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RESEARCH ARTICLE

ONLINE DISPUTE RESOLUTION (ODR) IN E-COMMERCE: EMPOWERING SUSTAINABILITY FOR SOCIETAL WELL-BEING

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Abstract

Online Dispute Resolution (ODR) has emerged as a crucial mechanism in e-commerce, providing efficient, cost-effective, and accessible solutions for resolving conflicts between consumers and businesses. This study conducts a systematic literature review (SLR) to examine the role of ODR in fostering sustainable economic growth and societal well-being through digital innovation. The paper explores key themes, including the effectiveness of ODR systems, consumer trust, regulatory frameworks, and the integration of artificial intelligence (AI) in dispute resolution.The findings highlight that ODR enhances consumer confide nce, reduces litigation costs, and promotes economic sustainability by ensuring fair and transparent conflict resolution. Additionally, AI-driven ODR platforms improve dispute resolution efficiency by automating case assessments and facilitating negotiations. The study also discusses challenges, such as cybersecurity threats, data privacy concerns,and regulatory inconsistencies.Furthermore,ODR significantly reduces the environmental impact of dispute resolution by minimizing physical travel and paper-based documentation, which aligns with the broader sustainability goals of e-commerce. By analysing existing literature, this research underscores the necessity for continuous advancements in ODR frameworks to support a sustainable digital economy. Future research should focus on enhancing AI capabilities, cross-border dispute resolution, and consumer protection policies. This study contributes to the discourse on digitalization's role in economic sustainability and societal well-being by advocating for an inclusive and innovative ODR ecosystem in e-commerce.

Introduction:-

The rapid digitalization of commerce has transformed consumer–business interactions, introducing both opportunities and challenges in dispute resolution. As e-commerce expands, conflicts involving transactions, product quality, and contractual obligations have become increasingly common (Li et al., 2023; Sampani, 2021). Traditional mechanisms such as litigation and arbitration are often costly, time-consuming, and inaccessible to many consumers

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(Ngcobo, 2024; Van Nam et al., 2022). To overcome these inefficiencies, Online Dispute Resolution (ODR) has emerged as a viable alternative that leverages digital platforms and emerging technologies such as artificial intelligence (AI) and blockchain to provide faster, fairer, and more cost-effective solutions (Ferreira et al., 2022; Simkova&Smutny, 2021). By automating negotiation processes and ensuring secure documentation, ODR enhances accessibility and consumer confidence while easing the burden on judicial systems (Arakelian et al., 2020; Gao& Liu, 2022).

Despite these advantages, the implementation of ODR encounters significant regulatory, technological, and ethical challenges, especially in cross-border disputes (Chen & Wang, 2022; Riepin, 2024). Private ODR systems offer efficiency but often lack enforceability, whereas state-run models face jurisdictional conflicts and procedural constraints (Sampani, 2021). The absence of a harmonized global regulatory framework and persistent cybersecurity and data privacy issues further hinder consumer trust (Van Nam et al., 2022). Addressing these challenges requires robust security measures, transparent governance, and international cooperation to ensure legitimacy and user confidence.Beyond dispute resolution, ODR also contributes to economic and environmental sustainability by minimizing litigation costs, reducing paper use, and eliminating the need for travel (Gao& Liu, 2022). Businesses that adopt ODR demonstrate responsible governance, enhancing both efficiency and brand reputation (Ferreira et al., 2022). However, as digital markets evolve, ODR must also respond to new issues such as AI bias, digital literacy gaps, and the scalability of its mechanisms (Ngcobo, 2024). Future research should focus on improving AI-driven decision-making, strengthening cross-border legal collaboration, and embedding ODR within broader digital governance frameworks to support sustainable and inclusive e-commerce (Rabinovich-Einy, 2021; Wing et al., 2021).

Methodology:-

This study employs a Systematic Literature Review (SLR) approach using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework to ensure a rigorous and transparent review process. The PRISMA model offers a unique benefit for authors in defining a straightforward research question, identifying inclusion and exclusion criteria, and examining a more extensive database of literature (Azril et al., 2018). There are three main steps through the systematic searching strategies: identification, screening, and eligibility. The search strategy involved using the keywords "ODR" OR "Online Dispute Resolution" AND "e-commerce" OR "Online business" to retrieve relevant literature from two major academic databases, Scopus and Web of Science (WOS). The initial search yielded 142 articles published between 2020 and 2024. After applying inclusion and exclusion criteria which focusing on peer-reviewed journal articles, journals, and authoritative reports discussing ODR's effectiveness, technological advancements, legal frameworks, economic impact, and environmental sustainability,17 articles were selected for in-depth analysis.

