Journal of Engineering Innovation and Global Impact (JEIGI)
Volume 1, Issue 2 | PP 54-67 | www.jeigionline.com |

Submitted : 11-08-2026 | Revised : 27-09-2026 | Accepted : 10-10-2026 | Published : 13-10-2026

IoT-Based Assistive Technologies and Quality of Life: A Narrative Review of Accessibility Innovation

Dr. Shankar Subramanian

Associate Professor, ARSD College, University of Delhi, Delhi, India.

Corresponding Author: Dr. Shankar Subramanian
Email: sssubramaniam@arsd.du.ac.in

Abstract

The justification for Internet of Things (IoT) assistive technologies is nearly universally in terms of their contributions to quality of life, but rarely do they reach the constructs that make up quality of life. This narrative review is meant to suggest that the shortfall is structural, not incidental. There are three arguments developed. First, the ICF displacement: evidence focuses at the body function and activity level, where there is evidence of sensing, but not at the level of participation, where the quality of life is not measured; the field focuses on what can be measured. Second, constitutive coupling: the mechanism through which benefit is provided from the continuous sensing and remote visibility is the same one that undermines privacy, self-determination and social identity. There is no Privacy which can be bolted on to a system which delivers visibility. Third, the beneficiary gap: the person monitored is not always the person who specifies, buys or configures the system, that's why one of the most important fields, which has suffered from the abandonment predictors for 30 years, had not done anything about the failure. The review brings together the assistive technology, ambient assisted living, human–computer interaction and disability studies literatures on these arguments and suggests a progression of assessment from device-level data to participation-level and control-level data. The following five propositions suggest a research agenda. The review is interpretative and purposive and no estimates, based on meta-analysis, are reported.

Keywords: assistive technology; Internet of Things; quality of life; participation; ambient assisted living; disability

1. Introduction

Assistive technology is a worldwide issue. According to the WHO–UNICEF Global report on assistive technology, 2.5 billion people require one or more assistive products; nearly one billion people do not have access to one or more assistive products and in some low-income countries access is as low as 3% of need (World Health Organization & UNICEF, 2022). In this context, IoT-based assistive technology networked sensors, wearables, instrumented homes, connected mobility aids is proposed as a solution to increase the access and improve the quality of life (QoL) at the same time (Alenizi & Al-Karawi, 2024; Giansanti & Pirrera, 2025).

The promise is clear. Continuous sensing detects falls, monitors physiology, reminds of taking medication, opens doors, and reports to those observing. All of these are actual capabilities, and it would be perverse if any of them were rejected for the access gap for which the WHO is documenting.
But the field's record is disappointing on a particular level. Almost 30 years ago, a survey of individuals who use assistive devices revealed that about 29% of the devices were never used again and that the most important factors in abandonment were not technical: most important was when the user's opinion was not taken into consideration as the device was selected (Phillips & Zhao, 1993). It's a finding that's been referenced for 30 years. Abandonment persists. If a field is aware of its greatest failure mode, and it does not remedy it, then this field isn't suffering from ignorance. It is in trouble with its structure.
The thesis of this review is that the IoT doesn't break the structure of the thing, but strengthens it, and the review makes three related claims. ICF displacement: research clusters where the function of the sensors is to sense body functions, while the functioning of the activity is realized at the level of participation (which is larger), where the sensors do not reach. The benefit delivering mechanism is the harmer, the fall sensing mechanism is the bathroom watching mechanism. And the beneficiary gap: the monitored person is NOT the specifier/purchaser/configurer and the result being optimised is NOT theirs.
The review thus poses three questions. RQ2: In which domains of quality of life does the evidence base of IoT AT reside? RQ2: Is it possible to distinguish the costs of privacy and autonomy of IoT assistance from its benefits, or do costs of privacy and autonomy follow the same mechanism? RQ3: For 30 years, there have been known predictors of abandonment, what is the reason for this and what does IoT do about it?

2. Literature Review

2.1 Quality of Life and the ICF

Quality of life isn't a function. The International Classification of Functioning, Disability and Health (ICF) separates body functions and structures, activities, participation and contextual factors and views disability not as a property of an individual, but as an interaction between a health condition and the environment (World Health Organization, 2001). The sharper version of the claim is made in the social model: that environments and arrangements cause disability rather than impairment (Oliver, 2013). In either case, to restore a body function is not enough or a prerequisite to enhance a life.
This is important because of measurement. One important reason instruments were constructed in the assistive technology field was that it was known that functional measures were not capturing psychosocial outcome measures (Jutai & Day, 2002). Their presence signals an admission of the field and a subsequent retreat.

