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Digitalization of Urban Transport Modelling Commuter Acceptance and the Adoption of the Chennai One App

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Abstract

Rapid advancement in the digital adoption of transport systems in cities calls for more study on what will keep users continuing to use the mobile transit app in the long run. This paper studies the commuter acceptance and the post-adoption behavior towards Chennai One App, a multimodal application developed for Chennai city in India, based on the ECM and TAM using a proposed enhanced model for assessing the Continuance Intention (CI). App Quality is modeled as a second-order construct comprising Perceived Ease of Use, Perceived Usefulness, and System Quality alongside Trust as primary antecedents. A quantitative method collected data from 384 Chennai commuters, analyzed via Structural Equation Modeling (SEM). The results indicate that App Quality significantly influences Confirmation ($\beta = 0.887$, $p < 0.001$), while Trust has a positive effect on User Satisfaction ($\beta = 0.461$, $p < 0.001$). Further, Confirmation ($\beta = 0.453$, $p < 0.001$), ($\beta = 0.354$, $p < 0.001$) has a positive effect on user satisfaction and Continuance intention. User Satisfaction ($\beta = 0.557$, $p < 0.001$) significantly predicts continuance intention. These findings highlight that while technical performance forms the foundation of user experience, satisfaction and trust play a decisive role in sustaining long-term usage. Findings demonstrate that while technical performance provides the foundation for user experience, satisfaction and trust play decisive roles in sustaining long-term usage. Trust serves as a major factor in high-risk digital environments, with confirmation of expectations and post-adoption satisfaction acting as critical drivers of continuance intention. To maximize digital service delivery and promote user loyalty, this study offers evidence-based insights to urban transport authorities and app developers, facilitating the shift toward a digitally integrated urban transport ecosystem.

Keywords: Digitalization, Urban Transport, Chennai One App, Expectation-Confirmation Model (ECM), Technology Acceptance Model (TAM), Continuance Intention, Structural Equation Modeling (SEM).

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Introduction

The Chennai transport system reached a milestone in 2025 by officially launching the "Chennai One" single ticketing application for commuting using different modes of transportation (Rithik et al., 2025; Khan et al., 2023) by M.K. Stalin, Chief Minister of Tamil Nadu, on 22nd September 2025. The mobile app that underwent trials for many months aims to bring in a seamless commuting experience for travelers in the city (Chowdhury et al., 2023). This app works as a journey planner for a commuter and offers multiple options of commuting, including buses, Chennai Metro Rail services, suburban trains, and autos (Selvi et al., 2025; Balasundaram et al., 2023; Sivaneswari & Karthigeyan, 2023).

An average of 47 lakh travelers in the city commute using different modes. CUMTA felt such an app could significantly benefit commuters if it could help to plan the daily travel and generate a single QR code ticket that can be used in all these modes. Subsequently, floated bids, awarded the contract for this building, and the app. Early this year, CUMTA started trials for the app before the launch on Monday.

The enormous growth of metropolitan cities propelled a demand for an integral solution (Palanichamy et al., 2023). The development of the Chennai One App represents a major step towards turning a city into a smart city as it consolidates data on multi-modal commuters into one interface (Rishikesh & Priyan, 2024). Nonetheless, successful digital transformation is measured not by the number of first-time downloads but by sustained user engagement. Studies show that users discontinue using apps shortly after initial use due to the expectations not being met.

For a better understanding of this phenomenon, scholars shifted from initial adoption theories like TAM to post-adoption theories like ECM. Confirmation of initial user intentions through Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), but it fails to consider the confirmation that arises after the usage. Consequently, we needed to study the commuter behavior using a combined TAM-ECM method, from first-time use to continuance intention.

Too much research on mobile wallets and ridesharing in India, but there is a lack of research regarding single transport applications like the Chennai One App (Machavarapu et al., 2025). Trust and System Quality as antecedents to the confirmation in digitalization of urban transport have been less explored. This research concentrated on this gap by modeling a robust model that demonstrates the influence of app quality and trust on the intention of Chennai's commuters to continue using the app.

A combined TAM-ECM model is essential to study commuter behavior; hence, the study adopted an integrated TAM-ECM model. The Technology Acceptance Model is widely applied to study the initial Technology adoption through Usefulness and Ease of use, and it primarily concentrates on first-time acceptance only and does not explain the continued usage of the system after experience. On the contrary, the ECM model explains the post-adoption by emphasizing Confirmation of expectation and User satisfaction as determinants of continuance intention. The success of public transport applications depends not only on initial downloads but also on continuous usage. Combining TAM and ECM provides a more comprehensive framework. Together, these make it possible for the experiment to account for any cognitive evaluation of the application's usability and any immediate post-experiment reactions that impact long-term usage. Therefore, the TAM-ECM framework is particularly suitable for studying the continuance intention in government digital mobility platforms such as the Chennai One app.

