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Digital Menu Pre-Selection for Indian Weddings: A Sustainable Approach to Minimizing Food Wastage and Economic Loss

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ABSTRACT

The well-known proverb "Waste not, want not" forms the very foundation of the idea behind this new concept.

The "Big Fat Indian Wedding" is characterized by elaborate, multi-day feasts that currently contribute significantly to both national economic loss and environmental degradation. Approximately 10 million weddings are held annually in India, collectively generating approximately US $14 billion worth of food that ultimately goes to waste. At individual events, typically 10-20% of the banquet food served is left uneaten.

This paper proposes the implementation of a digital menu pre-selection (DMPS) system a socio-technical intervention that leverages established catering management software to replace generic guess buffers with precise, data-driven purchasing and preparation requirements. The conceptual model outlines a process workflow from mandatory e-RSVP to real-time catering data integration, which promises significant cost efficiencies for hosts and caterers, substantial reduction in methane emitted food waste, and increased ethical compliance by aligning consumption with social need.

However, the evaluation identifies giant obstacles, together with deep cultural resistance to the perceived ban, technical accessibility problems, the mission of accommodating sudden visitors, and the required want to conform with India's stringent Digital Personal Data Protection Act (DPDPA). The findings advocate phased, incentive-driven adoption, mediated with the aid of wedding ceremony planners, and suggest the integration of AI-pushed consumption forecasting to manipulate inherent logistical uncertainties, thereby positioning DMPS as a critical element of sustainable digital governance in the Indian occasion's region.

Keywords: Food Waste, Indian Weddings, Digital Governance, Sustainability, Behavioural Economics, Catering Technology, Demand Forecasting

When Tradition Meets Technology, Even a Wedding Feast can Become a Step Toward Sustainability

Introduction

Background of Food Waste at Indian Weddings

Even today, countless souls struggle not for luxuries, but for the simple dignity of four meals a day.

The phenomenon of meals waste at Indian weddings is a complex and high-stakes trouble, driven with the aid of a powerful combination of cultural duties, logistical demanding situations and the full-size scale of the activity's enterprise. Although the "Big Fat Indian Wedding3" symbolizes prosperity and own family cohesion, its underlying logistical inefficiencies make contributions substantially to economic losses and environmental harm. The results of this persevered celebratory extra go a way beyond economic burdens, affecting international weather issues and acute social inequalities.

The Paradox of Abundance: Global and National Scale of Food Waste

Food waste stands as a serious global challenge, with approximately one billion tonnes of food discarded each year. Although the share of household waste is the largest globally (over 60%), large-scale events, especially in countries with deep roots of lavish hospitality, contribute significantly to the local waste crisis. India represents one of the largest marriage markets

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in the world, hosting more than 10 million marriages every year. This huge industry is valued at $130 billion and shows a growth rate of 15-20%. The sheer volume and scale of this sector magnify the consequences of inherent logistics inefficiencies.

The economic and ecological costs associated with this excess of celebration are staggering. Reports show that approximately US $14 billion worth of food is wasted from these 10 million annual weddings. Surveys confirm the magnitude of the problem at the local level; For example, a study in Bengaluru found that approximately 943 tonnes of edible food is wasted annually at approximately 85,000 weddings, an amount sufficient to feed approximately 26 million people. On average, studies consistently suggest that 10-20% of banquet food served at these elaborate events is left uneaten and subsequently discarded. For a typical large wedding hosting 1,000 guests, the average wastage is about 20% or about 246 calories per plate served. This widespread inefficiency provides an attractive economic justification for structural intervention, as annual losses of $14 billion indicate massive resource misallocation within a dynamic, expanding industry.

Cultural Importance of Problematic Celebrations: The Need for Popularity, Hospitality, and Excess

The systemic food wastage seen in Indian weddings is a complicated difficulty this is deeply rooted in installed cultural norms, logistical challenges and societal expectancies. Tradition mandates that wedding ceremony feasts be characterised by means of "abundance and extra". This lavish display is an important non-verbal signal of the status and generosity of the host family, which ensures that adequate provisions are available for each guest. The fear of appearing inaccessible or having insufficient food components forces hosts to always overproduce.

A large contributor to wastage is the lifestyle of massive, multi-delicacies, open buffets that typically defines Indian wedding ceremony menus. Historically, attempts to legally rationalize the size of wedding feasts, such as the National Guest Control Order in the mid-22nd century, largely failed, indicating strong social resistance against perceived government restrictions on hospitality. These tricky buffets inspire visitors to flavour quite a few dishes, often ensuing in many plates being partly eaten and the remainder thrown away.

