

The Role of Performance Expectancy in Crowd Logistics Adoption: A Systematic Literature Review

T M R D G T Thambavita*, H B M Peiris, E I Navodya, A M D V O Alahakoon, H M R P Herath, K A E R
T N Samarakkody

Sri Lanka Institution of Information Technology, Sri Lanka.,
gayathma2002@gmail.com

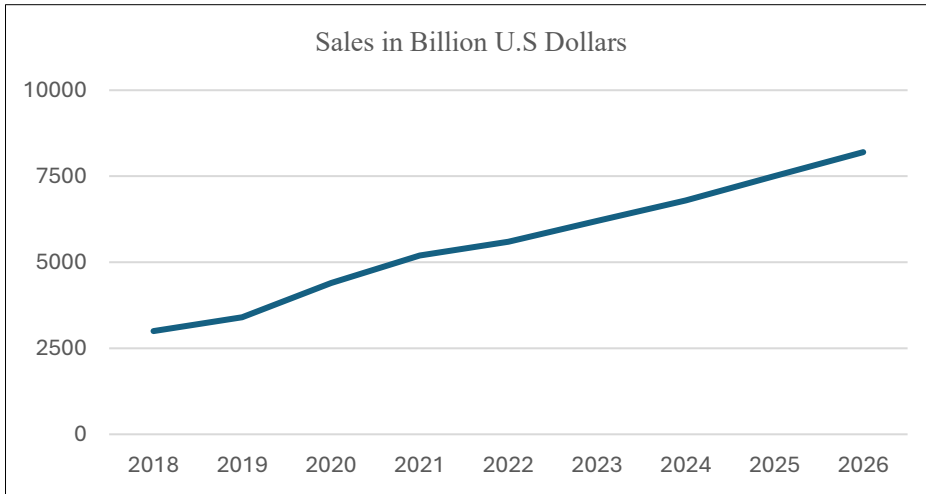
Abstract -The fast development of e-commerce has increased the complexity of the last-mile delivery (LMD), which has sparked interest in new solutions such as crowd logistics (CL). Although the Unified Theory of Acceptance and Use of Technology (UTAUT) recognize Performance Expectancy (PE) as the most powerful predictor of technology adoption, its features and impact in the context of the CL are still disjointed and under-researched. This paper fills this gap by performing a systematic literature review (SLR) of 27 peer-reviewed articles to summarize the key features of PE and assess their influence on consumer intention to use CL. The results revealed that PE has a direct and significant impact on CL adoption. Further analysis revealed five attributes of PE, including Cost-Effectiveness, Flexibility/Convenience, Reliability/Trust, Sustainability, and Speed/Timesaving. Most referred attributes within literature were Flexibility/Convenience and speed/timesaving, but the beneficial effect of these main attributes are fully dependent on the underlying level of trust and reliability. The study contributes theoretically by unpacking PE into a hierarchy of key attributes that explain how consumers evaluate performance in CL. In practice, it offers important lessons to platform developers and researchers, highlighting that encouraging speed and cost-saving is not enough without initially establishing transparent and reliable systems to ensure service integrity.

Keywords: Crowd logistics, Crowdshipping, E-commerce, Last-mile Delivery, Performance Expectancy, User Intention.

I. INTRODUCTION

The unprecedented rise in e-commerce over the past decade has reorganized the consumer buying behaviour and generated a new wave of demand on the part of fast, reliable, and adaptable delivery services ([Mihaila et al., 2021](#); [Viu-Roig & Alvarez-Palau, 2020](#)). As Figure 1 below indicates, the sales in global retail e-commerce have shot up and are expected to surpass USD 7 trillion by 2026 ([Popupsmart, 2025](#)). This influx has resulted in an enormous strain on last-mile logistics, which according to [Gayani Bopage, 2019](#) up to 53% of total logistics expenditure and has turned out to be a determining element in consumer satisfaction as well as competitive edge. The traditional delivery systems have been burdened with continuous problems such as high cost, congestion, and scalability issues, and sustainability issues ([Lim et al., 2018](#)). These inefficiencies have fuelled the search of more innovative solutions in the last mile, and one solution that is also called crowd logistics (CL) is crowdshipping that has proven to be one of the most disruptive approaches.

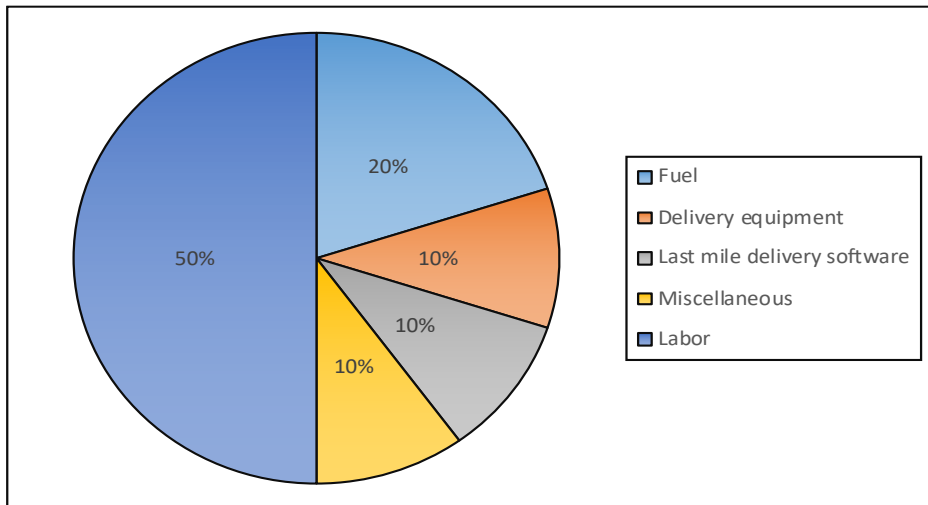
Figure 1. Global e-commerce sales growth



Sources by: (Popupsmart, 2025)

A further analysis of the costs reveals that labour is the main contributor to last-mile costs, then fuel and other operating factors, including equipment and software ([TrackoBit, 2025](#)) (see Figure 2).