There are three primary contributions in the literature on digital public services and information systems in this study. First, it combines the Technology Acceptance Model and the Expectation Confirmation Model to explain both the initial adoption and continued use of a digital service within a single framework. The study defines App quality as a second-order construct that represents both usability and technical quality in the context of public transport applications. Third, by analyzing one mobile application in Chennai, the research gives empirical evidence from a government urban mobility system in a metropolitan city, an area that is underexplored in digital public services.

To examine these concerns, the following research questions were framed:

RQ1: How does app quality influence confirmation and satisfaction while using a public transport app?

RQ2: Does trust have any influence on satisfaction and commuters' continuance intention?

RQ3: How do confirmation and satisfaction impact commuters' continuance intention?

The structure of the paper is as follows: Section 2 contains the review of literature, and Section 3 contains the development of hypotheses. Section 4 discusses the research methodology adopted and the measurement model.

Section 5 presents the results of the analysis. Section 6 discusses the research findings. Finally, section 7 conclusion contains policy implications, findings, and suggestions for future research.

Literature Review

The significance of usability, system performance, trust, and post-usage satisfaction in influencing sustained engagement has been emphasized in earlier research on the adoption of digital services. Research on integrated public transportation applications remains scarce, even though these constructs have been studied separately across mobile services (Jeganathan & Ramalingam, 2026; Dey & Chakravarty, 2024; Krishnamoorthy & Venugopal, 2025). The suggested TAM–ECM framework for the Chennai One application was developed by reviewing key factors influencing technology acceptance and intention to continue.

Perceived Ease of Use (PEOU) and Perceived Usefulness (PU)

Recent meta-analytic evidence confirms that PEOU is the fundamental of technology adoption, particularly through its channeled usage via perceived usefulness. In digitalizing public service circumstances, ease of use is expressed through clarity on the interface and low cognitive load. Perceived Usefulness (PU) represents the value of the system. Study demonstrates that PU is a strong predictor of continued usage. In public transport, PU is conceptualized by the efficiency of the application and less travel uncertainty. Nevertheless, the majority of current research looks at these factors in private or commercial digital platforms, which leaves the combined impact in integrated public mobility systems largely unexplored.

System Quality

It (SQ) indicates the technical quality of the app. IS success model identified that SQ is a significant antecedent of user satisfaction. Dimensions such as responsiveness and error-free transactions are important in service-centric platforms. For commuters, consistent performance during peak hours is important for a seamless experience. System Quality is the main component of the quality construct, but it was studied separately.

Trust

Trust is the user's faith in the safety of platforms. Previous studies highlight trust as a vital construct in the adoption of digital services when financial and non-financial credentials are involved. Beyond initial acceptance, studies confirm that trust significantly has a positive influence on User satisfaction and continues the usage. This element is especially important for applications in the public sector, where user perceptions go beyond technical functionality and are influenced by perceived transparency and institutional credibility.

Confirmation and User Satisfaction

Confirmation is the break between expected and actual performance. The most crucial element affecting post-adoption in mobile applications is confirmation. User satisfaction is directly impacted by this state. The most important predictor of continuation is satisfaction, which mediates the effects of trust (a combination of psychological and technological factors) and app quality. This element is especially important for applications in the public sector, where user perceptions go beyond technical functionality and are influenced by perceived transparency and institutional credibility.

Intention to Continue

Intention to continue is the outcome of the user's journey. Reviews prove that continuance intention is a multifaceted construct influenced by satisfaction, trust, and perceived value. For user retention in mobile applications, quality technology and post-usage assessments are important. In the Chennai One App, continuance reflects the commuter's willingness to use the application in the daily transit (Devaraj et al., 2020). For transport applications such as Chennai One, continuance intention reflects commuters' willingness to integrate the platform into the routine travel behavior (Ranjan & Sinha, 2025; Raj et al., 2023; Liu et al., 2025).

The Evolution of Adoption from TAM to ECM

The basic understanding of user behavior in Information Systems (IS) was confirmed by the (TAM) Model, which emphasizes Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) as the significant propellers of adoption. However, the adoption in the beginning does not guarantee long-term usage of the service. To have a better understanding of this, the ECM model was introduced, which focuses on post-adoption. A recent study suggests that integrating TAM and ECM is necessary to bridge the gap between download and discontinuance. Recent research suggests that integrating TAM and ECM provides a more comprehensive framework capable of explaining both initial acceptance and long-term engagement in digital service environments.

System Quality and App Excellence

The performance of a mobile application is the first factor of cognitive evaluation. From the IS Success Model, "System Quality" means technical trustworthiness, speed, and a stable interface. In the area of transit applications, a study found that for Indian urban commuters, technical quality is the strongest predictor of expectations (Sharda et al., 2022). Good app quality reduces the effort required to navigate transit. data, thereby facilitating the confirmation.

Within mobility applications, system performance is often the first dimension evaluated by users. The system quality can be defined as having reliability, velocity, and interface maintainability. Existing research on Indian urban commuters proves that it exerts a significant effect on expectation confirmation that leads to overall satisfaction through the IS Success Model.