Unlike many Western weddings, which use strict RSVP counts and plated, pre- selected food, the Indian system operates with the traditional "unpredictability of turnout", forcing caterers and hosts to plan for a substantial surplus. "Weddings are one of the biggest events in this culture and they happen at a very large scale," says Vaibhav Jani5 to Food Tank.

Therefore, the main challenge is quite practical: waste is an unintended consequence of maintaining a strong, positive cultural value and a lavish hospitality. Any effective technological solution must integrate this cultural imperative, leveraging digital tools not for restriction, but for enhanced personalization and enhanced service delivery.

Economic and Environmental Dimensions of Waste in Indian Marriages

The consequences of this systematic overproduction go far beyond the immediate financial burden borne by families and caterers. Environmentally, the production of wasted food is a waste of enormous sources, along with land, water and electricity inputs. Crucially, doing away with this vast quantity of leftover food in landfills at once contributes to climate exchange through emissions of methane, an effective greenhouse gas that is about 25 instances greater effective at trapping warmth than carbon dioxide. Reducing methane emissions via better waste management is diagnosed through global our bodies as a key method to acquire close to-term weather stabilization goals. This connection highlights the inefficiencies of the "Big Fat Indian Wedding" as a topic of global weather subject.

Furthermore, food waste affords an acute moral struggle within India, a country that still struggles with constantly excessive ranges of starvation and inequality. The disparity between prosperity displayed through excessive feasting and the social reality of hunger requires structural reform. While the resources invested in procurement, training and disposal of wasted food might be channelled towards more constructive functions, contemporary reactive answers, together with partnering with NGOs like Feeding India for meals donations after the event, deal with the symptom however no longer the upstream motive. A safety measure is needed to cope with the ethical and environmental urgency.

Initiatives such as Feeding India, which distributes unused food in 45 cities and runs a Meals with Love campaign, the Robin Hood Army, and No Food Waste (the latter, with its own app) work with the couples and catering companies to manage waste, but also strive to educate Indians to cut consumption.

While it is true that India wastes 40 percent of its food, its solution is not only a technological one, but rather one that requires cultural change. "People need to be educated about the power of reusing, reducing and recycling," says Jani to Food Tank.

Statement of Problem and Rationale for Digital Intervention

The fundamental problem lies in the reliance of traditional planning methods on highly imprecise guest estimates and pervasive cultural pressures to make preparation outpace consumption. This leads to systemic, costly overproduction and consequent environmental damage.

A proposed solution is the implementation of a digital menu pre-selection (DMPS) system. DMPS is designed as a sophisticated, structured intervention that leverages digital platforms to capture specific guest demand data. This intervention replaces general, subjective estimation buffers with highly specific, quantifiable preparation requirements for caterers, thereby shifting the planning process from an unpredictable social mechanism to a highly efficient, quantified logistical task. This data-driven approach is essential to achieving true sustainability in large-scale social catering.

Conceptual Framework and Methodology

Overview of the Proposed System: Digital Menu Pre-Selection (DMPS) Architecture

The DMPS system has been conceptualized as a specialized and highly integrated software platform built on existing commercial

catering management software. Such platforms are already mature, handling tasks such as inventory tracking, menu creation, order management, and cost optimization. The innovation of DMPS is its essential, consumer-facing application in the context of high-volume social events such as Indian weddings.

DMPS acts as a central data hub, unifying customer data, the main supplier menu and all event logistics into a single, consolidated system. Its main functionality is to automatically connect individual guest selections (demand) directly to the supplier's ingredient list (supply). This data-driven approach is designed to automate repetitive administration, instantly calculate recipe costs when the number of guests changes, and eliminate reliance on multiple documents updated manually.

Process Workflow: From Digital Invitation (e-RSVP) to Catering Data Integration

The efficacy of DMPS depends entirely on the ability to implement a structured RSVP and menu selection process. There are certain steps must be followed, they are mentioned below -

Invitation and Digital RSVP Enforcement

Hosts begin the process by sending a personalized digital invitation containing a unique link to the DMPS platform. Unlike casual social media notifications, this device calls for guests to verify their attendance and, severely, their eating possibilities via a structured online form. Implementing this virtual RSVP is the primary practical hurdle, because it represents a shift far away from the conventional open invitation structure. To encourage compliance, digital tools should be deployed as a path to better personalization and better hospitality, rather than a mere restriction.