Figure 2. Breakdown of LMD



Sourced by: (TrackoBit, 2025)

Crowdshipping leverages underutilized transport capacity by engaging occasional courier individuals already traveling along delivery routes to fulfil parcels through digital platforms ([Gdowska et al., 2018](#)). The potential of the model would contribute to save up to costs, improve flexibility across demand peaks, and help to establish sustainable logistics in the cities by reducing freight emissions are emphasized in the successful examples of crowdshipping platforms ([Gdowska et al., 2018](#)). Despite its promise, the adoption of crowdshipping is still in a fragmented state and the acceptance by the consumers is not clear yet. The issues of trust, reliability of the service, risk and courier

professionalism still pose a challenge to its large-scale adoption ([Hashem, 2025](#); [Liu et al., 2024](#))

Researchers usually resort to the Unified Theory of Acceptance and Use of Technology (UTAUT) to comprehend the forces that influence consumer adoption of new digital logistics platforms ([Venkatesh et al., 2003](#)). In this context, the strongest predictor of intention to adopt technology is always described as Performance Expectancy (PE) that can be defined as the extent to which users believe that they will improve their performance using a system ([Dwivedi et al., 2022](#)). Within the framework of the concept of crowdshipping, PE can also have such characteristics as perceived efficiency, saving on time and money, convenience of the services, their reliability, and even their sustainability. However, there is no systematic investigation of how these properties of PE are involved in consumer intention to use CL. The existing body of literature is mainly fragmented by region or is generally broad in its offerings to share-economy platforms, not isolating the dynamics that are unique to LMD. It is in this light that the present paper aims to fill these gaps by undertaking SLR on PE and its application in the formation of intention to use CL. The specific objectives of the study are:

RO1: To identify and filter the most critical attributes of PE that influence intention to use CL.

RO2: To evaluate the impact of PE on shaping intention to use CL

This research study contributes to two aspects. theoretically, it contributes to the body of knowledge on adoption by integrating and organizing the characteristics of PE within the emerging field of CL, offering a conceptual map of how PE influences intention. Practically, it provides insights for gives understanding for logistics companies and online store platforms who are interested in creating consumer-centric, effective, and sustainable last-mile services. This review establishes the basis upon which future empirical investigations may be conducted and contributes to the overall advancement of scalable CL in the world by elucidating the part played by PE.

II. LITERATURE REVIEW

A. Theoretical Foundation: UTAUT and PE

The concept of technology acceptance has been a major concern of information systems, and models like TAM, TPB, and IDT have provided partial explanations to user behaviour. To harmonize these disjointed beliefs, UTAUT and its consumer-based online extension UTAUT2, merge their major determinants into one order and one that is holistic([Venkatesh et al., 2003](#)).

UTAUT recognizes four behavioural intention predictors and use behaviour: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC). Of them, PE has been the strongest predictor of various technological settings ([Dwivedi et al., 2022](#); [Marikyan & Papagiannidis, 2021](#); [Venkatesh et al., 2003](#)). PE in consumer contexts is considered to denote optimism that a system is able to bring real, material advantages, which is an increased convenience, time, efficiency, or general improvement in day-to-day tasks ([Venkatesh et al., 2003](#)). The PE is a higher-order construct, which factor in the perceived usefulness of TAM, relative advantage of IDT, and outcome expectations of Social Cognitive Theory ([Marikyan & Papagiannidis, 2021](#)) and explains new and innovative platforms quite well. Its power has proven in the enterprise systems, digital platforms, mobile applications, and industrial solutions like smart manufacturing ([Kim et al., 2023](#)). It is still one of the most important factors in the adoption of social commerce ([Amofah & Chai, 2022](#)), and it is the central question of the user What benefit does this bring to me?

This role is supported by recency empirical investigations. PE is a strong predictor of intention in e-commerce online freight forwarding ([Pinyanitikorn et al., 2024](#)), cloud storage use ([Altes et al., 2024](#)), COVID-19 safety applications ([Nunes et al., 2022](#)), German super apps ([Hasselwander & Weiss, 2025](#)), and the use of metaverse in e-commerce ([Pillai et al., 2024](#)). In these regions, PE attributes, which include productivity, time savings, cost savings, and convenience, are constantly a cause of adoption. Considering such a strong evidence base, PE offers an appropriate and conceptually sound basis upon which the consumer adoption of new last-mile solutions can be studied. UTAUT thus provides a powerful analytical prism to this review because in the case of CL, the appeal of the user is predetermined with providing more efficient, less costly, and more reliable services.

B. Performance Expectancy in Digital Platforms and Ecommerce

The achievement of digital platforms in the SE and the development of e-commerce is well-proven to be attributed to the role of PE. The speed of adoption by consumers increases when platforms are more efficient than any traditional alternatives, and this is why operators are constantly increasing value propositions. The case of Uber extending the delivery of foods and parcels to clients is the illustration of how platforms enhance the perceived usefulness and convenience ([Hasselwander & Weiss, 2025](#)). On this basis, the design of digital platform focuses on minimising transaction frictions, minimising search costs and maximising service quality as a way of maximising PE.

