1. **Related Works**

According to Bausch and Mesarovic (2018), motorcycle taxis offer an affordable and flexible transportation option, especially in congested urban areas. They provide an efficient means of navigating through traffic and reaching specific destinations quickly. Motorcycle taxis are often more cost-effective than traditional four-wheeled transportation choices, such as taxis and jeepneys, making them accessible to a wider range of commuters.

According to El-Geneidy and Grimsrud's study (2010), they found that traditional taxis in Nairobi, Kenya, tend to be expensive and can experience delays due to traffic congestion. On the other hand, the existing jeepney system operates on fixed routes, which may not cater to passengers' specific door-to-door destinations, thus hindering efficient mobility within the city.

The researchers aimed to understand the characteristics and operation of motorcycle taxis within the context of Addis Ababa's transportation system. They investigated various aspects, including the usage patterns, pricing mechanisms, and passenger preferences associated with Ride Hailing, according to Tilahun and Levinson (2017).

According to Zou, Yang, and Zhou (2021), several factors play a crucial role in user adoption, including convenience, cost-effectiveness, reliability, service quality, and trust in the platform. The research highlights that users value the convenience of booking rides on-demand, the affordability compared to traditional transportation modes, and the reliability of ride-hailing services. Additionally, users' perceptions of service quality and trust in the platform are significant determinants of their adoption and continued usage.

The researchers aimed to understand the various factors that impact users' intention to adopt and use ride-hailing services. They explored factors such as perceived usefulness, perceived ease of use, perceived risk, price sensitivity, and social influence, Ratha and Satapathy (2020).

According to Chen and Zhang (2021), that users highly value the convenience of on-demand booking and the flexibility of travel arrangements provided by ride-hailing services. The pricing structure and affordability were considered crucial factors in determining users' perceived value. Additionally, users' perception of service quality, including the condition of vehicles, driver behavior, and overall customer experience, significantly impacted their perceived value. The ability to rate drivers and provide feedback also contributed to users' overall satisfaction and perceived value.

The research conducted by Widjaja and Fanti provides valuable insights into the pricing and matching aspects of ride-hailing platforms. While their study focuses on general ride-hailing platforms, the findings can be relevant for understanding and improving motorcycle taxi ride-hailing services by considering effective pricing and matching strategies, Widjaja and Fanti (2020).

Their findings reveal that perceived usefulness and perceived ease of use significantly influence users' intention to use ride-hailing services. The convenience and efficiency provided by ride-hailing services are considered crucial factors in users' decision-making process. Additionally, factors such as perceived risk, price sensitivity, and social influence play a role in shaping users' attitudes and intentions towards ride-hailing services, Han, Li, and Liu (2020).

The findings of the study reveal that factors such as perceived convenience and cost-effectiveness significantly influence users' adoption of ride-hailing services. The ability to book rides on-demand, the affordability compared to traditional transportation options, and the overall convenience of using ride-hailing services play a crucial role in users' decision to adopt them. Additionally, factors such as service quality, social influence, and trust in the platform also contribute to users' adoption of ride-hailing services, Cheng, Tang, and Huang (2020).

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**Motorcycle Transportation Services**: Explore the existing literature on motorcycle transportation services, their characteristics, advantages, and challenges. This could include topics such as the role of motorcycles in urban transportation, their popularity, and their potential for enhancing mobility in congested cities.

**Mobile Applications for Transportation**: Investigate the literature related to mobile applications designed for transportation services. This could involve examining the benefits of mobile apps in improving accessibility, convenience, and efficiency in transportation, as well as studying existing apps in the field.

**Travel Efficiency and Urban Mobility**: Examine literature on the concept of travel efficiency and how it relates to urban mobility. This may involve understanding factors that contribute to efficient travel, such as reduced congestion, optimized route planning, real-time information updates, and the role of technology in achieving these goals.

**Butuan City Transportation Landscape**: Look for literature specific to the transportation landscape of Butuan City. This could involve reviewing studies, reports, or articles that provide insights into the existing transportation infrastructure, challenges, and potential opportunities for improvement.

**User Experience and Acceptance of Mobile Applications**: Explore research on user experience and acceptance of mobile applications, particularly in the context of transportation services. This could involve investigating factors that influence user satisfaction, adoption rates, and the barriers or challenges to the successful implementation of mobile apps in transportation systems.

**Case Studies or Best Practices**: Examine case studies or best practices of similar mobile applications or technologies implemented in other cities or regions. This could provide valuable insights into successful strategies, potential pitfalls, and lessons learned in the field of mobile applications for enhancing transportation services.