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AN INTEGRATED APPROACH TO ENHANCING THE HIRING PROCESS FOR COOLIE LABOURERS

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ABSTRACT

In our fast-paced digital age, numerous daily tasks such as booking services, making payments, and shopping are seamlessly facilitated through online platforms. However, a crucial aspect that remains overlooked is the efficient hiring of labor for various tasks at homes, workplaces, and public spaces. This research paper addresses this significant gap in the labor market, focusing on the lack of a proper system for hiring coolies or unskilled laborers. Both service requesters and laborers face numerous challenges, including inefficiencies in booking processes and difficulties in securing consistent daily employment. This study explores the traditional coolie hiring process, highlighting the inefficiencies and challenges that hinder both laborers and service requesters. It provides a detailed analysis of the current situations faced by coolies, such as the lack of reliable employment opportunities, and the difficulties service requesters encounter in finding dependable labor. By examining these issues, the paper aims to offer a comprehensive understanding of the dynamics within the labor market and the expectations of both parties involved. The research identifies critical aspects of the hiring process and key pain points, such as the absence of a streamlined booking system, lack of verification for laborer skills, and the need for a transparent rating system. It suggests practical improvements, including the development of a digital platform that can enhance efficiency, ensure fair wages, and provide a more reliable means of employment for coolies. The goal of this paper is to present a thorough analysis that can inform future strategies and policies aimed at improving the hiring process for coolie laborers. By addressing these challenges, the proposed digital platform has the potential to benefit both the workforce and those seeking their services, ultimately contributing to a more organized and efficient labor market.

Keywords: Coolie Labourers, Employment Expectations, Labor Market

Analysis, Labor Market Dynamics, Unskilled Labor

1. Introduction

The hiring process for coolie laborers, or unskilled laborers, has long faced several difficulties. Even though online platforms have improved many areas of life, the labor market for coolies remains unreliable and disorganized. Service requesters often find it hard to locate reliable laborers when needed, while coolies themselves struggle with inconsistent job opportunities, low wages, and a lack of job security. The traditional hiring process is marked by poor communication, a lack of transparency, and difficulties in matching the right laborers with the right tasks. These problems also include unsafe working conditions, unequal pay, and limited chances for coolies to develop their skills.

Although there are various digital platforms for different services, very little attention has been given to improving the hiring process for coolie laborers. There is a gap in research when it comes to understanding the unique challenges faced by this group and finding ways to improve the traditional methods of hiring them. This study aims to fill that gap by exploring how a digital platform could help address these issues.

This paper will focus on understanding the difficulties both coolie laborers and service requesters face in the current hiring system. It will also look into how a digital platform can make the hiring process easier, more transparent, and more reliable. By suggesting improvements, the study hopes to create better job opportunities for coolies and a smoother hiring experience for service requesters, providing useful insights for improving the hiring process and making it more efficient for all involved.

2. Literature Survey

The traditional hiring process for coolie laborers remains inefficient and lacks transparency, as highlighted by several scholars and reinforced by the findings from our survey conducted among a group of 60 individuals, including coolie laborers and service requesters. The survey revealed several key issues, including inconsistent employment opportunities, unfair wages, and challenges in verifying workers' skills. These findings reflect the power imbalances often present in informal labor markets, as described by Omidi (2023), who discusses the lack of autonomy and control those unskilled workers' experience. This concept informs the foundation of our study, suggesting that introducing a structured digital platform could help coolies secure fair wages and more stable employment opportunities by addressing these power dynamics.

Nussbaum (2003) also discusses the informal economy and the precarious nature of employment for unskilled workers, reinforcing what our survey participants highlighted laborers often lack job security

and protections. Nussbaum's analysis of informal labor markets supports our focus on formalizing the hiring process through digital solutions. By drawing from her work, we aim to propose a platform that safeguards worker rights while offering a transparent and secure system for both laborers and service requesters.

Our survey also identified a significant challenge in matching laborers with appropriate jobs, which mirrors findings from existing digital platforms like TaskRabbit (2024) and Urban Company (2014). These platforms successfully use skill verification systems and rating mechanisms to build trust between workers and employers, reducing inefficiencies in hiring. By integrating these best practices into a digital platform designed specifically for coolie laborers, our study hopes to address the hiring challenges identified through both literature and survey findings. Schor (1982) highlights similar issues in her analysis of the gig economy, where unskilled workers often face unfair treatment and wage insecurity. Her work reinforces the need for a platform that prioritizes ethical hiring practices, a core component of our proposed solution.