The same can be said about the adoption of e-commerce. Shoppers have been chased out of the traditional retail store by convenience, time-saving, and cost-effectiveness, and empirical research indicates that PE, which is measured in terms of convenience and access to reduced prices, has a positive impact on online purchase intention ([Amofah & Chai, 2022](#); [Yang et al., 2023](#); [Zhang et al., 2023](#)). Even under omnichannel models, PE has the most significant predictive power of shopping intention ([Jayasingh et al., 2022](#)). In addition to the overall online shopping, PE influences the usage of more sophisticated features; in particular, AI-driven recommendation systems are accepted, as people find them efficient and useful ([Cabrera-Sánchez et al., 2020](#)).

In general, the studies about online sites and online-based commerce have always revealed that customers are driven by the anticipation of physical performance returns, which are efficiency, convenience, and cost-saving. These results support PE as the main predictor of technology use and can be utilized as a strong theoretical foundation to assess its applicability to LMD and the crowd shipping scenario.

C. Performance Expectancy in LMD and Crowd shipping

The Last-mile delivery (LMD) is the most important aspect of the e-commerce value chain, whereby the virtual aspect of the expectations will be met by the physical one. So, when delivery is not up to the mark even a smooth online shopping experience can be ruined which shows that PE is not confined to the digital space but extends to the logistics process. LMD thus is a direct test of realisation of promised efficiency, reliability and convenience.

Even though PE has not been heavily investigated in the field of logistics, the available research divides it into attributes that are useful to users. ([Zhong et al., 2022](#)) differentiate between delivery speed and delivery reliability in the UK market and discover that reliability is the more powerful predictor of intention, which is much more concerned with the speed in the industry. The same tendencies are observed in new

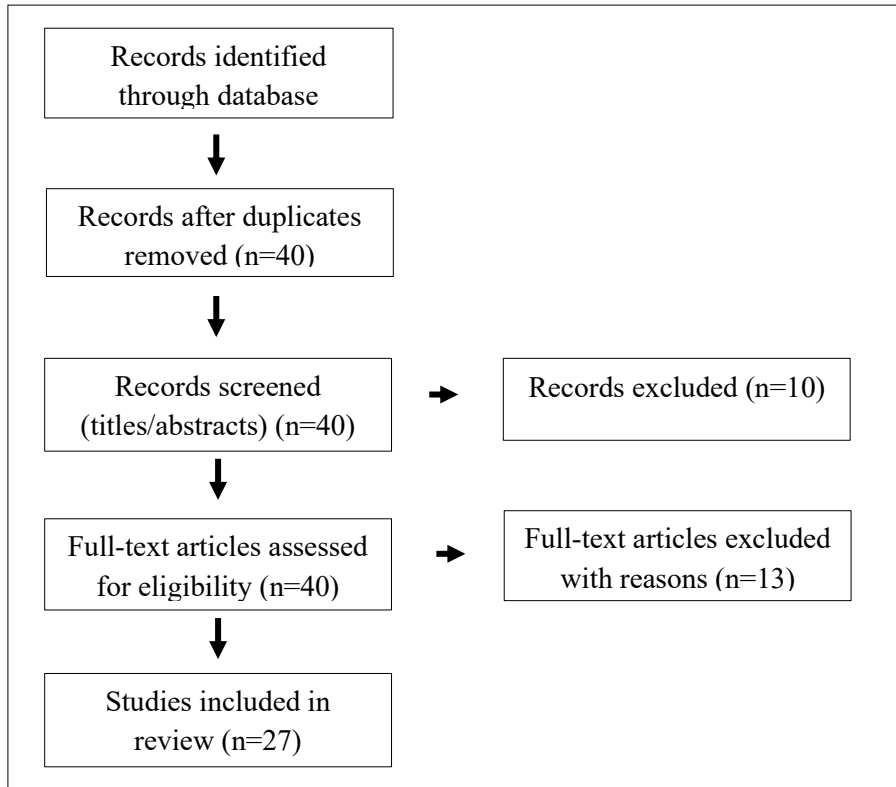
delivery technologies. In drone delivery research, it was demonstrated that perceived efficiency and productivity are the factors of adoption and consumers are more interested in the practical benefits of their deployment than in technological innovation ([Alhothali et al., 2024](#); [Schmidt & Saraceni, 2024](#)). In the case of autonomous delivery robots as described by ([Kaiser et al., 2024](#)), the greater the daily usefulness, the more acceptance is and vice versa, as employees also consider perceived efficiency to be the core of adoption ([Min et al., 2025](#)). Reliability, convenience, time, and cost savings become key drivers to acceptance in less radical types of innovation like parcel lockers ([Tsai et al., 2024](#)).

Crowd shipping (CL) extends these concepts by utilizing PE to a peer-to-peer delivery model over regular people that have become couriers. The model is quite flexible and could have some efficiency improvements over the conventional LMD, but it comes with a sword of uncertainty on the quality and reliability of the service. Here PE relies on the perception of the users that the system can deliver trusted, productive, and convenient results, which are qualities that have been continuously noted to be critical in last-mile solutions. As few studies focus on PE in CL research, knowledge in the e-commerce, digital platforms and LMD may be applied to this model. In all these fields, reliability, efficiency, convenience, cost-effectiveness, and trust are consistently used as the key performance attributes. Taken together, these results suggest that PE in CL is based on result-oriented expectations that represent the concept of last-mile success. This makes PE an appropriate and pertinent construct in the assessment of user adoption in the dynamic crowd shipping ecosystem.