2.2 The IoT Assistive Technology Landscape

Ambient assisted living reviews indicate a high level of ambient sensor portfolio: activity recognition, fall detection, physiological monitoring, smart-home actuation (Rashidi & Mihailidis, 2013). Recent syntheses have extended this to AI-based support in mobility, cognition and sensory fields (Giansanti & Pirrera, 2025), to condition-specific architectures like the stage-wise monitoring in the context of dementia care (Salvi et al., 2025), and to multi-level architectures which are ingeniously organised

around the roles of monitoring, analysis, and assistance (Qadri et al., 2025). The organizing principle of the field is "sensing first."

2.3 Acceptance, Privacy, and Autonomy

Acceptance research shows that factors beyond usability are relevant for ageing in place, such as concerns about the consequences of ageing in place for independence and identity (Peek et al., 2014). The tension created and the dominant framing of this tension is a trade: older adults are presumed to be willing to trade privacy for autonomy, and acceptance comes when autonomy gained outweighs privacy lost (Townsend et al., 2011). The concept of obtrusiveness has been formalised in related work as a property of a design to be minimised (Hensel et al., 2006) and experienced with genuine ambivalence, not acceptance or rejection (Essén, 2008). Researchers in the field of smart homes themselves acknowledge ethical conflicts, but these are attributed to other domains (Birchley et al., 2017), and user's privacy expectations conflict with the behaviour of the smart home devices in a systematic way (Zheng et al., 2018).

2.4 The Social Life of Assistive Devices

The sensing literature lacks what human–computer interaction and disability studies have to offer. Assistive devices are socially read, involve misperceptions (Shinohara & Wobbrock, 2011), about the elimination of disability, and about the user being unable to function without the device, and about the user being functional when the device is not there. Social acceptability is not a goal for a working device, it is a condition to whether a device is used at all (Shinohara & Wobbrock, 2016; Shinohara et al., 2018). What users of elder care technology report as important is control (Berridge et al., 2022).

2.5 The Dyadic Evidence

The third claim of this review is a dyadic piece of evidence. Berridge and Wetle (2020) conclude that the two groups systematically disagreed: adult children were confident they could convince their parents to adopt, underestimated their parents' understanding, and thought they should engage their parents very little in the decision-making process; whereas the older adults did not like the technologies as much and wanted more involvement with their adult children. By itself, AT effectiveness is evaluated for the ability to alleviate the burden on the caregiver (Marasinghe, 2016), which is an important goal and an individual's result.

2.6 The Gap

Every literature is coherent within itself and they don't talk. Research in the field of sensing optimises detection, research in the field of acceptance explains adoption, research in the field of meaning explains disability, and research in the field of dyadic reveals divergent interests. There is no account that links them to the question: Is the benefit mechanism of the field the same as the harm mechanism? and what is the evidence base measuring?

3. Research Methodology

3.1 Design and Rationale

This is a narrative review. It is not a concession, but a conscious decision: narrative synthesis is suitable when the purpose is to reinterpret and synthesise disparate literatures, not to aggregate similar effects, and the presumption that systematic review is always better is not upheld (Greenhalgh et al., 2018; Baumeister & Leary, 1997). The literatures presented here are diverse with respect to method, unit of analysis, and epistemology of the fields of sensing engineering, gerontechnology, HCI, and disability studies. There was no simple way to compute a meta-analytic quantity across them, and it would not benefit the argument.

3.2 Corpus Assembly

Three criteria for the selection of sources were considered: (a) the works that have laid the groundwork for the constructs (ICF, social model, abandonment, contextual integrity); (b) the works that have reviewed the landscape of IoT assistive technology; and (c) the empirical works that most clearly relate to the discrepancy between user and specifier interests. This was extended to more recent syntheses (2024-2026) to ensure that the pattern found is in the present, not the past. Sources from disability studies and HCI were intentionally looked for because they are not included in engineering side reviews.

3.3 Analytical Procedure

Analysis was done in three runs. Sources were first mapped onto ICF levels, based on the outcome they measured, which has given the displacement argument (§4.1). The technologies in each technology class then were broken down into the benefit mechanism and harm mechanism, then the two were compared, resulting in the coupling argument (§4.2). Last, each role in each system specifier was split up and their interests compared to the dyadic evidence, yielding the beneficiary gap (§4.3).