Guest Selection and Preference Profiling

The online form allows guests to choose specific dishes or courses. This frequently involves deciding on extensive categories (for example, vegetarian versus non- vegetarian important courses, or particular nearby delicacies alternatives). Importantly, the platform serves as a profiling tool, capturing crucial records about dietary restrictions and religious or cultural requirements, including allergies, or necessities related to halal, kosher, or strict Hindu vegetarianism. The software uses a central master menu database to automatically generate customized client menus, ensuring that “free-from” menus can be generated instantly and automated allergen declarations are readily available to staff and guests.

Data Aggregation and Real-Time Inventory Linkage

Once guest selections are submitted, the DMPS system centralizes all RSVP and preference data. The software then immediately calculates the total, dish-specific demand. This confirmed demand is directly linked to the caterer's recipe management module and ingredient list. This precise linkage is the fundamental source of economic benefit: it allows the caterer to generate highly accurate purchase lists and supply orders based on verifiable guest intentions, effectively eliminating the need for high, subjective estimating buffers. The system ensures that materials are ordered only as required, significantly reducing the possibility of raw materials spoiling even before preparation begins.

Caterer Workflow Optimization and Onsite Management

Validated data allows customized preparation programs and streamlined staff allocation. The system provides real-time flexibility, enabling caterers to manage last- minute changes in guest numbers or preferences by instantly synchronizing data across inventory, recipe books and onsite digital displays. Onsite logistics can leverage this data to move toward a hybrid service model, combining large, pre- portioned customized selections with smaller, easily scalable ‘build-your-own’ or live stations to maintain a sense of abundance while controlling the volume of pre-made, high-waste dishes.

Methodological Approach: Integration of Behavioural Pressure and Economic Analysis

Successful deployment of DMPS is dependent on integrating behavioural technological know-how standards. The interface should be cautiously designed to nudge users toward sustainable picks, perhaps through defaulting to a plant-based totally menu or highlighting the low carbon footprint related to certain food options. This strategic framework is important to overcome the cultural resistance inherent in limiting choice and redefine DMPS as a tool for ethical, personal luxury rather than restriction.

The primary methodological validation of the DMPS system involves direct economic analysis. This assessment compares the current high costs associated with waste (10 to 20% food loss and disposal costs) against the increased expense of implementing and maintaining DMPS technology and the lower costs of maintaining a much smaller, calculated contingency buffer. The system basically serves as a mechanism for inventory control, converting a vague social obligation to provide surplus into a quantifiable logical requirement.

Benefits of Digital Food Selection

Adoption of DMPS offers substantial benefits across economic, environmental and ethical dimensions, aligning the grand scale of Indian marriage with modern sustainability goals.

Quantifying Waste Reduction and Improved Resource Efficiency

The transition from speculative planning models to data-driven models promises dramatic reductions in waste volumes. By reducing the current average wastage rate of 10-20% and striving towards an operational minimum (estimated at 3-5%, reserved only for essential contingencies and unavoidable plate scraps), DMPS has the potential to save millions of prepared meals annually. When considered on a regional scale such as the 943 tonnes of food wasted in Bengaluru that could feed 26 million people the local impact of waste prevention becomes clear. In addition to the physical food saved, this reduction directly reduces the wastage of vital resources, including land, water, and energy required for food production.

Cost Efficiency and Economic Benefits for Hosts and Caterers

Accurate ordering is a key driver of economic efficiency. By providing caterers with accurate demand profiles, DMPS reduces the financial burden imposed by purchasing and preparing additional food that would otherwise be discarded. This reduction in food loss directly reduces raw material costs for the caterer. Furthermore, operational efficiency will increase substantially through automation. Catering control software

program centralizes customer statistics and automates repetitive administrative tasks, consisting of getting ready proposals, calculating menu pricing, and adjusting inventory. Real-world applications of integrated systems have demonstrated savings of 6-8 hours per large event by eliminating the need to manually update documentation. For hosts, DMPS transforms event budgeting from highly unpredictable variables to controlled expenses, allowing resources to be put into enhancing the quality and customization of confirmed food rather than absorbing the cost of wastage.

The economic transformation is depicted in the table below, which highlights the shift from a model burdened with waste cost absorption to a model focused on predictability and efficiency.