The Role of Trust in Public E-Services

Trust is more than the technology in Chennai, based on one case in public transit. It also acts as an influence that decreases the sense of danger from online payment. This plays an important role for Indian commuters who are dependent on government applications for updating real-time position and payment purposes (Haldar & Goel, 2021). Users confirmed in the studies, with even system breakdowns; highly trusted people have still expressed satisfaction and comfort with its usability, indicating a strong emotional attachment with the application.

Satisfaction and Intention to Continue in Urban Mobility

Digital transformation's main objective is to achieve lasting user engagement in transport (Mohamed & Arunasalam, 2025; Deepa & Venkatesan, 2026). Study defined satisfaction as the difference between expectations and actual performance. Research highlights that satisfaction is not stable; it will change continuously with daily utility. For commuters, the intention to continuously use the Chennai One app is reached only when the app continuously provides values such as Usefulness and Satisfaction. For transport platforms, continued engagement depends on the consistent delivery of functional value and a positive user experience.

Although prior studies based on the Fred Davis TAM and ECM frameworks explain technology adoption and continuance separately, limited research has integrated these models in the context of government-provided urban mobility platforms in developing cities. Past studies examined private digital services and failed to study how technical quality, trust, and post-adoption influence commuters' continuance in public transport applications. This study addresses this gap by proposing an integrated TAM–ECM framework tailored to the Chennai One App.

Hypothesis Development

App Quality as a Second - Order Construct

The App Quality is a higher-order construct of three different first-order dimensions: Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and System Quality. Previous studies suggested that PEOU and PU jointly represent the user's effectiveness. These two variables are accompanied by System Quality, which demonstrates technical robustness. In integrated transit apps, this holistic quality is a prerequisite for users to confirm the expectations.

App Quality and Confirmation (H1)

App quality is a vital factor in user experience. According to the study, Commuters' initial expectations are validated by the app's stability and interface design. For the Chennai One App, if the application is free from bugs and convenient to navigate, the commuters will confirm that the decision to adopt the application was correct.

- **Key Argument:** The technical quality of the application fills the gap between expectation and service delivery.
- **H1:** Perceived App Quality positively impacts Confirmation.

Trust and Confirmation (H2)

Trust acts as an emotion in public e-services. Study claims that people view the app as reliable when believes the government is offering the service.

- **Key Argument:** Institutional trust provides the psychological foundation required for positive expectation validation.
- **H2**: Trust positively impacts Confirmation.

Confirmation, Satisfaction, and Usefulness (H3 & H4)

The ECM theory proves that satisfaction is the aftermath of confirmed expectations. Study illustrates that when an application performs as promised, it creates a positive emotion, i.e., satisfaction.

- **Key Argument:** Emotional contentment is positively impacted by Confirmation.
- **H3:** User satisfaction is positively impacted by Confirmation.
- **H4:** Perceived Usefulness is positively impacted by Confirmation.

Drivers of Continuance Intention (H5)

The vital part of the model links Satisfaction, Usefulness, and Trust to continuance intention. Study explains that usefulness is a logical motivator, and satisfaction is a habitual one. Trust reduces the risk of continued usage of digital platforms.

- **Key Argument:** Continuous usage is a result of both emotional and functional necessity.
- **H5:** Continuance Intention is positively impacted by User Satisfaction.

The model consists of a structured path. The starting point was app quality and trust, which is the commuter's first or most important Cognitive Validation or Confirmation. With the help of Confirmation, the belief of the Chennai One user about the 'usefulness' of the app or how it helps in the betterment of the 'satisfaction'. Finally, the user ended up on 'continuance intention '. The same flow has been indicated in the figure. It has been shown how a Chennai One app user can start off as an evaluator and transform into the most successfully adopted one.

Table 1: Summary of Research Hypotheses and Associated Theoretical and Empirical Support

Hypothesis No.	Path	Expected Sign	Primary Theory
H1	App Quality → Confirmation	(+)	TAM & IS Success Integration and ECM
H2	Trust → User Satisfaction	(+)	Trust-Risk & Affective Theory
H3	Confirmation → User Satisfaction	(+)	ECM
H4	Confirmation → Continuance Intention	(+)	Direct ECM Cognitive Link
H5	User Satisfaction → Continuance Intention	(+)	IS Continuance Theory

Table 1 outlines the five hypotheses of the present study together with the theoretical underpinnings for each hypothesis. Each pathway shows a hypothesized positive relationship, ranging from App Quality with Confirmation and the effect of Trust and Confirmation on User Satisfaction. It is also outlined how Confirmation and User Satisfaction become important drivers of Continuance Intention based on a plethora of integrated frameworks such as the TAM model, the ECM model, and IS Continuance theory.

Research Methodology

Research Design and Paradigm

This research is guided by positivism as its overall research paradigm. Also, research conducted will employ a deductive methodology. Such an approach was chosen for this particular study as the researchers are testing established theories within the research: namely, the Technology Acceptance Model (TAM) and the Expectation-Confirmation Model (ECM).