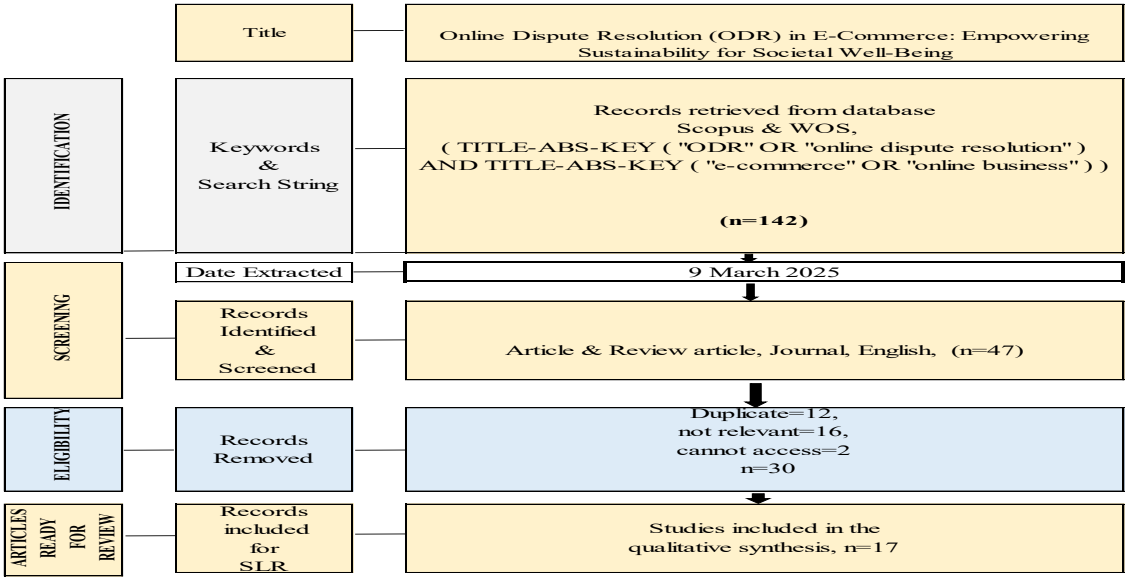

Figure 1.Flow Diagram of The Search Strategy

Source: Modified from PRISMA (Moher D, Liberati A, Tetzlaff J, Altman DG,
The PRISMA Group (2009).

Analysis and Results:-

Figure 2 categorized the papers according to the type of research approach. In terms of research approaches, 7/17 or 41.2% use the qualitative method. At the same time, only 35.3% or 6/17 of studies adopted the mixed-method. The remaining article 23.5% or 4/17 used a quantitative method to conduct the study.

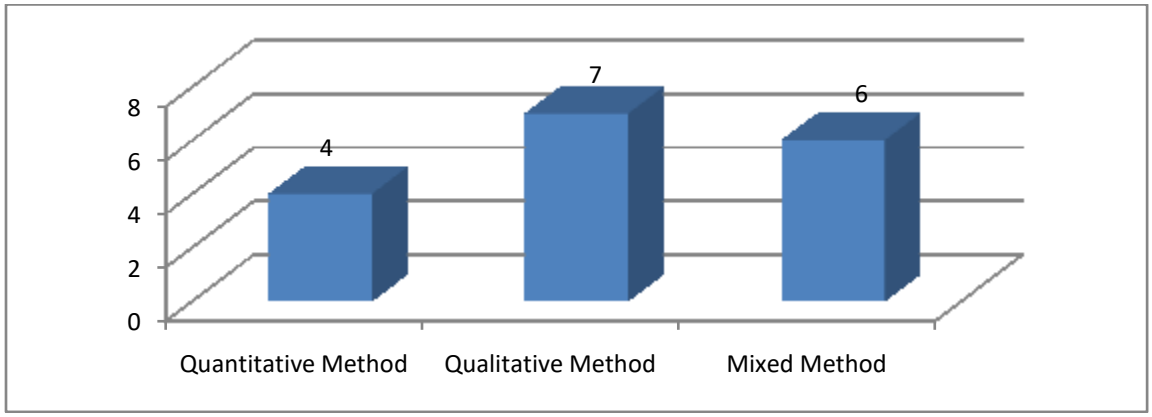

Figure 2. Papers by Type of Methodology

Findings indicate that ODR enhances access to justice by providing efficient and cost-effective dispute resolution, particularly in cross-border e-commerce transactions. AI-driven ODR platforms improve resolution speed by automating repetitive tasks and assisting mediators in decision-making. Additionally, block chain technology enhances transparency and security in ODR processes. Research by Li et al. (2023) highlights the differences between self-regulated and state-run ODR systems, suggesting that while private ODR is effective for routine disputes, public ODR provides better justifiability and enforcement. However, cross-border legal harmonization remains a challenge, as noted by Sampani (2021), who critiques UNCITRAL's failure to establish a universally accepted regulatory framework.