III. METHODOLOGY

The current study uses a systematic review of the literature to summarize the latest results on the influence of PE in affecting the intention to use the crowd-based logistics services. Keywords including “Performance Expectancy,” “Ecommerce,” “Last-mile delivery,” “Crowd logistics,” “Crowd shipping,” and “User Intention,” were used to search academic databases like Emerald, MDPI, Wiley online, Taylor and Francis and ScienceDirect. Peer-reviewed journal articles published between 2019 and 2025 in English were restricted in the review. The studies were considered when they considered PE in the frames of technology adoption, logistics, or digital platforms. Sources and articles that were not peer reviewed and those which were not under the technology adoption field were rejected. The selection of the study was conducted in accordance with the PRISMA, which is described in the Figure 3. The database searched identified 50 records in the first place. The 10 duplicates were eliminated and 40 records screened referring to their titles and abstracts. The eligibility of all 40 articles was assessed on a full-text basis. Out of these, 13 were eliminated due to out of scope or lack of interest in technology adoption, The final selection was comprised of 27 pertinent studies that were thematically analysed to determine how PE has been defined, measured, and connected to intention to use.

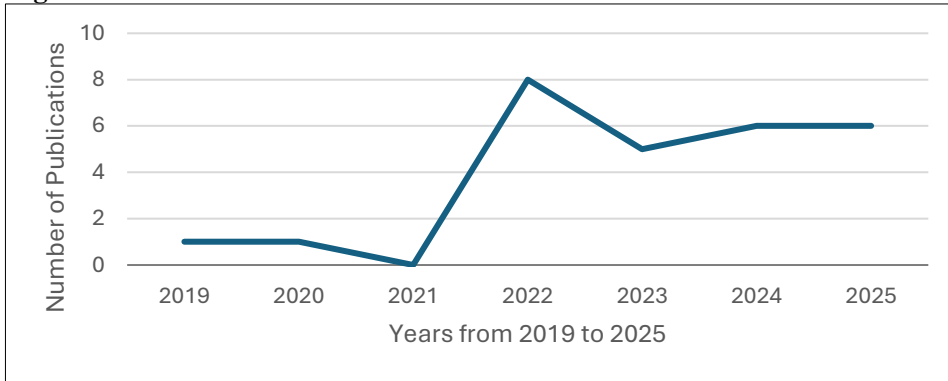
Figure 3. PRISMA flow diagram of the study selection process



Source: Authors' compilation.

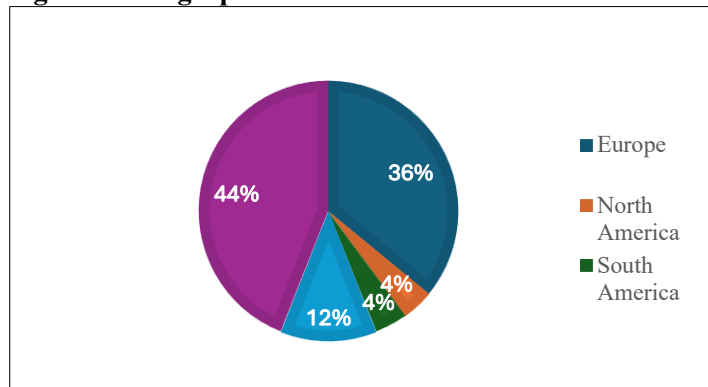
A. Descriptive findings of the Selected studies

1) Publication Trends and Journal Distribution: The 27 articles incorporated in this review were published in 2019 -2025, which indicates the modern and dynamic character of the given research sphere. The articles were published in a wide variety of quality journals, which stresses the interdisciplinary character of the subject, which intersects with logistics, information systems, marketing, and sustainability. The distribution of the year of publication as Figure 5 below depicts shows a gradual rise of academic interest than the earlier years. This tendency coincides with the rapid increase of online trading and the following need to find new solutions of last mile after the pandemic.

Figure 4. Annual distribution of included studies

Source: Created by the Authors

2) Geographical Distribution of Studies: A geographical analysis of the empirical studies shows that it is highly biased in terms of developed economies, as well as regions. As shown in Figure 5, the most researched settings were Asian settings, then the European markets. This distribution shows a huge research gap in the developed adoption drivers in the context of North America and South America.

Figure 5. Geographical distribution of the studies

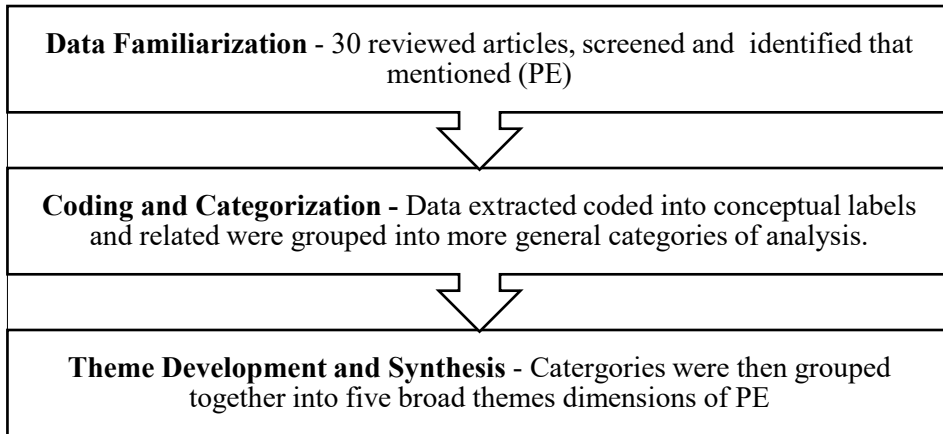
Source: Authors' compilation.

B. Analytical Technique: Thematic Analysis

To synthesize and interpret the results of the 27 reviewed studies, thematic analysis method was used in this paper. The qualitative synthesis approach is a systematic approach that identifies and systematizes repetitive concepts and thus enables a meaningful pattern to be extracted through previous literature ([Braun & Clarke, 2006](#)). The procedure was carried out in three systematic phases as evident in Figure 6, which ensured that the procedure was transparent and replicable:

Figure 6. The process of thematic content analysis

Source: Authors' complication.