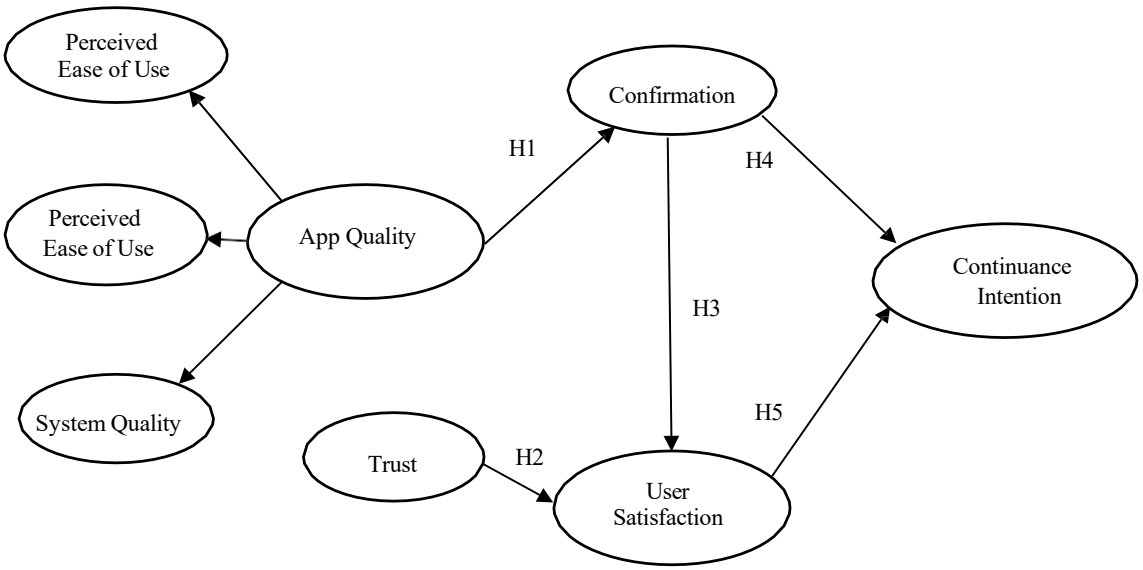

Fig. 1: Initial Research Model of Measurement Model with Hypotheses

Fig. 1 presents the final integrated TAM-ECM research model to understand the adoption of the Chennai One App by the commuters. The diagram shows that there are two layers of research; in the first layer, app Quality, is considered as the second-order latent variable with first-order constructs, viz., ease of use, usefulness, and system quality. Finally, the diagram exhibits the five basic hypotheses where App Quality positively relates to the Confirmation (H1); it further presents that Trust (H2) and Confirmation (H3) are positively related to User Satisfaction. Finally, the model links Confirmation (H4) and User Satisfaction (H5) to the ultimate outcome: Continuance Intention.

Sampling and Sample Size

The commuters in Chennai are the universe. Non-probability purposive sampling was applied to the sample experience using the Chennai One App. To ensure statistical power, 384 respondents were chosen by Cochran's analytical method, which is a representative sample in large or unknown populations at a 95% confidence level.

Measurement Scale and Validity

The Questionnaire was constructed using measurement items adapted from previously validated scales to ensure content validity and conceptual consistency. Minor modifications were made to the context of urban transport and mobile applications.

Perceived Ease of Use, Perceived Usefulness, and System Quality were used to operationalize App Quality as a second-order construct. Trust, Confirmation, User Satisfaction, and Continuance Intention were measured as first-order constructs. All items were assessed using a five-point Likert scale ranging from strongly disagree to strongly agree. Higher-order or second-order modeling of app quality was chosen. The second-order factor consists of perceived ease of use, perceived usefulness, and System quality as the first-order constructs. Perceived Ease of Use denotes the effortlessness of learning and cooperating with the application. Perceived usefulness demonstrates how much the application helps to efficiently plan travel. System quality represents the crash-free operation of the application and the real-time application of the service. Each first-order construct was measured using a validated scale. Each construct has four items.

To develop the survey instrument, the researchers utilized established, validated scales. Specifically, the measures for App and System Quality were drawn from prior studies. Additionally, the scale for Continuance Intention was modified as per work to counter/overcome Common Method Bias (CMB), such as taking protective action: ensuring confidentiality of the respondents, shuffling the survey questions, and providing clear instructions to restrict social desirability bias.

Data Analysis Strategy of Two-Step SEM

Structural Equation Modeling (SEM) in AMOS was selected as the methodology employed because the study was composed of a range of different latent constructions and also contained higher-order and mediator constructions. SEM is appropriate for structural estimation, including simultaneous estimation of the validity of measurements, since SEM is used for the validation of integrated models. Path analysis suggested that it was beneficial to undertake

the study in two stages: (i) through evaluation of the measurement model for evidence of the measurement quality and validity of constructions, i.e reliability and (ii) through testing of the structural model to establish relationships amongst and between the suggested constructions.

Results

Measurement Model Evaluation

Confirmatory Factor Analysis was carried out to assess the reliability of items and the validity of constructs. Internal consistency was explored via composite reliability values of 0.70 or greater. Convergent validity was confirmed through standardized loadings above 0.70 and average variance extracted of 0.50 or higher. Discriminant validity was explored via the HTMT ratio, whose values below the accepted value suggest good levels of separation between constructs.