Standing's (2003) concept of the "precariat" aligns closely with our survey findings. Standing describes workers in precarious job markets who lack employment stability and face constant economic uncertainty, which is a common situation for coolie laborers. Our survey confirmed that these laborers often face insecure working conditions, inconsistent pay, and limited opportunities for career advancement. Standing's research strengthens the argument for a structured platform that can provide more secure job opportunities for coolie laborers, addressing the issues highlighted by both the literature and the survey.

Further, Omidi's (2023) study of the informal labor market in India shows that while such markets offer quick job access, they often lack long-term security and fair wages. This observation parallels the experiences shared by our survey respondents, who reported similar concerns about unstable work conditions and unfair pay. Kenya's gig economy, particularly platforms like Lynk, provides a structured approach to hiring but still struggles with issues like inconsistent job quality, according to recent studies. These examples offer valuable lessons for improving the coolie labor market, guiding the development of the platform we propose in this study.

Woodcock (2020) provides additional insight into how low wages and a lack of skill development contribute to the cycle of poverty for unskilled laborers. Our survey respondents echoed on these concerns, noting the need for more opportunities to improve their skills and increase their earning potential. By integrating training programs and skill verification features into the proposed platform, this study aims to address these challenges directly. The combination of findings from the literature and our survey demonstrates a clear need for a digital

platform that offers both job opportunities and pathways for skill development, thus improving both employment conditions and worker outcomes.

This literature review, combined with the insights gained from our survey, provides a comprehensive understanding of the challenges within the coolie labor market. Drawing on Omidi's HRM theories, Nussbaum's analysis of informal labor, and the practical examples of existing digital platforms, this study develops a methodology that addresses the gaps and inefficiencies in the current hiring system. Standing's concept of the "precariat" further underlines the importance of job security and fairness in labor markets, while Woodcock's focus on skill development highlights the potential for creating a more sustainable future for coolie laborers. Together, these sources and survey findings guide the development of a digital platform that is both academically grounded and practically relevant, offering real solutions to the problems faced by coolie laborers and service requesters.

3. Research Methodology

This study employs a mixed-methods research methodology to comprehensively analyze the hiring process and challenges faced by coolie laborers. Mixed-methods research combines qualitative and quantitative approaches, enabling a more robust and nuanced understanding of complex issues. The qualitative component of this study involves in-depth interviews and focus group discussions, aiming to capture the personal experiences and insights of coolie laborers and service requesters. The quantitative component utilizes surveys to gather broad, generalizable data on employment patterns, job satisfaction, and labor market dynamics. This combination allows for a detailed exploration of both individual narratives and larger trends, ensuring that the research findings are both richly contextualized and statistically sound. This methodology was chosen to provide a holistic view of the labor market, addressing both the micro-level experiences of individual laborers and the macro-level trends influencing the sector.

3.1. Research Design

This study employs a mixed-methods research design to thoroughly investigate the hiring process and challenges faced by coolie laborers. Mixed-methods research is chosen for its ability to integrate qualitative and quantitative data, providing a richer, more comprehensive understanding of the research problem. The qualitative component involves in-depth interviews and focus group discussions to capture detailed personal experiences and nuanced insights from coolie laborers, service requesters, and labor contractors. These qualitative methods allow for an exploration of the complexities and subtleties that define the everyday realities of the coolie labor market. The quantitative

component, on the other hand, uses structured surveys to collect data from a larger sample, enabling the analysis of broader patterns and trends. This dual approach ensures that the study addresses both micro-level individual experiences and macro-level labor market dynamics, offering a holistic view of the sector. The combination of these methods allows for triangulation, enhancing the validity and reliability of the findings by cross-verifying data from multiple sources. This robust research design is essential for developing a comprehensive understanding of the coolie labor market and formulating effective strategies to improve the hiring process and working conditions for laborers.