**Table 2. Thematic Summary of Identified PE Attributes**

Code Category	Representative Keywords	Concepts Synthesized	Theme Interpretation.
Cost-Effectiveness (CE)	Reduced delivery price, optimal use of route, shared vehicles.	Affordability, economic gain, cost.	Users expect more tangible financial benefits from adopting CL
Flexibility / Convenience (FC)	Flexible scheduling, user control, real time matching.	Incidentally, on-command, flexibility.	Perceived ability to customize delivery timing and methods.
Sustainability (SUS)	Eco-friendly, carbon reduction, shared motility	Route optimization, Emission reduction	Environmental benefits motivate users with strong sustainability orientation
Speed/ Time Saving (ST)	Fast Delivery, immediacy, responsiveness	Quick fulfilment, reduced waiting time	Faster delivery Enhances perceived performance and convenience
Reliability / Trust (RT)	Professionalism of courier service, brand reliability, secure delivery.	Reliability, safety, trustworthiness	Confidence in the integrity of the platform and accountability of couriers themselves.

Source: Authors' complication.

IV. RESULTS AND DISCUSSION

A. Results

This review conducted a synthesis of 27 peer-reviewed articles to determine the fundamental qualities of PE and the role it has in determining intention to use CL.

ROI: Identifying Critical PE Attributes

The review indicates that there is a widespread opinion that PE in the given case is framed in terms of five key attributes. The Cost-Effectiveness, and lowering the cost of delivery due to the shared capacity of transport is one of the key drivers ([Bortolini et al., 2022](#); [Gdowska et al., 2018](#)). As the model involves the use of non-professional couriers, Reliability & Trust becomes a decisive factor in the reliable and secure service ([Hashem, 2025](#); [Zhong et al., 2022](#)). Moreover, Sustainability by reduced emissions and more environment-friendly routes becomes one of the driving forces and distinguishing factors among the eco-friendly customers ([Bortolini et al., 2022](#); [Schmidt & Saraceni, 2024](#)). Then leading to the crowdshipping value proposition is Flexibility/Convenience or rather the opportunity to adjust the delivery time and adjust the services to the personal routine ([Alhothali et al., 2024](#); [Zennaro et al., 2022](#)). Lastly, the perceived value of the pledge of quicker and more immediate deliveries is also a strong basis of perceived value ([Amofah & Chai, 2022](#); [Lee et al., 2019](#)). In order to give a clear picture of the scholarly focus, Table 2 captures a summary of these five key PE attributes that were present in the 27 articles that were used in this review.

Table 3. Distribution of Key PE Attributes Across Reviewed Studies

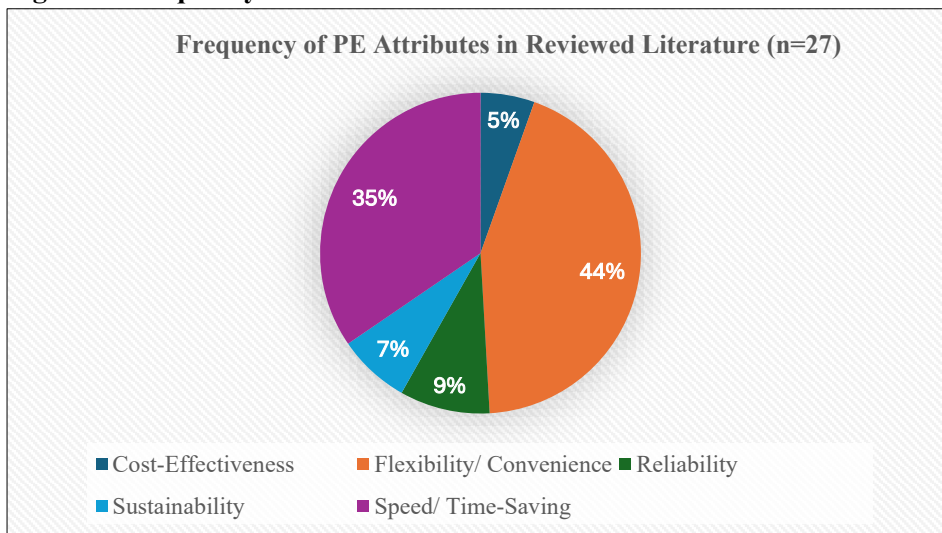
No.	Author (Year)	CE	FC	RT	SUS	ST
1	(Alhothali et al., 2024)		✓			✓
2	(Zhong et al., 2022)			✓		✓
3	(Amofah & Chai, 2022)		✓			✓
4	(Zhang et al., 2023)		✓			
5	(Kaiser et al., 2024)		✓			✓
6	(Kim et al., 2023)		✓			✓
7	(Zennaro et al., 2022)					
8	(Bortolini et al., 2022)	✓		✓	✓	✓
9	(Sarker et al., 2025)		✓			✓
10	(Naruetharadhol et al., 2023)		✓			✓
11	(Hasselwander & Weiss, 2025)		✓			✓
12	(Higuera-Castillo et al., 2023)		✓			
13	(Hashem, 2025)		✓	✓		✓
14	(Marikyan & Papagiannidis, 2021)		✓			
15	(Cabrera-Sánchez et al., 2020)		✓			✓
16	(Bekos et al., 2025)		✓			

17	(Lee et al., 2019)		✓			✓
18	(Pinyanitikorn et al., 2024)		✓			✓
19	(Owusu et al., 2022)		✓			
20	(Pillai et al., 2024)		✓			✓
21	(Tsai et al., 2024)	✓	✓	✓	✓	✓
22	(Nunes et al., 2022)		✓			
23	(Cano et al., 2022)	✓	✓	✓	✓	✓
24	(Schmidt & Saraceni, 2024)		✓		✓	✓
25	(Yang et al., 2023)		✓			✓
26	(Jayasingh et al., 2022)		✓			✓
27	(Min et al., 2025)		✓			

Source: Authors' complication.