Structural Model Testing

The structural model was examined to test for support of the proposed hypotheses following assessment of measurement validity. Common indices (Chi-square/df ratio, TLI, RMSEA, and CFI) were utilized to evaluate model fit. To determine whether each hypothesized relation was supported, the significance tests, standardized path coefficients, and significance values were analyzed.

Table 2: Construct Reliability and Validity

Factors			FL	IR	Delta	AVE	Sum of FL	Sum of Delta	CR
Perceived Ease of Use	<---	App Quality	0.931	0.867	0.133	0.875	2.806	0.375	0.955
Perceived Usefulness	<---	App Quality	0.956	0.914	0.086				
System Quality	<---	App Quality	0.919	0.845	0.155				
PEOU4	<---	Perceived Ease of Use	0.986	0.972	0.028	0.972	3.943	0.113	0.993
PEOU3	<---	Perceived Ease of Use	0.985	0.970	0.030				
PEOU2	<---	Perceived Ease of Use	0.988	0.976	0.024				
PEOU1	<---	Perceived Ease of Use	0.984	0.968	0.032				
PU4	<---	Perceived usefulness	0.982	0.964	0.036	0.965	3.930	0.139	0.991
PU3	<---	Perceived usefulness	0.980	0.960	0.040				
PU2	<---	Perceived usefulness	0.983	0.966	0.034				
PU1	<---	Perceived Usefulness	0.985	0.970	0.030				
SQ4	<---	System Quality	0.983	0.966	0.034	0.970	3.939	0.121	0.992
SQ3	<---	System Quality	0.987	0.974	0.026				
SQ2	<---	System Quality	0.985	0.970	0.030				
SQ1	<---	System Quality	0.984	0.968	0.032				
TR4	<---	Trust	0.976	0.953	0.047	0.951	3.901	0.196	0.987
TR3	<---	Trust	0.973	0.947	0.053				
TR2	<---	Trust	0.975	0.951	0.049				
TR1	<---	Trust	0.977	0.955	0.045				
CF1	<---	Confirmation	0.988	0.976	0.024	0.975	2.962	0.076	0.991
CF2	<---	Confirmation	0.988	0.976	0.024				
CF3	<---	Confirmation	0.986	0.972	0.028				
CI1	<---	Continuance Intention	0.989	0.978	0.022	0.981	2.971	0.058	0.994
CI2	<---	Continuance Intention	0.991	0.982	0.018				
CI3	<---	Continuance Intention	0.991	0.982	0.018				
US1	<---	User Satisfaction	0.992	0.984	0.016	0.983	2.975	0.050	0.994
US2	<---	User Satisfaction	0.991	0.982	0.018				
US3	<---	User Satisfaction	0.992	0.984	0.016				

Table 2 shows the results of the reliability and validity analysis conducted on the research model using Confirmatory Factor Analysis, listing down measurement criteria such as factor loadings (FL), Average Variance Extracted (AVE), and Composite Reliability (CR) to assess the latent constructs like App Quality, Trust, and User Satisfaction. As AVE values are above 0.50 and CR measures are above 0.70, it demonstrates a strong sense of the consistency within the internal construct and good evidence of the convergent validity for the proposed measurement model.

Table 3: Discriminant Validity of HTMT Ratio

Constructs	PEOU	PU	SQ	TR	CF	US	CI
PEOU	N/A	0.322	0.870	0.873	0.891	0.890	0.892
PU	0.822	N/A	0.851	0.863	0.877	0.876	0.877
SQ	0.870	0.851	N/A	0.835	0.850	0.855	0.856
TR	0.873	0.863	0.835	N/A	0.777	0.768	0.771
CF	0.891	0.877	0.850	0.577	N/A	0.686	0.693
US	0.890	0.876	0.855	0.868	0.786	N/A	0.894
CI	0.892	0.877	0.856	0.671	0.799	0.694	N/A

Table 3 presents the Heterotrait-Monotrait (HTMT) ratio in terms of discriminative validity for the study's constructs: Perceived ease of use, Perceived usefulness, System quality, Trust, Confirmation, User satisfaction, and Continuance intention. By demonstrating that all HTMT values fall below the established cutoff of 0.90, the analysis confirms that the latent constructs are sufficiently distinct from one another, thereby verifying the discriminant validity of the measurement model.

CFA Model Fit

Confirmatory Factor Analysis was used to evaluate the hypothetical model. The analysis exhibits a good fit. The indices in the figure below confirm that it can be used for further structural model analysis.