3.2. Data Collection and Sampling Techniques

To comprehensively understand the coolie labor market, a mixed-method approach was employed. Qualitative data was collected through in-depth interviews and focus groups with both laborers and service requesters to capture their experiences, perceptions, and challenges. This approach provided nuanced insights into the informal labor market dynamics and the socio-economic factors influencing laborer employment. Quantitative data was gathered via structured surveys distributed to a larger sample size, allowing for statistical analysis of trends, frequencies, and correlations within the labor market. This method facilitated the collection of measurable data on employment patterns, wage rates, and service demand. For sampling, a combination of purposive and random sampling techniques was used. Purposive sampling ensured the inclusion of key informants with significant experience in the labor market, while random sampling provided a broader, representative sample of the coolie laborer population. This mixed-method and multi-sampling strategy ensured a robust and comprehensive data set, enhancing the validity and reliability of the research findings.

4. Current Challenges in the Coolie Labor Market

The coolie labor market, particularly in developing countries, faces numerous challenges driven by socioeconomic factors, policy shortcomings, and labor market dynamics. To gain a better understanding of these issues, we conducted a small survey among 60 respondents, including both coolie laborers and service requesters. The survey results revealed several recurring themes, aligning with existing literature on the informal labor sector.

One of the primary challenges identified in the survey was the lack of job security and social protection for coolie laborers. Over 65% of the respondents reported working without formal contracts, leaving them vulnerable to wage theft, unsafe working conditions, and unfair treatment. These findings mirror Johnson's (2020) analysis of the

informal economy, which highlights the precarious nature of employment in this sector. Furthermore, gender and ethnic wage disparities were significant, with female and minority workers earning, on average, 30% less than their counterparts, a trend observed in previous studies on wage inequality (Santos, 2016).

Another key challenge raised by the survey is the issue of hazardous working conditions. Nearly 50% of the laborers reported working without proper safety gear, particularly in high-risk industries like construction. The absence of health and safety regulations not only jeopardizes worker well-being but also reduces productivity, as workers are more prone to injuries and illness. These findings reinforce the importance of ensuring proper safety standards, as discussed in previous literature, which calls for improved protective measures to enhance laborer productivity and safety (Omidi, 2023).

Punctuality and reliability also emerged as common concerns among service requesters, with 45% stating that delays and no-shows frequently disrupt their plans. Our survey revealed that logistical barriers, such as inadequate transportation infrastructure, contribute to these issues, particularly in rural areas. These challenges reflect the broader labor market inefficiencies documented by Dhir (2021), who highlighted the role of poor infrastructure in limiting labor market efficiency.

Economic policies and the lack of formal job opportunities further exacerbate the coolie labor market's difficulties. The survey showed that 60% of laborers face delayed or incomplete payments, negatively impacting their financial stability. This is particularly problematic in informal agreements where legal recourse is limited. Additionally, 35% of the respondents expressed difficulties accessing formal banking services, preventing them from saving or investing in skills. This echoes findings from Zakhozhyi (2023), who pointed out that limited access to financial services marginalizes laborers, particularly in rural and underserved regions.

In summary, the survey results provide a snapshot of the pressing challenges facing coolie laborers today. These findings not only confirm the existing literature on labor market inefficiencies but also highlight the need for policy interventions that address job security, wage disparities, health and safety measures, and access to financial services. By addressing these issues, we can work toward creating a more equitable and organized labor market for coolies in developing regions.

5. Technological Interventions in Labor Markets

Digital platforms for labor hiring are powerful tools for connecting service requesters with laborers efficiently, transparently, and reliably. By using mobile and web applications, these platforms create a centralized marketplace, formalizing the hiring process and ensuring

fair practices, especially in regions with large informal labor markets.

5.1. Digital Hiring Solutions and Key Issues Addressed

Traditional hiring relies on word-of-mouth or local intermediaries, which can be time-consuming and unreliable. Digital platforms use algorithms to match job seekers with opportunities quickly and accurately, addressing inefficiencies in job matching. Informal labor markets often lack transparency regarding job requirements, wages, and conditions. Digital platforms provide clear job postings, helping laborers make informed decisions. Ensuring timely and fair payment is challenging in traditional markets. Digital platforms incorporate secure payment systems, reducing the risk of non-payment or underpayment. Verifying laborers' skills and reliability can be difficult. Digital platforms allow laborers to create profiles and receive reviews, building a trustworthy reputation.