As illustrated in Table 2, Flexibility/Convenience and Speed/Timesaving are the most frequently cited attributes, appearing in 44% and 35% To quantify the scholarly focus on each attribute, the frequency of their occurrence across the 27 studies was calculated. The distribution, visualized in Figure 7, reveals a significant concentration of research interest. Flexibility/Convenience and Speed/Timesaving emerge as the most extensively examined attributes.

Figure 7. Frequency of PE attributes in reviewed literature



Source: Authors' complication.

The following are the attributes identified through the thematic analysis, highlighting how they shape users' PE and adoption intention.

1) Cost-Effectiveness: One commonly mentioned benefit of crowdshipping is the ability to lower the delivery expenses through utilizing existing travel routes and the unused capacity. This cost-effectiveness is not one of the accidental positive outcomes but a fundamental cause of consumer adoption intention. Other studies, like ([Bortolini et al.,](#)

2022) and (Gdowska et al., 2018), also affirm that consumers are driven by the assurance of reduced costs in comparison to traditional logistics solutions. The latter is confirmed by the fact that one of the main reasons why people become a part of the crowdshipping model as occasional drivers is the possibility of economic compensation, which highlights the cost-saving mechanism at the core of the model (Bortolini et al., 2022). This emphasis on cost-reduction is a direct reaction to an inherent pain-point in the logistics of modern e-commerce when the last-mile portion is infamously the most costly, of the overall shipping costs and introducing a considerable obstacle to profitability and sustainability in the logistics of the modern e-commerce model (Cano et al., 2022). The correspondence to the concept of price value provided by UTAUT2 (Marikyan & Papagiannidis, 2021) highlights the fact that the success of crowdshipping will probably be based on its ability to provide the actual savings that can be sensed and believed by the consumer.

2) Flexibility and Convenience: PE characteristics such as flexibility and convenience are significantly important in CL because it is an on-demand and decentralised model. Crowdshipping allows deliveries to fit the personal time schedule, unlike conventional delivery that is scheduled, which is one of the main elements of PE, including real-life utility and better performance of tasks (Alhothali et al., 2024; Hashem, 2025; Kaiser et al., 2024). This is supported by the results of e-commerce, in which the beliefs that a platform can help with more efficient shopping and time savings have a strong impact on intention (Naruetharadhol et al., 2023). Similar studies in the field of social commerce indicate that the perceived ease and speed of task completion is a core element of PE that affects the attitude of users (Sarker et al., 2025). E-commerce research also shows that flexibility in shopping, a chance to do it anywhere and anytime, without traveling and queues, is a significant benefit of opportunity cost and a direct force behind the adoption of online shopping (Higuera-Castillo et al., 2023). The greater flexibility in goods reception attracted the attention of most of the potential users in Northern Italy, thus revealing the perceived usefulness of the adaptation of deliveries to the personal schedule, which is the characteristic feature of CL (Bortolini et al., 2022). Similarly, (Kaiser et al., 2024) indicate that the perceived usefulness and daily productivity increase indicate the acceptability of automated delivery solutions. Nevertheless, to provide flexibility, it is not only necessary to have a digital interface; it is also necessary to have organisational preparedness to transition between traditional logistics and decentralised (crowd-based) systems (Bekos et al., 2025). Greater evidence of e-commerce supports the central PE drivers that include convenience and time savings with significant differences on intention (Amofah & Chai, 2022). Another feature of CL conceptual frameworks is the focus on offering very personalised delivery experiences (Zennaro et al., 2022). Face-to-face appeals to consumers enhance notions of convenience, and this phenomenon is a conclusive power in the adoption of last mile.

3) Reliability and Trust: The question of reliability is also a significant issue in CL since the model relies on non-professional couriers, which questions the ability of the model to achieve the same consistency as the traditional logistics. PE is directly related to reliability and trust, and the perceived lack of reliability is highly associated with the unwillingness to utilize CL, especially because of privacy and the safety of parcels (Bortolini et al., 2022). It has been demonstrated in social commerce research that trust is a key determinant of attitudes and adoption behaviour (Sarker et al., 2025), and (Bortolini et al., 2022) also find that users choose to use CL services provided by well-known logistics brands due to their expectations of better quality and responsibility of service behaviour. Digital platforms also require trust to continue existing in a more general way considering the fact that safe and reliable transactions are fundamental to retaining

users ([Cano et al., 2022](#)). ([Hashem, 2025](#)) also sees trust as an independent predictor of intention which shows its importance in addition to the usual elements of performance. According to ([Sarker et al., 2025](#)), anxiety, which was defined as a negative emotion in social commerce, can be increased in CL, where the risk is exacerbated by the fact that ordinary couriers are used. Moreover, ([Zhong et al., 2022](#)) demonstrate that the importance of reliability is stronger than speed in the adoption of express delivery, and CL platforms must build a positive reputation and reliable performance before the users adopt it.