Table 1: Comparative Economic Impact of Traditional vs. DMPS Catering Models

Metric	Traditional Buffet Model	DMPS (Digital Menu Pre-Selection) Model	Improvement/ Benefit
Food Waste Percentage (Average)	10% - 20%	3% - 5% (Target)	Reduction in discarded meals
Procurement Accuracy	Low (Based on estimate buffer)	High (Based on pre-selected demand)	Reduced inventory cost and spoilage
Labor Efficiency (Preparation/ Admin)	Low (Over-preparation required; Manual admin)	High (Targeted preparation; Automated admin)	Saved labour hours/ operational efficiency
Financial Burden on Host	High (Cost of waste absorbed by host)	Moderate (Precise spending on confirmed meals)	Predictability and cost control

Environmental and Ethical Benefits: Reducing Carbon Footprint and Addressing Social Inequality

The environmental contribution of DMPS is found out via the discount of methane emissions derived from decomposing meals waste in landfills. By lowering the amount of wasted food, DMPS directly contributes to weather alternate mitigation efforts.

In addition, the system provides the data needed to strategically influence the menu structure. Offering guests a choice of pre-selected dishes allows caterers to identify aggregate demand for high-impact items such as red meat, and potentially reduce or eliminate their serving sizes, offering them only upon request. Experts suggest that moving to a vegetarian or vegan default can significantly reduce an event's food- related carbon emissions by 75-90%. Ethically, reducing food wastage addresses the serious social issue of food insecurity in India. While DMPS focuses on prevention, it also allows caterers to more accurately identify and manage any remaining excess food thanks to structural partnerships with food redistribution NGOs.

Alignment with National Sustainability and Digital Governance Initiatives

The DMPS represents the convergence of digital innovation and sustainability objectives. The system aligns with India's broader digital transformation goals by applying technology to streamline complex, high-risk social logistics.

Furthermore, DMPS actively supports the proposed policy framework aimed at tackling food waste. The draft legislation already addresses the need for mandatory institutional arrangements between caterers and listed organizations for the safe collection and redistribution of surplus food. DMPS acts as a preventive upstream measure, reducing the sheer volume of food requiring redistribution, making the logistics and security of donations. After the event the reactive layer of the policy far more feasible and efficient.

Challenges and Social Barriers

Despite its obvious technical and economic benefits, the implementation of DMPS will have to overcome significant social, technical and legal hurdles for the Indian incident scenario.

Resistance from Traditional Mindset and Generation Gap

The primary barrier to adoption is the direct conflict between mandatory pre- selection and the cultural mandate of open-ended, generous hospitality. Historically, attempts to legally rationalize wedding buffets, such as the National Guest Control Orders implemented between the 1960s and 1980s, largely failed due to public backlash, social resistance, and concerns that such measures could lead to “unnecessary litigation and harassment”. This history indicates that legal coercion is unlikely to succeed where behavioural alignment is absent.

While present day Indian weddings are increasingly adopting digital solutions for making plans, associate choice and dealer coordination, the older technology who regularly maintain key decision-making electricity regarding circle of relative’s activities may face up to technology that appears to compromise the conventional display of abundance. Solutions ought to be designed the usage of behavioural incentives, with an emphasis on personalization and status, in preference to enforcing restrictive mandates.

Technological Access and Literacy Issues

Although the adoption fee of digital structures is high among India's teenagers, the variety of the guest list across exclusive socio-monetary groups and geographies approach that technological literacy and get entry to isn’t always regularly occurring. The DMPS interface ought to consequently exhibit a very high degree of person- friendliness and intuitive layout to prevent information input errors, which could inadvertently lead to new varieties of waste or visitor dissatisfaction. For visitors with low digital literacy, answers which include telephone-based RSVP or specific human intermediaries (e.g., circle of relative’s contributors or wedding planners) are necessary to make certain complete data capture.

Practical Limitations and Contingency Planning

A major logistical challenge in the Indian social structure is the widespread presence of unexpected guests and “walk-ins”. Unlike smaller Western events with fixed seating and strict attendance rules, a typical Indian wedding should include relatives and social acquaintances who may attend without formal confirmation. Strict enforcement of pre-selected, fixed-portion menus is often considered unrealistic.