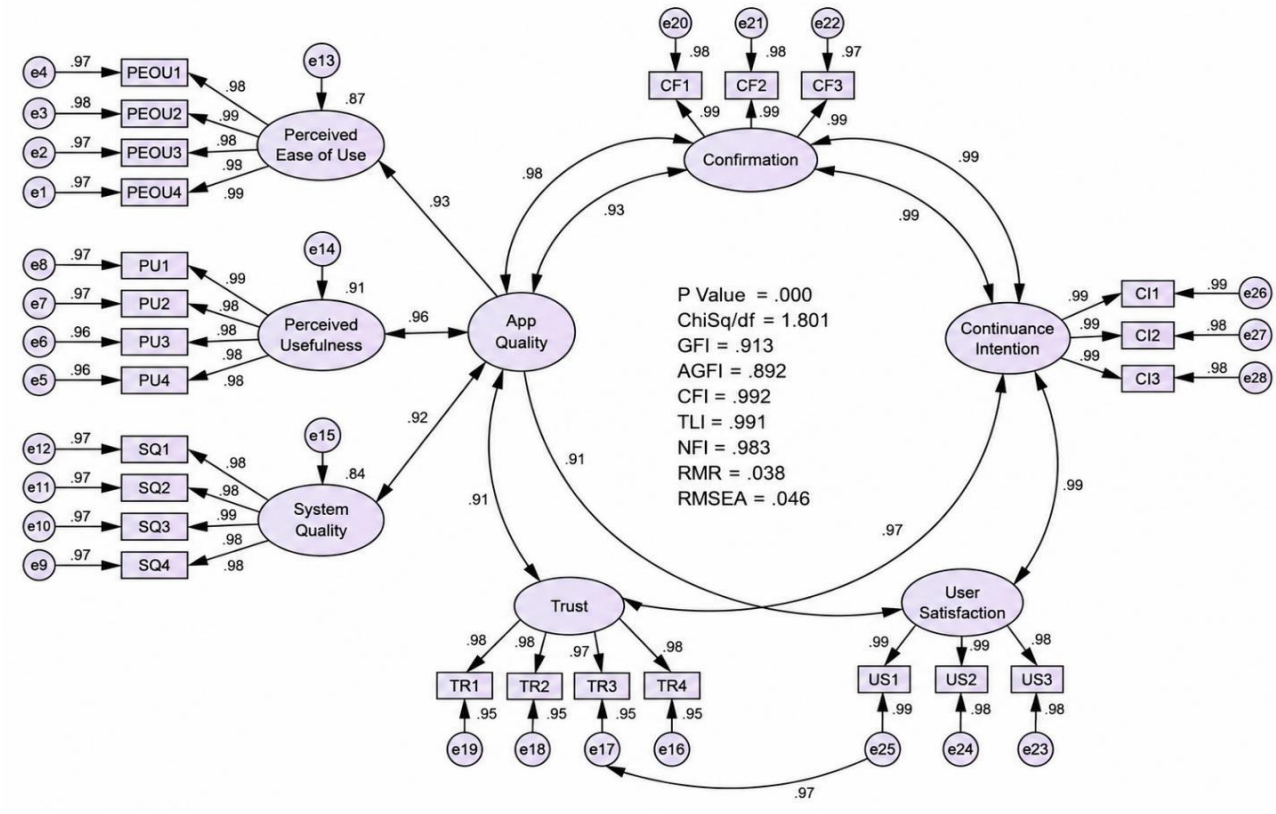

Fig. 2: CFA Model with Standardized Loadings

Note: The figure presents standardized path coefficients for the measurement model.

Fig. 2 represents the Higher-Order Construct (HOC) of app quality and its relationship with the other five first-order construct latent variables. All standardized loadings are above the threshold of 0.70, and the second-order paths from App quality to respective first-order constructs are statistically significant. The double-headed arrows represent the covariances between the latent constructs, which were analyzed to ensure discriminant validity.

Table 4: Results of Hypothesis Testing: Commuter Acceptance and Adoption

CONSTRUCTS			B	β	C.R.	*p* Value	Result
Confirmation	<---	App Quality	2.124	0.887	10.99	0.001*	Supported
User Satisfaction	<---	Trust	0.535	0.461	10.431	0.001*	Supported
User Satisfaction	<---	Confirmation	0.469	0.453	10.225	0.001*	Supported
Continuance Intention	<---	Confirmation	0.413	0.354	7.578	0.001*	Supported
Continuance Intention	<---	User Satisfaction	0.627	0.557	11.918	0.001*	Supported

* Denotes Significant at the 1% level.

Table 4 presents the structural model's hypothesis testing results, evaluating the causal relationships between constructs such as App Quality, Trust, Confirmation, User Satisfaction, and Continuance Intention. All five proposed paths show statistically significant positive effects ($p < 0.001$), confirming that App Quality drives Confirmation, while Trust and Confirmation influence User Satisfaction, which in turn significantly predicts Continuance Intention. Consequently, all hypotheses proposed in the model are empirically supported.