3.4 Scope and Limitations of the Method

The review does not claim to be exhaustive, does not report any screening counts and does not provide any pooled estimates; purposive selection will get the conceptual reach it needs but at the cost of representativeness and a selective corpus cannot prove that the core of the literature is at the point where §4.1 sets it. That mapping is an interpretive claim and §4.6 details the bibliometric study that would support that claim. Corpus is limited to English-language, and is biased towards high-income contexts, as the access gap the WHO documents is located elsewhere.

4. Analysis and Synthesis

4.1 The ICF Displacement

Table 1 maps the field against the ICF.

Table 1. *ICF levels, what IoT assistive technology measures, and what quality of life requires*

ICF level	What sensors measure well	What QoL requires at this level	Evidence concentration
Body functions and structures	Heart rate, gait, sleep, physiological state	Symptom relief, comfort	High instrumented directly
Activities	Steps, transfers, falls,	Capability to act, without	High inferable from

ICF level	What sensors measure well	What QoL requires at this level	Evidence concentration
	ADL completion	cost to dignity	traces
Participation	— (not directly observable)	Social roles, reciprocity, community, being seen as a person	Low requires human report
Environmental factors	Home layout, device state	Attitudes, stigma, access, policy	Low mostly unmeasured
Personal factors	—	Identity, self-determination, preference	Low sensors are silent

The pattern is not a coincidence of research fashion. Sensors produce continuous, cheap, comparable data at the top two rows, and nothing at the bottom three. Participation is not a sensor-visible construct: no accelerometer distinguishes a person going to a place they wanted to go from a person taken there. The field therefore accumulates evidence where its instruments reach.

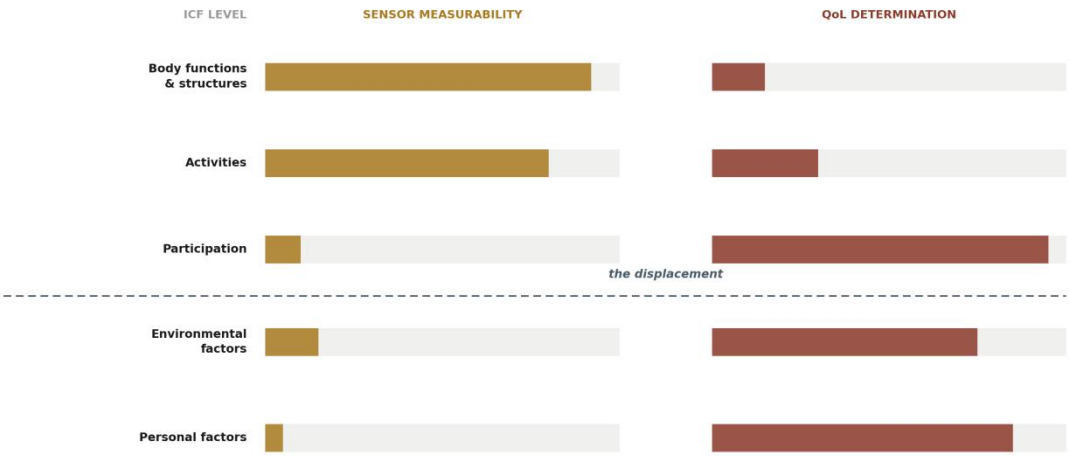


Figure 1. *The ICF displacement: measurement capability and quality-of-life determination are inversely distributed across ICF levels.* Positions are interpretive, drawn from the reviewed corpus, not bibliometric counts.

The consequence is a field that reports success in the currency it can mint. Scoping work on nursing-home residents finds autonomy and participation addressed far less than function (André et al., 2025); the psychosocial instruments that would capture the difference exist (Jutai & Day, 2002) and are not the field's default. This is the ICF displacement: the evidence base and the outcome of interest are in different rows.

4.2 Constitutive Coupling

Table 2 decomposes each technology class.

Table 2. *Technology classes, benefit mechanism, harm mechanism, and their relation*

Class	Benefit mechanism	Harm mechanism	Relation
Fall detection / ambient sensing	Continuous observation of the home	Continuous observation of the home	Identical
Wearable physiological monitoring	Body signal streamed to another party	Body legible to another party	Identical
Location tracking	Position known when lost	Position known always	Identical
Smart-home actuation	Environment responds automatically	Environment acts without being asked	Same automation
Connected mobility aids	Device reports status and use	Device reports the user's movements	Same telemetry
AI inference over sensor data	Prediction of need before request	Classification of the person as a risk	Same model

Every row is the same fact twice. This is the review's central structural claim: in IoT assistance, the benefit mechanism and the harm mechanism are not merely correlated, they are identical. The sensing that detects the fall is the sensing that watches the bathroom.