To manage this, the DMPS system should be coupled with strong contingency planning strategies. This includes using flexible menu items that are easily scalable, such as "build-your-own" concepts or pasta bars, which are easier to increase or decrease than fixed, pre-portioned plated meals. Importantly, the system ought to keep a calculated contingency buffer (e.g., a targeted 5-10% overpreparation) to handle sudden visitors, making sure that the buffer is substantially smaller than the 20% overpreparation traditional of present-day manual methods. Event experts ought to set up clear communique channels and contingency plans to deal with remaining-minute changes without disrupting the guest experience.

Data Governance and Privateness Concerns

The digitalization of the wedding invitation and selection technique introduces tremendous dangers associated with information security and privateness. Recent security signals have highlighted the superiority of scams leveraging digital wedding invitations (APK files and malicious links sent via WhatsApp) to spread malware and thieve private and monetary statistics. Victims have suffered enormous financial losses after clicking on those deceptive hyperlinks. Public trust in digital event management must be established through stringent security measures.

Furthermore, the DMPS system, by collecting names, contact details and sensitive personal data (for example, dietary restrictions, religious preferences), qualifies its operator as a data fiduciary under the newly enacted Digital Personal Data Protection

Act (DPDPA) 2023. Compliance is mandatory and requires that DMPS systems obtain the "free, specific, informed, unconditional and explicit" consent of data principals (guests) before processing their personal data. Implementation requires the creation of specific "consent artifacts" within the workflow to meet the legal standard and build trust against the backdrop of widespread digital scams.

Table 2: Implementation Barriers and Proposed Mitigation Strategies for DMPS Adoption

Barrier	Impact/Source	Proposed Mitigation Strategy
Cultural Resistance/ Guest Offense	Requirement for "excess" and lavish display	Position DMPS as premium, customized hospitality; Proactively communicate a small, calculated "Contingency Buffer."
Technological Literacy/Access	Digital divide, older generations	Implement dual systems (online/ phone RSVP); Use wedding planners as technology intermediaries; Prioritize intuitive user experience.
Unexpected Guests/ Walk-ins	Unpredictability common in Indian events	Use predictive AI to forecast variance (e.g., 5-10% dynamic buffer); Utilize flexible, scalable menu items.
Data Privacy and Security	Risk of malware/ scams, DPDPA compliance	Ensure DPDPA-compliant, specific consent mechanisms; Use secure, dedicated platforms; Strong encryption of sensitive dietary data.

Discussion and Way Forward

Feasibility of Adoption within the Indian Social Structure: A Phased Approach

The feasibility of adopting DMPS is high, provided the implementation strategy respects and adapts to the Indian social structure. The sector is already demonstrating rapid digital transformation, with young couples becoming increasingly involved in planning for logistics and using online platforms. DMPS represents a logical extension of this trend in food logistics. Before attempting full integration into the main traditional ceremonies, a phased implementation is advisable, starting with smaller, more digitally accessible components of the wedding celebration, such as the musical dinner or reception meal.

Before attempting full integration into the main traditional ceremonies, a phased implementation is advisable, starting with smaller, more digitally accessible components of the wedding celebration, such as the musical dinner or reception meal. The goal is to move toward a hybrid model. The DMPS system should avoid the rigid "restriction" approach of fixed, plated Western food. Instead, it should focus on providing data that allows the caterer to produce the desired quantity in confirmed quantities, allowing variety selection within controlled ranges to maintain a sense of abundance while eliminating unnecessary overproduction.

Table 3: Menu Selection Logistics: Traditional Indian vs. Western/Digital Models

Feature	Traditional Indian Wedding Model	Western/ International Event Model	DMPS (Digital Menu Pre-Selection)
Guest List Accuracy	Low (Flexible; highly variable turnout)	High (Mandatory RSVP/ Seating chart)	Medium-High (Requires RSVP enforcement Nudging)
Meal Service Style	Large, multi-cuisine, open buffet	Plated, multi-course, or customized buffet	Customizable buffet with controlled portioning or hybrid plated service

Dietary Accommodation	Low (Generic veg/non-veg split)	High (Specific labelling, pre-ordered meals)	High (Automated tracking of allergens preferences)
Food Waste Rate	High (10-20%)	Moderate (10% cited for some events)	Low (Targeted preparation, aimed at 3-5%)

Important Role of Event Planners and Wedding Startups as Change Agents

The adoption price of DMPS is basically depending on the strategic role played by way of expert occasion planners and wedding startups. These professionals act as crucial socio-technical intermediaries, bridging the distance among progressive era and deeply held circle of relative's expectancies.