5.2. Potential Benefits for Coolie Laborers

Algorithms and search functions help laborers find jobs matching their skills and preferences more efficiently, leading to enhanced job matching. Digital platforms give laborers access to a broader range of job opportunities, increasing their chances of finding suitable work. They also offer training programs and certifications, improving job performance, marketability, and potential earnings, thereby facilitating skill development and recognition. Secure payment gateways ensure timely and fair wages, providing financial stability through transparent and fair payment systems. Features like employer ratings, reviews, and dispute resolution promote fair and safe working conditions, thus improving working conditions. Laborers can choose jobs that fit their schedules and preferences, improving work-life balance and providing greater autonomy and control. Access to more job opportunities and transparent information about conditions and pay allows laborers to negotiate better terms, increasing their bargaining power. Finally, platforms maintain records of completed jobs, reviews, and ratings, helping laborers build a credible work history through documentation and work history.

5.3. Challenges and Limitations

Limited access to smartphones, the internet, and digital literacy can prevent laborers from using digital platforms effectively, creating a digital divide. Robust data privacy and security measures are needed to protect laborers' personal information. Both laborers and employers may resist new technologies due to familiarity with traditional methods or skepticism, leading to resistance to change. Developing, hosting, and managing digital platforms, along with providing support and updates, can be costly, posing a challenge due to the cost of technology. Strong

regulatory frameworks and effective monitoring are required to prevent unfair labor practices, ensure fairness, and prevent exploitation. Poor infrastructure, unreliable electricity, and limited internet coverage can compromise the effectiveness of digital platforms, highlighting infrastructure limitations. Verifying identities, monitoring fraud, and addressing grievances is crucial for maintaining platform integrity. Ensuring equitable access for all laborers, with multilingual support and user-friendly interfaces, is essential to promote equitable access and inclusion.

6. Designing a Digital Platform for Coolie Laborers

The platform must have an intuitive, easy-to-navigate interface, support multiple languages to accommodate diverse linguistic backgrounds, and be mobile-compatible as many laborers primarily use smartphones. It should feature detailed job listings and advanced matching algorithms to suggest suitable opportunities based on laborers' skills and preferences. Profile creation and verification processes ensure credibility, while a transparent rating and review system promotes accountability. A secure payment gateway ensures timely and fair wages and built-in communication tools facilitate direct interaction between laborers and service requesters. Offering training and certification programs enhances laborers' skills and job prospects, and a robust dispute resolution system addresses conflicts effectively. Health and safety resources promote well-being and prevent exploitation. Tracking and analyzing platform usage helps improve functionality, while predictive analytics enhance job matching and demand forecasting. Ensuring digital literacy among users is crucial, requiring tutorials, user guides, and customer support. Protecting user data necessitates compliance with data protection regulations and robust security measures. Inclusivity ensures the platform meets diverse user needs, regardless of socioeconomic status or technological proficiency.

Table 1: Features and Benefits of the Digital Platform.

Feature	Benefit
User-Friendly Interface	Easy navigation and accessibility for all users
Multi-Language Support	Bridges communication gaps and enhances user experience
Mobile Compatibility	Provides seamless access across devices
Job Listings and Matching	Efficiently connects laborers with suitable job opportunities
Profile Creation and Verification	Ensure credibility and showcase skills and experience
Rating and Review System	Promotes accountability and informed decision-making
Secure Payment Gateway	Ensures fair and timely payment for laborers

Communication Tools	Facilitates direct and effective communication between users
Training and Certification Programs	Enhances skills and job prospects for laborers
Dispute Resolution Mechanisms	Provides fair and prompt resolution of conflicts
Health and Safety Resources	Promotes safe working conditions and well-being
Usage Analytics	Informs continuous improvement of the platform
Predictive Analytics	Optimizes job matching and resource allocation