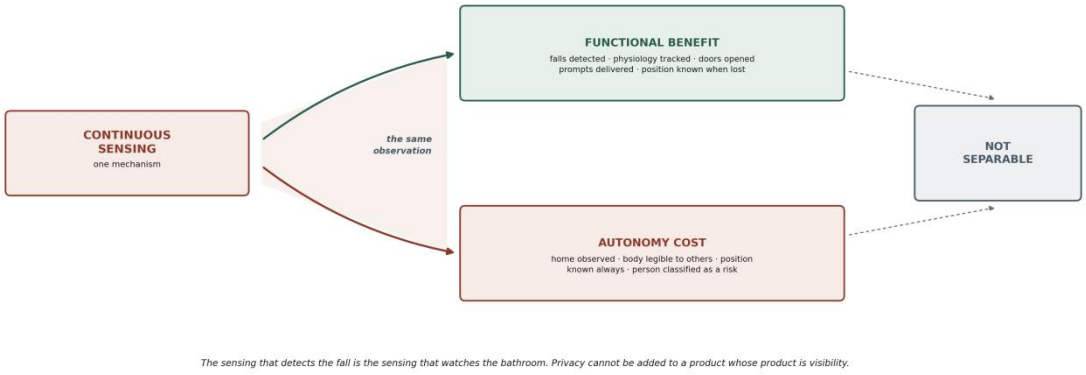


Figure 2. *Constitutive coupling: one mechanism, two divergent outcomes. The costs are not side effects of sensing; they are sensing.*

This is an alternative to the dominant privacy versus autonomy trade model (Townsend et al., 2011). In that model, privacy and autonomy are two different numbers, amount of privacy and autonomy, that are traded, which assumes that the user is the one who trades. Coupling means that there is no configuration of a sensing system that observes the fall and not the room that can

improve the trade. Instead of whether visibility is produced, who is seeing it, on what terms, and who can stop it – which is a different question than obtrusiveness – may be varied as it is what users say they care about (Berridge et al., 2022).

The implication for practice is not welcome: privacy can't be added to a product with a product of visibility. It can be only governed.

4.3 The Beneficiary Gap

If coupling states the problem, the beneficiary gap explains its persistence. Table 3 separates the roles.

Table 3. *Roles in an IoT assistive deployment and their divergent interests*

Role	Typical occupant	Primary interest	Bears the privacy cost?
Specifier	Clinician, care provider, adult child	Risk reduction, defensibility	No
Purchaser	Family, insurer, health system	Cost, liability, caregiver burden	No
Configurer	Installer, family member	Coverage, reliability	No
Data recipient	Caregiver, provider	Visibility	No
Monitored subject	The disabled or older person	Participation, dignity, self-determination	Yes

Only the last row bears the cost, and only the last row is usually absent from the decision. The dyadic evidence is direct: adult children expected to involve their parents minimally and were confident of persuading them, while the parents wanted involvement and rated the technologies less favourably (Berridge & Wetle, 2020).

