://doi.org/10.51936/tip.58.3.840-859).
<https://www.fdv.uni-lj.si/docs/default-source/tip/prou%C4%8Devanje-recipro%C4%8Dnosti-v-dojemanju-teleoskrbe-znotraj-diad-neformalnih-oskrbovalcev-in-starej%C5%A1ih-osebbaa3c6304f2c67bc8e26ff00008e8d04.pdf?sfvrsn=0>
- HVALIČ TOUZERY, Simona, DOLNIČAR, Vesna (2022). **Attitudes towards smart technologies among older people and their informal carers in Slovenia**. In: PETELIN, Ana (ur.). *Health of the elderly = Zdravje starostnikov : [proceedings]*. Koper: University of Primorska Press, 2021. pp. 71-80. DOI: [10.26493/978-961-293-129-2.71-80](https://doi.org/10.26493/978-961-293-129-2.71-80). https://www.healthconference.fvz.upr.si/e_files/content/Zbornik%20prispevkov_KONCNI.pdf (p. 72-82)
- LEBAR, L. , HVALIČ TOUZERY, S., NATEK, I., & DOLNIČAR, V. (2022). **Perception of the use of assistive technologies**. In: Nagode, M., Kobal Straus, K. (eds) *Long-term care – A challenge and an opportunity for a better tomorrow*. Ljubljana: IRSSV, MZ, pp. 179-192. https://irssv.si/wp-content/uploads/2022/06/Dolgotrajna-oskrba-monografija_ANG-WEB.pdf
- NAGODE, M., ROSIČ, J., ŠKAFAR, M. (2022). **Care for those who care: studying the quality of life of informal carers**. In: Nagode, M., Kobal Straus, K. (eds) *Long-term care – A challenge and an opportunity for a better tomorrow*. Ljubljana: IRSSV, MZ, pp. 211-226. https://irssv.si/wp-content/uploads/2022/06/Dolgotrajna-oskrba-monografija_ANG-WEB.pdf
- KAVČIČ, M., PETROVČIČ, A., DOLNIČAR, V., (2022). **Model of acceptance and use of market-ready home-based e-care services: A qualitative study with care receivers and informal caregivers**. *International Journal of Human-Computer Interaction*. <https://doi.org/10.1080/10447318.2022.2041898>.
<https://www.tandfonline.com/doi/full/10.1080/10447318.2022.2041898>
- SMOLE OREHEK, Kaja, DOLNIČAR, Vesna, HVALIČ TOUZERY, Simona (2020). **The use of eCare services among informal carers of older people and psychological outcomes of their use**. In: PEJOVIĆ, Veljko (ed.), et al. *Human-Computer Interaction in Information Society : 7 October 2020*, Ljubljana, Slovenia : IS 2020 = Information Society, pp. 52-55. http://library.ijs.si/Stacks/Proceedings/InformationSociety/2020/IS2020_Volume_H%20-%20HCI.pdf

Thank you for your attention!



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