Key Themes in ODR Implementation:

Technological Integration and Efficiency:

Technological advancement remains the backbone of ODR implementation, yet scholars differ on its impact and limitations. Ngcobo (2024) and Van Nam et al. (2022) emphasize that automation through AI accelerates dispute handling by minimizing human intervention, thereby improving efficiency and accessibility. Similarly, Simkova and Smutny (2021) highlight that AI can assist in early-stage negotiation and prediction of fair settlements. However, Arakelian et al. (2020) caution that such automation may perpetuate algorithmic biases if training data or decision rules lack transparency. This concern aligns with Ferreira et al. (2022), who argue that efficiency alone should not override the principles of fairness and accountability in ODR systems.Blockchain technology has been widely praised for ensuring data integrity and transparency (Ferreira et al., 2022), but its implementation is not without contention. While Gao and Liu (2022) view blockchain as essential for trust-building and verifiability, Li et al. (2023) warn that excessive reliance on blockchain may introduce new challenges, including scalability and high energy consumption. A critical synthesis of these perspectives suggests that while AI and blockchain are indispensable for ODR efficiency, their ethical design, interpretability, and environmental impact must be considered to achieve a balance between technological advancement and social responsibility.

Regulatory Challenges and Cross-Border Legal Harmonization:

Regulatory diversity remains the most significant obstacle to global ODR adoption. Li et al. (2023) and Chen and Wang (2022) argue that private ODR systems, although agile and market-driven, often lack legal enforceability, particularly in cross-border disputes. In contrast, Riepin (2024) and Sampani (2021) highlight that state-run ODR mechanisms, while offering procedural legitimacy, are often hindered by rigid bureaucratic structures and conflicting jurisdictional laws. This dichotomy underscores a persistent tension between efficiency and enforceability.While some scholars, such as Sampani (2021), advocate for a top-down harmonization through

frameworks like UNCITRAL, others (e.g., Rabinovich-Einy, 2021) propose a bottom-up model, where regional collaboration and mutual recognition agreements serve as a more pragmatic pathway. The divergent perspectives reveal that regulatory harmonization cannot be achieved through uniform rules alone; it requires context-sensitive governance that accommodates cultural, legal, and institutional diversity. A hybrid model which is combining international principles with localized adaptationcould therefore provide a more sustainable route toward global ODR legitimacy.

Sustainability and Consumer Trust:
The integration of ODR also intersects with the global sustainability agenda. Van Nam et al. (2022) and Gao and Liu (2022) view ODR as a "green justice" mechanism that reduces carbon emissions by eliminating travel and paperwork. However, Ferreira et al. (2022) and Ngcobo (2024) argue that sustainability extends beyond environmental benefits to include ethical digital governance and user empowerment. They stress that without consumer trustparticularly regarding data privacy and AI transparency, ODR's potential will remain underutilized.
Critically, the literature presents two contrasting viewpoints on how trust should be cultivated. Ferreira et al. (2022) emphasize technological assurance, where transparent algorithms and secure data systems underpin confidence. In contrast, Ngcobo (2024) and Riepin (2024) emphasize institutional assurance, where regulation, oversight, and user education play the central role. A balanced approach is therefore necessary, one that integrates both technological safeguards and regulatory accountability.

Furthermore, while ODR supports environmental sustainability, it must also be positioned within the broader context of e-commerce's ecological footprint. As Gao and Liu (2022) note, the digital economy contributes to packaging waste and carbon emissions from logistics. Hence, ODR should be part of a comprehensive digital sustainability framework, linking dispute resolution with green logistics, ethical AI use, and responsible corporate governance.Overall, the literature reflects convergence on the transformative potential of ODR but divergence in the pathways toward ethical and regulatory maturity. While most scholars agree that AI and blockchain enhance efficiency, debates persist regarding their ethical design and accountability structures. Similarly, regulatory harmonization remains contested between centralized and localized approaches. Synthesizing these views, it becomes clear that the sustainability of ODR depends not only on technological advancement but also on ethical governance, adaptive regulation, and consumer empowerment. Future research should therefore prioritize cross-disciplinary collaboration among technologists, legal scholars, and policymakers to align ODR innovations with the principles of fairness, transparency, and sustainability.

Conclusion:-

The study underscores that ODR represents not merely a technological tool but a transformative framework for achieving fairness, accessibility, and sustainability in digital commerce. Theoretically, the findings contribute to the growing discourse on digital governance and regulatory pluralism by illustrating how technology-driven mechanisms can coexist with ethical and human-centred principles. ODR also advances the conceptual linkage between technological efficiency and socio-legal sustainability, offering a foundation for future models of cross-border dispute resolution.Practically, the analysis suggests that policymakers should prioritize the creation of adaptive regulatory ecosystems that support interoperability, data protection, and consumer trust. For ASEAN and other emerging digital markets, developing regional ODR guidelines aligned with international best practices will help balance innovation with accountability. E-commerce platforms, meanwhile, can enhance transparency and user confidence by embedding explainable AI systems and adopting blockchain protocols that ensure procedural integrity.

Future research should address persistent gaps, particularly regarding AI bias, ethical algorithm design, and the interoperability of ODR systems across jurisdictions. Comparative studies between public and private ODR platforms, as well as longitudinal assessments of user trust, would deepen understanding of ODR's evolving role in sustainable digital governance. Ultimately, the pursuit of ethical, efficient, and inclusive ODR systems will be central to realizing a resilient and trustworthy digital economy.

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