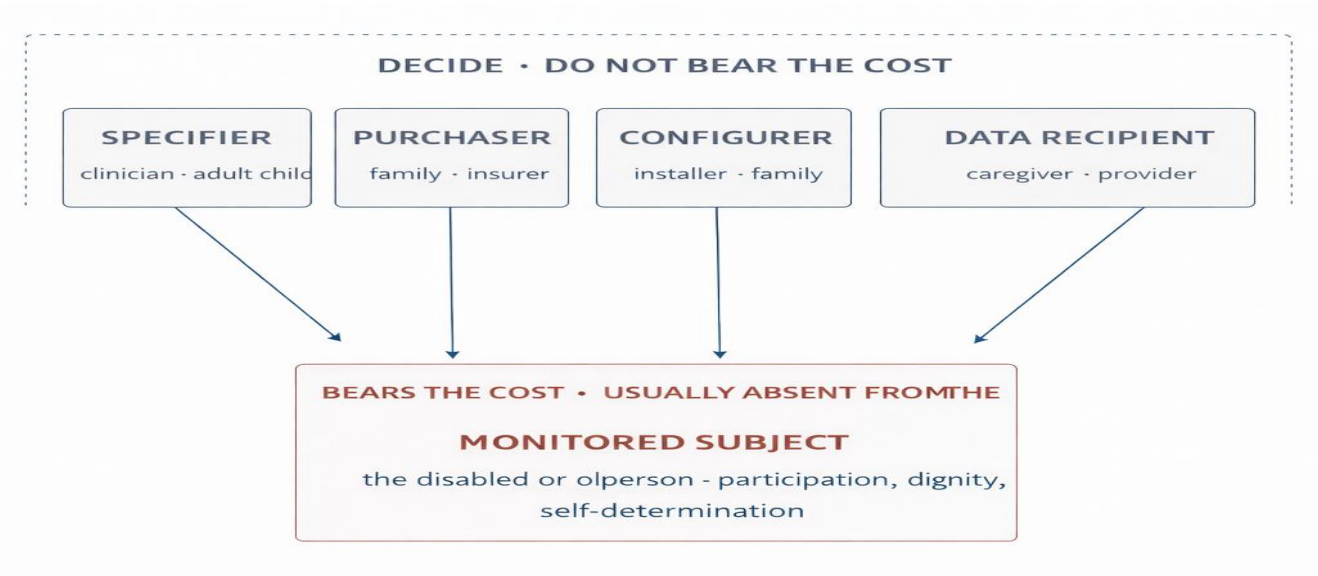


Figure 3. *The beneficiary gap: the roles that specify, purchase, configure, and receive data are separable from the role that bears the cost.*

This resolves the puzzle of §1. Phillips and Zhao's (1993) top abandoner predictor, user opinion, has not been corrected after thirty years – from the specifier's point of view, an abandoned device is not a 'failed' device. The system is being acquired to reduce risk and burden and felt burden can be reduced though installation. The user-centred design rhetoric is not biting in the field, as the user is not the customer.

4.4 Abandonment Vectors Under IoT

Table 4. *Abandonment vectors: classic and IoT-specific*

Vector	Classic form	IoT-specific intensification
User excluded from selection	Device prescribed	Deployment negotiated between family and vendor
Changing needs	Device cannot adapt	Model trained on prior state misclassifies new state
Poor performance	Device fails a task	False alarms erode trust; silence is indistinguishable from failure
Maintenance burden	Repair	Charging, connectivity, updates, subscription continuity
Social marking	Visible device signals disability	Visible sensing signals being watched
Novel: revocation	—	Turning it off is legible to the watcher as an act

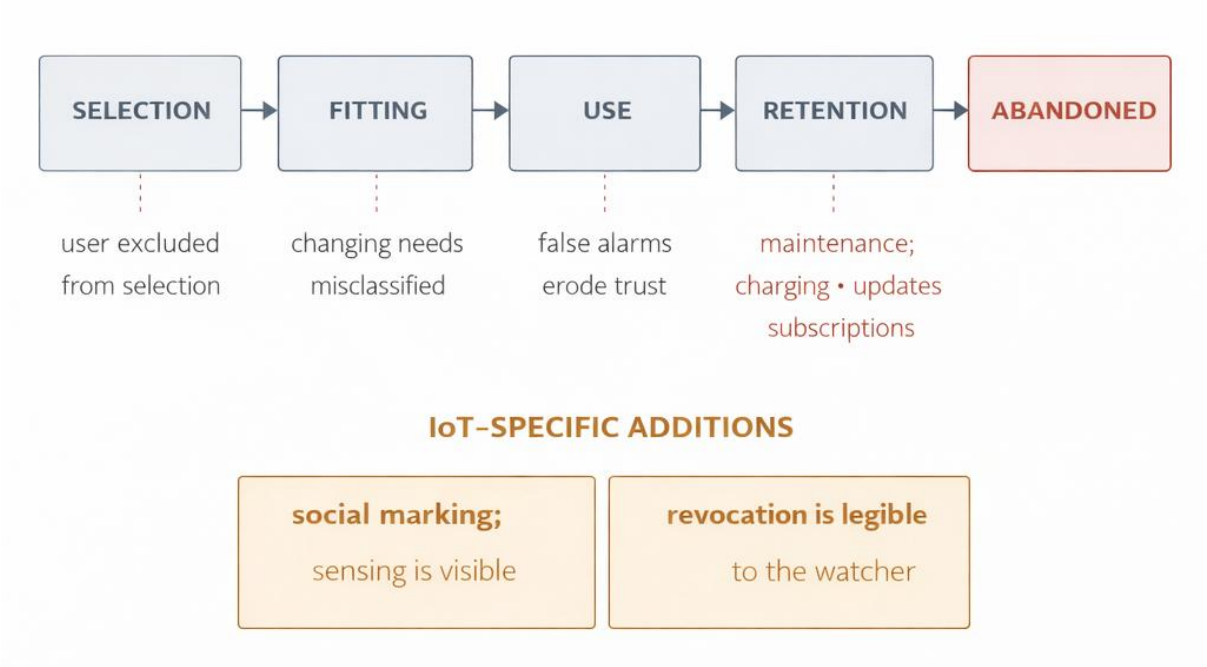


Figure 4. *Abandonment vectors across the assistive technology lifecycle, with IoT-specific additions.*

Finally, there is no classical analogue of the last row, and this row should be stressed. Cane can be left at home with no one knowing. A monitoring system cannot be declined, disabled, or removed; it is an event that can be seen by the recipient of the data and can be interpreted as confusion, non-compliance, or decline. Refusal becomes evidence. This makes a device the user might be tempted to leave behind, one that must be left behind for reasons beyond just the product.