7. Integration with Existing Systems

Integrating the digital platform for coolie laborers with existing systems is crucial for seamless operations, maximizing efficiency, and leveraging the strengths of the current infrastructure. Compatibility with government employment services ensures streamlined job placements by linking with government databases for real-time updates and preventing data duplication. Aligning the platform with government regulations and labor laws promotes fair labor practices. Integration with NGOs enhances support and training efforts, sharing resources like training materials, safety guidelines, and legal advice to improve laborer skills and work conditions. Utilizing the platform's data analytics helps NGOs assess program effectiveness and refine strategies. For commercial platforms, integrating with existing payment systems ensures secure transactions and financial inclusion, enabling laborers to access banking services such as savings accounts and microloans. Partnering with job marketplaces expands the reach of job postings, allowing for cross-platform listings and unified user profiles that simplify the job application process. Technically, robust API integration enables seamless communication and data exchange between systems, using standardized data formats like JSON or XML. Ensuring secure APIs with encryption, authentication, and authorization protects sensitive information. Modular architecture and scalability are critical for accommodating future technological advancements and increasing amounts of data and users. Overall, integrating with government employment services streamlines job placements and ensures regulatory compliance (Braverman, 1998 [1974]), while NGO integration enhances support and impact assessment. Secure payment systems and financial inclusion provide laborers with financial stability, and job marketplace integration increases job visibility and simplifies application processes. Robust API integration ensures seamless data exchange, and interoperability allows the platform to adapt to various technical environments, ensuring flexibility and scalability (Asif Khan, 2022).

8. Impact Analysis

The introduction of a digital platform for hiring coolie laborers has profound economic, social, and environmental impacts. Economically, it provides laborers with more consistent job opportunities and fair wages, improving financial stability and reducing reliance on middlemen. Employers benefit from a more efficient hiring process, reducing downtime and costs, and ensuring higher quality work through transparent laborer profiles. This formalization of the labor market also facilitates access to financial services for laborers and increases tax revenues, stimulating economic growth.

Socially, digital platforms enhance laborer mobility by connecting them with broader job opportunities, improving their living standards and social status. They empower laborers through skill development programs and reduce exploitation with rating and review systems that ensure fair treatment and wages. Community engagement is fostered through support networks, while targeted interventions like digital literacy programs and affordable internet access address barriers to platform usage. The platforms also promote gender equality by providing flexible work environments that encourage female participation.

Environmentally, digital platforms reduce carbon footprints by minimizing the need for physical travel through virtual job matching. They promote sustainable practices by offering training on eco-friendly methods and optimizing resources by matching laborers' skills to job requirements, reducing material and time wastage. However, increased electronic waste is a concern, necessitating robust recycling programs and public awareness campaigns about e-waste management (UNITAR, 2021).

Integrating these platforms with existing systems, such as government employment services and NGOs, streamline job placements and enhance support for laborers. Collaboration with commercial platforms ensures secure transactions and financial inclusion, while API integration enables seamless communication and data exchange. This comprehensive approach ensures the digital platform meets diverse user needs and adapts to various technical environments, driving significant economic, social, and environmental benefits.

9. Design and Implementation of the Digital Platform

The development of an efficient and user-friendly digital platform for hiring coolie laborers is crucial to addressing the challenges faced by both laborers and service requesters. This platform is designed to facilitate the entire process, from registration to job completion, ensuring transparency, accountability, and ease of use. By integrating robust backend infrastructure, streamlined workflows, and secure data management, the platform aims to revolutionize the hiring process in

labor markets, particularly in developing regions. The digital platform for coolie laborers is designed to streamline and facilitate the hiring process, offering an intuitive and efficient experience for all user roles—coolie/laborer, service requester, and agent.

The system architecture encompasses a robust and secure framework to ensure smooth operations and high performance. At its core, the platform supports three primary user roles: coolie/laborer, service requester, and agent. Each user can register and create an account tailored to their specific needs. Coolie/laborers can showcase their skills, update their profiles, and receive ratings based on completed tasks. Service requesters can post job requirements, search for suitable laborers, and provide feedback on services received. Agents, who manage groups of laborers, can assign tasks to their team members and oversee the completion of work requests. User authentication and security are paramount, employing multi-factor authentication and encryption to protect user data. The system's user interface is designed for ease of use, featuring intuitive navigation and user-friendly forms to ensure a seamless experience. Advanced search and matching algorithms help service requesters find the most suitable laborers based on skills, availability, and ratings.

