


“Trusting the Sky!”: Expert Perceptions Regarding Public Acceptance of Urban Drones

Ning Wang
 <https://orcid.org/0000-0002-3342-4913>
University of Zurich, Switzerland

ABSTRACT

Drones offer great potential as intelligent mobility solutions, yet challenges remain to their successful integration in society. This study analyzed experts’ perspectives regarding public acceptance of urban drones in the Swiss context, with the aim of improving the understanding of the underlying values affecting acceptance. Trust emerged as the key to public perceptions, and critical to establishing trust is connecting more deeply with the public through integrating trust-building mechanisms, aligning with societal values resonating with the public, and involving a wider range of experts in shaping governance strategies. As conclusion, a responsible innovation framework and more effective implementation approaches can provide additional insights into how to build trust around an accepted set of values that serve the public good. This points towards an important next step – developing a process enabling consensus to be reached and ethical standards to be established.

KEYWORDS

Societal Acceptance, Urban Air Mobility, Public Perception, Expert Opinion, Thematic Analysis, Value Sensitive Innovation

INTRODUCTION

Unmanned aerial vehicles (UAVs), commonly referred to as drones¹, offer the potential to transform urban mobility infrastructure, provided that they are smoothly integrated into urban life (Wang et al., 2023; Wang et al., 2025; The BRIDGE Lab, 2023a, 2023b, 2024). Such integration hinges, on the one hand, on acceptance by the general public, and on the other hand, on involvement of stakeholders who manage drones’ development, deployment, and operations. Scholarly work has examined public acceptance of drones in different contexts and use cases (Cetin et al., 2022; Kellerman & Fischer, 2020; Komarová, 2021; Miethe et al., 2014; Sabino et al., 2022; Smith et al., 2022; Tan et al., 2021), much of it using surveys or interviews with the public to gauge attitudes and acceptance factors related to drones.

Unlike existing studies, our research adopted a broader lens regarding drone implementations by tapping into expert perspectives, such as those gleaned from key stakeholders (Wang et al., 2025). Experts provided a distinct angle on public acceptance, as they offered insights regarding how the public’s attitudes to drones may inform design and policy decisions (Wang et al., 2025). The question was posed: Do experts view public attitudes as a foundation for exploring and defining values, or simply as a way to identify the path of least resistance in how drones are developed, deployed, and managed?

DOI: 10.4018/IJT.387388

This article published as an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>) which permits unrestricted use, distribution, and production in any medium, provided the author of the original work and original publication source are properly credited.

The current study is situated in a research project consisted of three components: (1) reviewing academic literature to map out existing discussions around urban drone acceptance (Wang et al., 2023); (2) surveying a cohort of Swiss drone experts to understand their perspectives on acceptance issues and the operational challenges they have faced (Wang et al., 2025); and (3) undertaking semi-structured interviews with some experts from the same cohort to delve deeper into the underlying values at stake (current study). The study aimed to answer three research questions: (1) what factors, both negative and positive, have influenced societal acceptance of urban drones; (2) based on these factors, in what ways experts have responded to public attitudes toward, and perceptions about, urban drones; and (3) whether these factors could be used to develop ethical standards to facilitate future development and integration of drones into society.

The latter question is important since, as many authors have pointed out, there can be a wide difference between a technology being socially accepted and being ethically acceptable (Asveld & Roeser, 2009; Grunwald, 2000; Hansson, 2003; Taebi, 2017; van de Poel, 2016). Policies and design choices prioritizing social acceptance have often followed the path of least resistance, aiming at a smooth rollout of technology to avoid backlash. In doing so, however, they have neglected ethical acceptability, i.e., whether that technology has aligned with moral principles or values. At the same time, it has also been acknowledged by the community that a purely normative focus—one that ignores empirical input—risks overlooking the impact of relevant real-world conditions, thereby potentially perpetuating bias and discrimination (Landes, 2024; Simon et al., 2020; Taebi, 2017).

This is particularly critical in the case of the so-called “socially disruptive technology,” as their disruptive effects may be felt not only on social and institutional levels, but also in terms of more fundamental ethical norms, concepts, and beliefs (van de Poel, et al., 2023). An ethicist carrying out an “armchair” study of the ideal framework, within which to develop technologies responsibly, lacks the capacity to understand how those technologies affect all within a society, and thus lacks the ability to hone ethical standards accordingly (Landes, 2024). A method must, therefore, be found to bridge the gap between societal acceptance and ethical acceptability. In response, this study attempted to, firstly, understand how experts have perceived that gap, and secondly, begin to consider how that gap could be better navigated and, ultimately, bridged.

The following thematic analysis contributes to the development of normative standards in two ways. First, it provides empirical data regarding the values important in public acceptance of drones, in this case from an expert perspective. While these values may not be in themselves normative, they offer critical information about what the public needs for accepting urban drones—this information should be fed into future normative processes to ensure that any resulting ethical standards achieve consensus. Second, it offers insights into the gap between empirically derived studies on societal acceptance and normatively oriented work on ethical acceptability. As this study revealed, trust in the drone operational framework was essential to acceptance, and yet a gap existed in how experts translated this value into their design and policy decisions, possible ways in which a novel approach may be developed for bridging this conceptual gap can be further contemplated.

THEORETICAL FRAMEWORK

Understanding how people accept technology is key to successfully adopting digital innovations. According to Fraedrich and Lenz (2016), acceptance means actively agreeing to someone or something—it is not an attitude of simple tolerance, or the absence of explicit rejection. Within this context, the technology acceptance model (TAM) offers an established theoretical foundation focusing on perceived usefulness and ease of use to predict acceptance of any technology (Davis, 1989; Venkatesh & Davis, 2000). TAM has been applied to different environments, systems, tasks, and subjects (Lee et al., 2003). The model has later been combined with other theoretical concepts, culminating in the unified theory of acceptance and use of technology, which included performance

24 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/article/trusting-the-sky/387388

Related Content

Support for Cyberbullying Victims and Actors: A Content Analysis of Facebook Groups Fighting Against Cyberbullying

Sophia Alimand Shehla Khalid (2019). *International Journal of Technoethics* (pp. 35-56).

www.irma-international.org/article/support-for-cyberbullying-victims-and-actors/230342

Cellular Telephones and Social Interactions: Evidence of Interpersonal Surveillance

Steven E. Sternand Benjamin E. Grounds (2011). *International Journal of Technoethics* (pp. 43-49).

www.irma-international.org/article/cellular-telephones-social-interactions/51640

Law, Architecture, Gameplay, and Marketing

Peter J. Wasilko (2013). *Digital Rights Management: Concepts, Methodologies, Tools, and Applications* (pp. 115-132).

www.irma-international.org/chapter/law-architecture-gameplay-marketing/70975

Confounding Complexity of Machine Action: A Hobbesian Account of Machine Responsibility

Henrik Skaug Sætra (2021). *International Journal of Technoethics* (pp. 87-100).

www.irma-international.org/article/confounding-complexity-of-machine-action/269437

Plagiarism and the Community College

Teri Thomson Maddox (2008). *Student Plagiarism in an Online World: Problems and Solutions* (pp. 124-143).

www.irma-international.org/chapter/plagiarism-community-college/29944