4.5 An Evaluation Ladder

Table 5. *Evaluation ladder: from device metrics to standing*

Rung	Question answered	Typical metric	ICF level
1. Device	Does it work?	Detection accuracy, uptime	Body function
2. Activity	Does it change what the person does?	ADL completion, fall rate	Activity
3. Retention	Is it still in use at 12 months, and why?	Retention with attributed reasons	Activity
4. Participation	Does the person do more of what they value?	Participation and psychosocial instruments	Participation
5. Control	Can the person see, adjust, and revoke disclosure?	Control affordances exercised, not offered	Personal / environmental
6. Standing	Is refusal costless?	Consequences of declining	Environmental

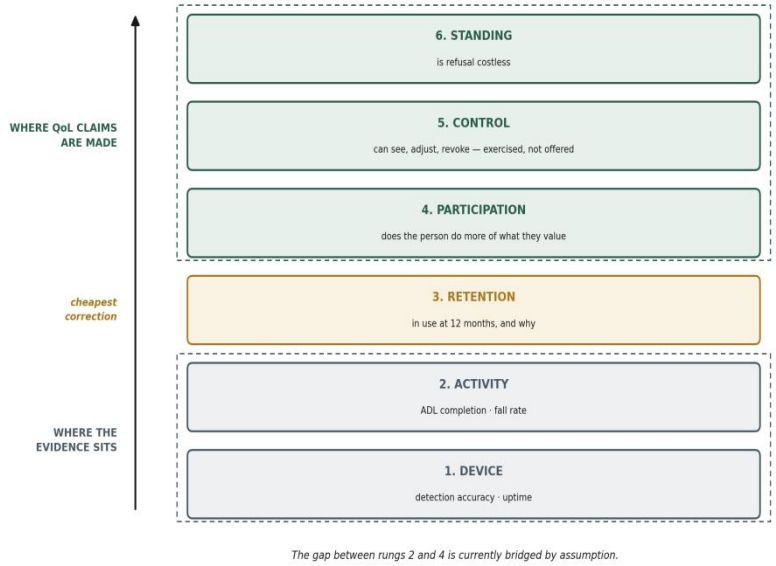


Figure 5. *The evaluation ladder. Most reported evidence sits on rungs 1–2; quality-of-life claims require rungs 4–6.*

The constructive tool of the review is the "ladder". Evidence is stored at rungs 1–2; evidence for claims of QoL is at rungs 4–6. The lowest cost correction available is retention: It is measurable, was known as the field's most significant signal 30 years ago, and is reported less often than adoption. Operationalising control as exercised and not nominally provided means that what is observed could be a product of the gap and not a proof against a gap. The most difficult of all and the most diagnostic is Rung 6: when there is a cost involved in refusal, consent is not doing the work that it is supposed to do.

4.6 Propositions

ID	Proposition
P1	Reported IoT assistive technology outcomes cluster at ICF body-function and activity levels; participation-level outcomes are reported in a minority of studies (bibliometrically testable, and the direct test of §4.1).
P2	Privacy cost cannot be reduced without reducing the sensing that produces benefit; interventions that claim otherwise reallocate visibility rather than reduce it.
P3	Where the specifier is not the monitored subject, reported satisfaction diverges systematically between roles, and specifier satisfaction predicts continued deployment better than user satisfaction predicts retention.
P4	Retention at 12 months is predicted by the monitored person's involvement in selection, more than by device performance (a direct extension of Phillips & Zhao, 1993, to networked systems).

ID	Proposition
P5	The cost of refusal not the presence of a consent step predicts felt autonomy.

5. Discussion

5.1 Implications for Research

The first thing that springs to mind is that the evidence in the field does not back up the central claim. QoL assertions are on rungs (1–2) and assumption bridges the gap with QoL lives on rungs (4–6). This is not a rhetorical question: P1 is a bibliometric study and this can weaken the displacement claim.
Also, the coupling argument (P2) reformulates the privacy literature. For systems whose function is not observation, treating privacy as a design parameter to be optimized makes sense, while it makes no sense for systems whose function is observation. The productive question is governance: who receives, how, by whom.