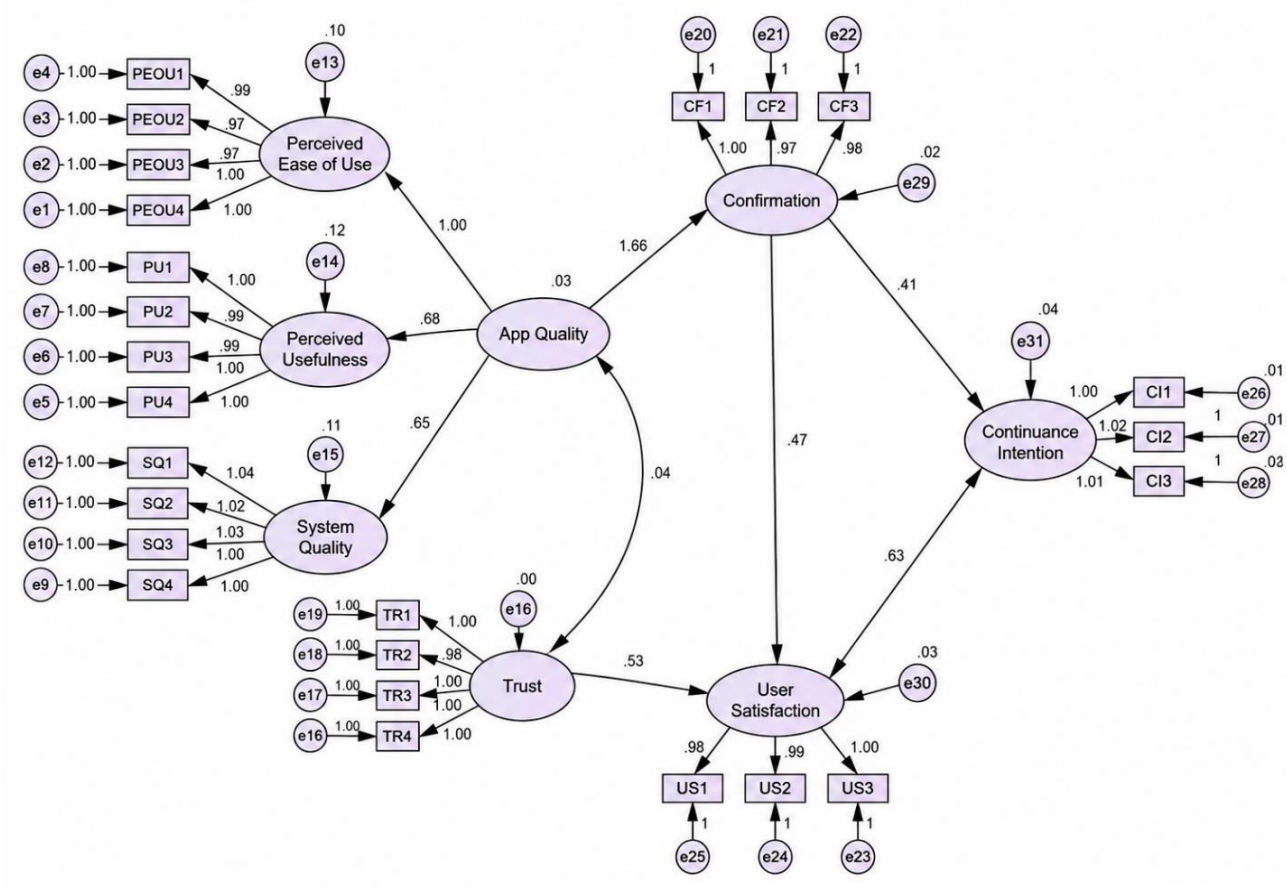

Fig. 3: Structural Model of Commuter Acceptance and Adoption

Fig. 3 provides a graphical view of structural models to examine commuter acceptance and adoption. It depicts the paths and standardized coefficients of latent constructs, depicting how app quality affects perception and how confirmation and satisfaction act as core predictors for continuance intention. The hypothesis structure used in the Chennai One App study

Table 5: Model Fit Indices

Indices	Value	Suggested Value
Chi-square value	548.115	N/A
DF	268	N/A
P value	0.353	>0.05
Chi-square value/df	2.045	<5.00
GFI	0.906	>0.90
AGFI	0.910	>0.90
NFI	0.978	>0.90
CFI	0.989	>0.90
RMSEA	0.052	<0.08

Table 5 summarizes the Model Fit Indices assessed for the structural model for fit against the data collected. Based on the available information, the values obtained for model fit indices are found to be within permissible limits. This concludes that the TAM-ECM model is using appropriately explains the acceptance and adoption behaviour of commuters to use the Chennai One app. By showing several model fitting indices that include, Chi-square/df ratio (2.045), GFI (0.906), CFI (0.989), RMSEA (0.052), this table goes ahead to clearly mention that all threshold values required to qualify the model goodness of fit have met thereby validating structural model in the terms of accepting proposed model for current dataset, hence there is good fit to the proposed model for the existing dataset which makes the research conclusion statistically valid.