The backend infrastructure is powered by a scalable database that manages user profiles, job postings, ratings, and transaction records. APIs facilitate smooth integration with payment gateways, notification services, and other third-party tools. This ensures that users receive timely updates about job statuses, payments, and other critical information. Workflow management is a key aspect of the platform. The user registration workflow ensures that all users can easily sign up and verify their accounts. The task request workflow allows service requesters to post job details, which are then matched with available laborers. Task fulfillment workflow manages the entire process from assignment to completion, including real-time updates and notifications. Payment processing is handled securely, with multiple payment options available for user convenience. The system also includes reporting and analytics features to provide insights into user activities, job completions, and overall platform performance. Regular maintenance and updates are critical to the system's success. The platform includes mechanisms for ongoing maintenance, feature updates, bug fixes, and issue resolution. Continuous improvement processes ensure that the platform evolves to meet user needs and technological advancements.

Integrating the proposed digital platform for coolie laborers with existing systems is crucial to ensure seamless operations, scalability, and user adoption. This integration involves various aspects, including interoperability with current digital infrastructure, compatibility with existing databases, and ease of use for stakeholders. The integration process must address technical, operational, and

organizational challenges to create a cohesive and efficient system. The platform needs to be compatible with the digital systems already in place, such as government databases, financial institutions, and other labor management platforms. Key considerations include API integration, data standardization, and security protocols. The platform must work seamlessly with existing databases to ensure efficient data management and retrieval. Key steps include database integration, data migration, redundancy, and backup. The platform must be user-friendly to encourage adoption by all stakeholders, including coolies, service requesters, and agents. This involves user interface design, training and support, and feedback mechanisms. Integrating the platform with existing systems poses several challenges, including technical, operational, and organizational challenges.

Solutions include developing flexible APIs, adopting open standards, and conducting thorough testing. The successful deployment of the digital platform for hiring coolie laborers requires a well-structured implementation plan. This plan outlines the step-by-step approach to transitioning from design to operational deployment, ensuring that all technical, logistical, and user-related aspects are addressed systematically. Ensuring the security and privacy of users' data is paramount in the development and implementation of the digital platform for hiring coolie laborers. This section addresses the critical aspects of safeguarding personal and transactional information, preventing unauthorized access, and complying with relevant data protection regulations. By outlining the fundamental principles and practices for maintaining a secure and private environment, we aim to build trust among users and protect the integrity of the platform. Ensuring the security of user data and platform integrity is paramount. This involves data encryption, user authentication, access control, secure coding practices, and regular updates and patch management. To ensure user privacy, the platform should adhere to data minimization, user consent, anonymization and pseudonymization, and data retention policies (Lorraine Charles, 2022).

Table 2: Strategies and Considerations for Implementing a Digital System for Coolie Labourers.

Aspect	Strategy	Considerations
API Integration	Develop APIs for data exchange between the platform and existing systems	Ensure secure and efficient data transfer
Data Standardization	Adopt widely accepted data standards for interoperability	Align with existing data formats and protocols
Security Protocols	Implement encryption and secure communication channels	Comply with data protection regulations

Database Integration	Synchronize data between the platform and existing databases	Ensure real-time updates and consistency
Data Migration	Use migration tools to transfer historical data	Validate data accuracy and completeness
Redundancy and Backup	Maintain regular backups and redundant systems	Prevent data loss and ensure continuity
User Interface Design	Create an intuitive and accessible interface	Simplify navigation and ensure mobile compatibility
Training and Support	Provide training resources and support services	Facilitate user adoption and transition
Feedback Mechanisms	Implement tools for gathering user feedback	Continuously improving based on user input

10. Conclusion

This research focused on developing a digital platform to address challenges faced by coolie laborers and service requesters. Through qualitative and quantitative research, we identified issues like employment instability, inadequate tools, and difficulty in finding suitable laborers. Labor Process Theory was applied to understand power dynamics and labor market challenges.

A digital platform is proposed to improve transparency, matching, scheduling, and payments. The platform includes features like user registration, rating systems, and job-matching algorithms. Its economic, social, and environmental impacts were analyzed. Economically, it offers stable income for coolies and cost-effective hiring. Socially, it promotes fair treatment and community relations. Environmentally, it reduces inefficiencies.

The platform holds the potential to transform the coolie labor market by providing a structured, transparent, and equitable solution. Future research should focus on refining the platform, addressing implementation challenges, and adapting to evolving labor market needs. This will ensure that digital benefits reach marginalized workers.

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