5.2 Implications for Design and Policy

For design, the actionable move is not less sensing but relocated control user-held, exercised, revocable, with revocation carrying no cost in standing. For policy, the WHO's access agenda (World Health Organization & UNICEF, 2022) and this review's argument can pull against each other: scaling access to systems configured around the specifier's interests scales the gap along with the benefit. Access and standing are separate goods, and procurement rules that count devices deployed will optimise the wrong one. Given that the access deficit is concentrated in low- and middle-income settings while the corpus reviewed here is not, this tension is exactly where evidence is thinnest.

5.3 Limitations

The limitations of the review are largely the same as those of the method itself (§3.4). The argument itself is subject to three other limitations. The beneficiary gap is mostly from the elder-care dyad, and the generalisation from ageing to disability is the one that disability scholarship cautions against: the roles can be separated differently for a congenitally disabled adult choosing their own equipment, and the gap may not exist. The coupling argument is strongest when it comes to ambient sensors and physiological sensors and is weakest when it comes to user-initiated sensors like communication devices—there the user decides when to observe, suggesting that it is an attribute of continuous sensing and not of IoT. The review, furthermore, offers a structural argument on a purposive corpus that can inspire the propositions, but cannot substantiate them.

5.4 Future Research

Priority P1 is the cheap, decisive and review framing falsifying priority, which is a priority. P4 is the most impactful as it would link a 30 year old discovery to modern systems, providing an outcome for procurement that can be measured. The cost of refusal is not measured by any scale in P5 and the creation of a scale would be operationalizing the least tractable and most important construct of the

review. In addition to the propositions, the focus is on participatory work in which the disabled persons themselves indicate what they consider to be a success for participation, which is not a courtesy of method, but the only means of accessing the constructs of rungs 4–6.

6. Conclusion

where sensors exist, so does the measure of IoT assistive technology, and where it does not, justification is given. The distance between those two places has been argued here to be structural: quality of life is optimised at higher levels of abstraction than sensing; the benefits and harms of sensing are produced by one mechanism, and cannot be separated by design; the outcome of the optimisation is generally in the hands of the person who designed the system, not the person who lives inside it. The three arguments come to a single diagnosis. If a field that has seen its most prominent failure mode since 1993 and failed to tackle it, then it is not failing to see it, it's succeeding at something else. The evaluation ladder proposed here is an attempt to make the difference visible and the propositions are offered in order to demonstrate the diagnosis as being incorrect. For 2.5 billion people, the technology is too important to judge based on its effectiveness, but rather by how it gets them into a position to live as they want to.

References

1. Alenizi, A., & Al-Karawi, K. (2024). A review on Internet of Things (IoT)-related disabilities and their implications. Journal of Disability Research, 3(2), Article 20240012. https://doi.org/10.57197/JDR-2024-0012
2. André, M., Enez, J., Charras, K., Besançon, M., & Delouvée, S. (2025). Autonomy, independence, and participation of nursing home habitants addressed by assistive technology: A scoping review. Disability and Rehabilitation: Assistive Technology, 20(1), 150–162. https://doi.org/10.1080/17483107.2024.2359472
3. Baumeister, R. F., & Leary, M. R. (1997). Writing narrative literature reviews. Review of General Psychology, 1(3), 311–320. https://doi.org/10.1037/1089-2680.1.3.311
4. Berridge, C., & Wetle, T. F. (2020). Why older adults and their children disagree about in-home surveillance technology, sensors, and tracking. The Gerontologist, 60(5), 926–934. https://doi.org/10.1093/geront/gnz068
5. Berridge, C., Zhou, Y., Lazar, A., Porwal, A., Mattek, N., Gothard, S., & Kaye, J. (2022). Control matters in elder care technology: Evidence and direction for designing it in. In Proceedings of the 2022 ACM Designing Interactive Systems Conference (pp. 1831–1848). Association for Computing Machinery. https://doi.org/10.1145/3532106.3533471
6. Birchley, G., Huxtable, R., Murtagh, M., ter Meulen, R., Flach, P., & Gooberman-Hill, R. (2017). Smart homes, private homes? An empirical study of technology researchers' perceptions of ethical issues in developing smart-home health technologies. BMC Medical Ethics, 18(1), Article 23. https://doi.org/10.1186/s12910-017-0183-z
7. Essén, A. (2008). The two facets of electronic care surveillance: An exploration of the views of older people who live with monitoring devices. Social Science & Medicine, 67(1), 128–136. https://doi.org/10.1016/j.socscimed.2008.03.005
8. Giansanti, D., & Pirrera, A. (2025). Integrating AI and assistive technologies in healthcare: Insights from a narrative review of reviews. Healthcare, 13(5), Article 556. https://doi.org/10.3390/healthcare13050556
9. Greenhalgh, T., Thorne, S., & Malterud, K. (2018). Time to challenge the spurious hierarchy of systematic over narrative reviews? European Journal of Clinical Investigation, 48(6), Article e12931. https://doi.org/10.1111/eci.12931