Discussion

The app quality propels commuter acceptance and adoption. The path from app quality to confirmation (H1: B=2.124, β=0.887, CR=10.99, *p*=0.001) proves that the technical performance and ease of use are absolute prerequisites for meeting user expectations. App quality is the propeller of cognitive confirmation. This result aligns with the research of (Sharda et al., 2022; Haldar & Goel, 2021). The app quality is the dominant driver of cognitive confirmation. Trust and confirmation contributed almost equally to user satisfaction (H2: B=0.535, β=0.0.461, CR=10.431, *p*=0.001, H3: B=0.469, β=0.453, CR=10.225, *p*=0.001). The finding implies users must feel confident about data privacy and security. This aligns with prior studies, emphasizing that trust and confirmation are emotional anchors in digital public services. Using (H4: B=0.413, β=0.354, CR=7.578, *p*=0.001 & H5: B=0.627, β=0.557, CR=11.918, *p*=0.001), projects that the user satisfaction (H5) was a more powerful predictor of continuance intention than direct confirmation (H4). This suggests a mediation effect. While commuters logically confirm that the app is useful, it is emotional satisfaction that ensures that commuters will use the 'Chennai One' app again tomorrow.

Furthermore, app quality has a massive B (2.124). This indicates app quality is not just significant, but it is the engine of the entire model. App quality and trust mediate confirmation and user satisfaction. Confirmation and user satisfaction mediate continuance intention. As shown by the hypotheses, it has been identified that an increase in app quality and user satisfaction will increase the intention to continue using the 'Chennai One' app.

Current research confirms previous research findings related to post-adoption within digital platforms for transport. As the ECM proposes, it appears that confirmation affects user satisfaction and usage intentions significantly. This result is also comparable to other research in mobility and public service applications that find that the perception of the performance of the system, in combination with confirmation, impacts how users are retained by the system.

In this context, the observed dominance of user satisfaction in predicting the continuance intention of this study thus reinforces previously conducted works by Viswanath Venkatesh and future work suggesting that while users can perform functional evaluations, emotional reactions to system output are highly salient in the determination of continuing to interact. Moreover, the effect of trust in this work conforms with research in the area of public digital services that confirms institutional credibility to be a key driver in fostering trust among users and therefore encouraging continuance.

However, this research differs from previous ones, which are almost limited to private mobility platforms or e-commerce platforms, because it takes the multimodal public transportation system, integrated with the government, as its scope of research. Such an environment suggests that both technical reliability and institutional trust are valuable, and to this ecosystem, customers are willing to continue to use its mobility service not only because of the user-friendliness, but also because of the legitimacy of the service providers.

Managerial Implications

The findings provide key insights to enhance digital transit app adoption for the Greater Chennai Corporation (GCC) and the transport department. The app quality has a strong influence on confirmation. Developers must ensure the Chennai One app maintains technical performance free from glitches, which directly reduces the commuter's cognitive confirmation, leading to less satisfaction. Trust positively influences satisfaction, so the authorities should emphasize the app as the official and verified source of government. Focusing on commuters' emotional user experience and offering personalized features turns a functional application into a daily companion.

Limitations and Scope for Further Studies

One limitation of the study is the sampling procedure. The present research employed non-probability purposive sampling to collect data. Generalization of the result is an issue; hence, future research can make use of probability sampling. The scope of the study is limited to Chennai, a metropolitan city; the findings cannot be generalized to other cities. Future studies may adopt a comparative study across multiple Cities to validate the TAM-ECM model.

Furthermore, the structural equation model depicted high explanatory power; the moderating variables, such as age, gender, or frequency of travel, are not included. Future research could study how demographic variables moderate relationships. Finally, the future direction may be expanded to include other factors, such as privacy risk, which may play an important role in the digital service platform.

Conclusion

This research analyzed commuter adoption and continuance intention regarding the "Chennai One mobile application by integrating the Technology Acceptance Model (TAM) and the Expectation-Confirmation Model (ECM). The structural model analysis confirms that App Quality serves as a critical driver of Confirmation ($\beta = 0.887$, $p < 0.001$), while Trust ($\beta = 0.461$, $p < 0.001$) and Confirmation ($\beta = 0.453$, $p < 0.001$) significantly impact User Satisfaction. Furthermore, User Satisfaction ($\beta = 0.557$, $p < 0.001$) and Confirmation ($\beta = 0.354$, $p < 0.001$) are identified as significant predictors of Continuance Intention. The findings demonstrate that technical performance is the foundational pillar of user experience, while Trust acts as a vital emotional anchor in high-risk digital public service environments. The empirical validation of the relationships indicated that ensuring institutional credibility in tandem with the technical quality of the system will ensure user stickiness over time. Looking forward, limitations of the current study include the use of non-probability-based sampling and a geographical boundary for this research, namely Chennai, which restricts the ability to generalize results from this empirical study across multiple urban areas. Future research needs to use a probability-based sampling technique and extend the comparative study across some metro cities to validate the TAM-ECM model. In addition to this, future researchers can investigate with moderators including some common demographic moderating variables namely age, gender and frequency of travel and further the model can be enhanced by using a number of secondary factors which will directly or indirectly influence intention and usage like privacy risk, security issue and others so as to explain greater share of variance in intention and usage. Keeping these factors in mind, Chennai can serve as the ideal city as a model of digital public transport service integration.

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