4) Sustainability: Another aspect of PE in crowdshipping is that it has the perceived environmental advantage. Crowdshipping can be seen as greener alternative to traditional logistics since it helps to reduce unnecessary trips and capitalize on the already established travel. Research shows that sustainability can go as far as to be more of a motivational factor to adopt in some consumer groups ([Bortolini et al., 2022](#)). This follows a significant change in the research landscape with the environmental sustainability of e-commerce, in this case within the logistics context, becoming a dominant and urgent outcry theme due to negative externalities of greater urban congestion and pollution by delivery vans ([Cano et al., 2022](#)). This view places the concept of crowdshipping in the context of more general studies that emphasize sustainability as a performance metric when it comes to logistics innovation ([Cano et al., 2022](#)). What it means is that crowdshipping services that proactively explain their environmental advantages can enhance consumer attitudes towards performance that is not necessarily related to the economic side.

5) Speed: Also, a subtle feature in the crowdshipping scenario. Although there is some evidence that speed does not affect it as strongly as reliability ([Zhong et al., 2022](#)), the nature of the tool that allows more direct, route-based deliveries is still interesting. Such a possibility is highlighted by ([Gdowska et al., 2018](#)), who state that everyday travellers might offer faster services in some cases. Consumers are aware of this opportunity, and a significant part of the people surveyed has identified shorter delivery time as one of the reasons that would make them use a crowd-based service over the traditional one ([Bortolini et al., 2022](#)). Such conventional PE values as time savings and faster task completion can be employed here as well ([Amofah & Chai, 2022](#); [Lee et al., 2019](#)). Time-saving is an established theme of various e-commerce research; in fact, studies of platform adoption have found the belief that a service can save time to purchase to be a central determinant of behavioural intention ([Naruetharadhol et al., 2023](#)). This need to be efficient in time is also supported by the current research on digital commerce, where PE, which is defined by features such as the use of technology to make the system fast in order to enhance performance, is one of the predictors of how users behave significantly ([Sarker et al., 2025](#)). The empirical evidence of this is provided by ([Kaiser et al., 2024](#)), whom measurement of the PE specifically covered an item that states that the using autonomous delivery vehicles would assist getting things done faster, which proves that the time-saving is one of the core components of how consumers measure the performance of new delivery methods. Therefore, speed does not seem to be the major factor of adoption, but it is a valuable ancillary factor that will affect the overall performance perceptions.

Crowdshipping redefines PE by taking all the traditional qualities of this service like cost-effectiveness, convenience, reliability, and speed and sustainability. This hybrid renders it unique in comparison to traditional LMD patterns. Nevertheless, the literature tends to analyse them individually, resulting in a partial knowledge of the most decisive

of them in determining consumer intention. It is essential to fill this gap to assess the long-term sustainability of crowdshipping both by scholars and practitioners.

RO2: Evaluating the Impact of PE on CL

Empirical research has a great evidence that PE has a direct impact on the intention of consumers to adopt CL. ([Bortolini et al., 2022](#); [Hashem, 2025](#)) demonstrate that an increased usefulness perceptions, convenience, and overall performance expectations can contribute significantly to willingness to use CL, which is in line with the broader technology acceptance literature in which PE is the most significant predictor of intention ([Marikyan & Papagiannidis, 2021](#); [Venkatesh et al., 2003](#)).

The survey by ([Bortolini et al., 2022](#)) in Northern Italy mentions the lower environmental impact as one of the main motivators of positive expectations, which is in line ([Cano et al., 2022](#)), stating that environmental sustainability has become a central factor in the logistics of e-commerce. Another essential PE characteristic that is frequently employed in e-commerce and the sharing economy is cost-effectiveness ([Amofah & Chai, 2022](#); [Hasselwander & Weiss, 2025](#)). Although a lot of respondents attached importance to speed, ([Zhong et al., 2022](#)) show that speed only helps PE in case service dependability is guaranteed. According to ([Hashem, 2025](#)), PE is the strongest predictor of intention and has Trust as an independent predictor of adoption. These results are consistent with ([Bortolini et al., 2022](#)), who demonstrate that reliability issues are one of the key obstacles and users tend to prefer the platforms supported by well-established logistics brands because they perceive them as more responsible. Other last-mile technologies, including the ones involving parcel lockers ([Tsai et al., 2024](#)) and drone delivery ([Schmidt & Saraceni, 2024](#)) are no exception and reliability is consistently considered to be a necessary aspect. PE is also enhanced by the flexibility, in particular, customisation to personal schedules. It is a much treasured feature of CL ([Bortolini et al., 2022](#)) and a well-known powerful predictor of intention in more general e-commerce research ([Higueras-Castillo et al., 2023](#); [Naruetharadhol et al., 2023](#)).