10. Hensel, B. K., Demiris, G., & Courtney, K. L. (2006). Defining obtrusiveness in home telehealth technologies: A conceptual framework. Journal of the American Medical Informatics Association, 13(4), 428–431. https://doi.org/10.1197/jamia.M2026
11. Jutai, J., & Day, H. (2002). Psychosocial Impact of Assistive Devices Scale (PIADS). Technology and Disability, 14(3), 107–111. https://doi.org/10.3233/TAD-2002-14305
12. Marasinghe, K. M. (2016). Assistive technologies in reducing caregiver burden among informal caregivers of older adults: A systematic review. Disability and Rehabilitation: Assistive Technology, 11(5), 353–360. https://doi.org/10.3109/17483107.2015.1087061
13. Oliver, M. (2013). The social model of disability: Thirty years on. Disability & Society, 28(7), 1024–1026. https://doi.org/10.1080/09687599.2013.818773
14. Peek, S. T. M., Wouters, E. J. M., van Hoof, J., Luijkx, K. G., Boeije, H. R., & Vrijhoef, H. J. M. (2014). Factors influencing acceptance of technology for aging in place: A systematic review. International Journal of Medical Informatics, 83(4), 235–248. https://doi.org/10.1016/j.ijmedinf.2014.01.004
15. Phillips, B., & Zhao, H. (1993). Predictors of assistive technology abandonment. Assistive Technology, 5(1), 36–45. https://doi.org/10.1080/10400435.1993.10132205
16. Qadri, Y. A., Ahmad, K., & Kim, S. W. (2025). Supporting disabilities using artificial intelligence and the Internet of Things: Research issues and future directions. Disabilities, 6(1), Article 3. https://doi.org/10.3390/disabilities6010003
17. Rashidi, P., & Mihailidis, A. (2013). A survey on ambient-assisted living tools for older adults. IEEE Journal of Biomedical and Health Informatics, 17(3), 579–590. https://doi.org/10.1109/JBHI.2012.2234129
18. Salvi, S., Garg, L., & Gurupur, V. (2025). Stage-wise IoT solutions for Alzheimer's disease: A systematic review of detection, monitoring, and assistive technologies. Sensors, 25(17), Article 5252. https://doi.org/10.3390/s25175252
19. Shinohara, K., Bennett, C. L., Pratt, W., & Wobbrock, J. O. (2018). Tenets for social accessibility: Towards humanizing disabled people in design. ACM Transactions on Accessible Computing, 11(1), 1–31. https://doi.org/10.1145/3178855
20. Shinohara, K., & Wobbrock, J. O. (2011). In the shadow of misperception: Assistive technology use and social interactions. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (pp. 705–714). Association for Computing Machinery. https://doi.org/10.1145/1978942.1979044
21. Shinohara, K., & Wobbrock, J. O. (2016). Self-conscious or self-confident? A diary study conceptualizing the social accessibility of assistive technology. ACM Transactions on Accessible Computing, 8(2), 1–31. https://doi.org/10.1145/2827857
22. Townsend, D., Knoefel, F., & Goubran, R. (2011). Privacy versus autonomy: A tradeoff model for smart home monitoring technologies. In Proceedings of the 2011 Annual International Conference of the IEEE Engineering in Medicine and Biology Society (pp. 4749–4752). IEEE. https://doi.org/10.1109/IEMBS.2011.6091176
23. World Health Organization. (2001). International classification of functioning, disability and health (ICF). World Health Organization.
24. World Health Organization, & UNICEF. (2022). Global report on assistive technology. World Health Organization.
25. Zheng, S., Apthorpe, N., Chetty, M., & Feamster, N. (2018). User perceptions of smart home IoT privacy. Proceedings of the ACM on Human-Computer Interaction, 2(CSCW), 1–20. https://doi.org/10.1145/3274469

Declarations

Conflict of Interest

The authors declare no conflicts of interest related to this study.

Funding Statement
This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Ethical Approval
This study did not involve any human or animal subjects and, therefore, did not require ethical approval.