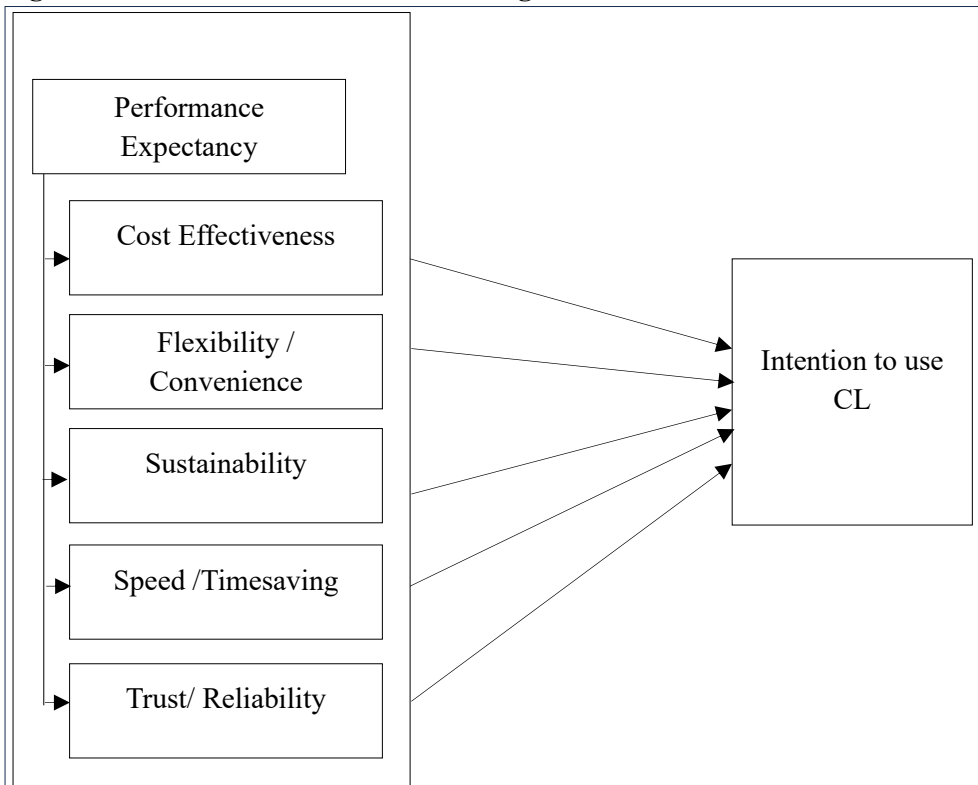
Overall, the data prove that PE directly and significantly impacts CL adoption. The most potent predictors of positive performance expectations are Convenience and Flexibility which provide more control than conventional LMD ([Higueras-Castillo et al., 2023](#); [Naruetharadhol et al., 2023](#)). PE is improved by time-saving but less affected when the issue of service consistency is involved ([Zhong et al., 2022](#)). Trust and Reliability are essential PE qualities defining the level of trust that users will have in the service and high levels of empirical evidence support Trust as an independent predictor of intention ([Bortolini et al., 2022](#); [Hashem, 2025](#)). PE is also supported by Sustainability and Cost-Effectiveness, making it meet the environmental and economic demands ([Bortolini et al., 2022](#); [Cano et al., 2022](#)). Altogether, the reviewed literature demonstrates PE has a hierarchy of attributes that affect CL adoption, which is headed by Convenience and Flexibility, backed up by Timesaving, and supported by Trust and Reliability and enforced by Sustainability and Cost-Effectiveness. In the case of CL platforms, this translates to the fact that efficiency, convenience, and speed must be promoted in tandem with effective and reliable service delivery to fulfil the expectations of the users.

V. THEORETICAL AND PRACTICAL IMPLICATIONS

A. Theoretical Implications

The results support the UTAUT hypothesis that PE is the greatest predictor of behavioural intention (Venkatesh et al., 2003). This review increases the applicability of the UTAUT to the SE, in which the success of service delivery relies on non-professional couriers, by implementing this theory in a high-uncertainty, peer-to-peer logistics environment. The thematic content analysis of 27 peer-reviewed articles has developed five central dimensions of PE in CL as flexibility/convenience, timesaving, reliability/trust, sustainability, and cost-efficiency, as the PE is represented as a multidimensional construct based on the expectations of performance value and less on technological novelty, by users.

Figure 8. CF of PE dimensions influencing intention to use CL



Source: Created by the Authors

These five dimensions have been combined in the CF (Figure 8) to demonstrate how PE as a factor facilitates intention to adopt CL, which agrees with the postulation of UTAUT that perceived performance is a direct cause of user acceptance. The contribution of this review is thus conceptual because it explains the way PE works in CL, as well as creating a hierarchy of performance attributes that informs the decision of users.

Based on the thematic content analysis of 27 peer-reviewed studies, this review identified five dimensions that make PE in CL include cost-effectiveness, flexibility/convenience, reliability/trust, sustainability, and speed/timesaving. These dimensions point to PE being a multi-layered construct indicating the expectations of tangible, outcome-based benefits by users, as opposed to the novelty of technology.

B. Practical Implications

In practice, the results indicate that CL platforms need to focus on performance enhancements that are of most importance to users. Increasing perceived usefulness through more flexibility, convenience, and time-saving features may be useful, but these advantages are never persuasive unless platforms prove their reliability and trustworthiness in the long term. To satisfy the expectations of users about the quality of services the operators should invest in open procedures, reliable tracking, and open accountability systems. Aligning service design to these PE attributes, CL providers will be able to increase user confidence, enhance the adoption rates, and facilitate the sustainability of the crowd-based delivery systems in the long-run.

VI. CONCLUSION

This systematic review used PE as a central factor to determine the adoption of CL and 27 peer-reviewed studies were thematically analysed using content analysis, which identified five major dimensions, namely, flexibility/convenience, timesaving, reliability/trust, sustainability, and cost-effectiveness. The synthesis proves that PE has a strong and direct effect on intention to use CL. The family feature of flexibility and convenience comes out as a dominant factor, and timesaving contributes to an increased perceived usefulness. Credibility and dependability comprise critical bases of performance appraisals, whereas sustainability and economical Ness enhance the general value anticipations.

The theoretical contribution of the research is the adaptation of UTAUT to a peer-to-peer logistic setting, and the practical one is the emphasis on the fact that successful CL systems should provide efficient, reliable and easy to use services. The perfected conceptual model (Figure 8) sums up the way all these PE dimensions influence intention, providing directions to any researcher and practitioner aiming at progressing sustainable CL models.

VII. LIMITATIONS AND FUTURE RESEARCH

This review has the limitation of being geographically focused as most studies are European and Asian based, and access to certain publications. Future studies ought to be conducted in other places where CL is being adopted and use qualitative research to get more information on users. It is also suggested that the updated CF should be empirically tested, especially with detailed validation and analysis methods like structural equation modelling that can be used to test and refine the multidimensional set up of PE in CL.

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