Event planners have the expertise to coordinate between vendors, including caterers, and can negotiate the integration of new software systems into existing operational workflows. Critically, planners can reposition DMPS to their clients, i.e. modern hosts by marketing it not just as a cost-cutting tool, but as a mechanism for better organization, enhanced personalization, and ethical responsibility, satisfying the modern couple's desire for control and stability. Their involvement reduces the technical barrier for older generations and handles the logistical complexities of data collection and compliance.

Policy Intervention: The Role of Government Incentives and Compulsory Redistribution Systems

Policy interventions should consciousness on encouraging prevention instead of reviving restrictive laws, which history has proven to be ineffective. Government bodies have to offer concrete incentives, which includes tax rebates or sustainability certification, to hosts and caterers who undertake DMPS systems and show verifiable discounts in meals waste. Furthermore, existing and proposed policies requiring obligatory institutional arrangements for meals redistribution must be strictly enforced.

While DMPS reduces waste volume, a strong structural safety net for the inevitable residual excess food is necessary. By mandating food redistribution, the government ensures that the minimal wastage that still occurs is efficiently and safely delivered to those in need, thereby creating a complete prevention-and-response regulatory framework.

Future Possibilities of Integration with AI-Driven Consumption Forecasting

The true transformative potential of DMPS lies in its ability to generate valuable, localized data suitable for machine learning (ML) applications. Accumulated data on guest preferences, actual consumption patterns, and regional voting history provides an ideal training dataset for AI models.

AI integration allows systems to move beyond static, subjective buffers toward dynamic consumption forecasting. ML algorithms can identify with statistical certainty which demographic segments are most likely to be a "walk-in" based on the type of event, time of year, and past data.

This predictive electricity enables close to-accurate, simply-in-time preparations, considerably lowering the desired contingency buffer and addressing the endemic venture of unpredictable guest attendance at Indian weddings. Beyond logistics, AI can optimize menu suggestions for extra profitability, decrease carbon footprint and maximum guest delight, in addition enhancing the gadget's value proposition. AI integration represents an important evolutionary step to maximize the efficiency profits derived from DMPS.

Government Initiatives and the Role of Digital Systems

Government efforts have moved away from prohibition attempts and toward managing the logistics of food waste.

- **Failure of Restriction:** History is riddled with governmental attempts at curbing wastage through restrictive laws, such as the national Guest Control Order18 in the 1960s to 1980s that attempted to put a ceiling on guest numbers. These failed due to strong public backlash and resistance against governmental interference in social customs.
- **Reactive Policy Redistribution:** Recent legislative proposals have moved towards regulating the management of inevitable excess food. Draft regulations prescribe that caterers establish mandatory institutional arrangements with empanelled organizations for the secure collection and redistribution of extra food served at events. This creates a structural safety net for the residual waste.
- **Compliance Requirement:** Any digital wedding platform that uses pre- selection will have to strictly comply with the provisions of the Digital Personal Data Protection Act 2023. In particular, the operator has to get the "free, specific, informed, unconditional and unambiguous" consent from guests whose sensitive dietary and personal data are being collected.

Instead, this would be the Digital Solution that deals in proactive prevention through what is called DMPS. The idea of DMPS here is to reduce this rate of 10–20% wastage even before preparation has taken place. Tapping into digital platforms for e-RSVP and capturing specific demand data, DMPS changes the planning process from subjective estimation to a quantified logistical function.

Conclusion

Summary of Findings and Potential for Digital Transformation

The analysis confirms that food wastage at Indian weddings is a systemic, high-cost inefficiency driven by a deeply rooted cultural imperative for excess, causing an annual economic loss of US $14 billion and contributing significantly to environmental damage through methane emissions. Digital Menu Pre-Selection (DMPS) system provides a technically viable and scalable socio-technical solution. By implementing a mandatory e-RSVP and preference selection process, DMPS replaces subjective guesswork with quantitative demand data, allowing caterers to optimize purchasing and preparation, resulting in a dramatic reduction in waste (3- 5% operational minimum target) and major cost efficiency.

However, this change is not entirely technical. The primary barriers lie in traditional mindsets that are resistant to perceived restrictions on hospitality, technological access disparities, and the constant challenge of accommodating unexpected guests.

Furthermore, it is essential to strictly adhere to data governance principles to safeguard public trust, particularly the need to secure explicit consent as required under the DPDPA [1-5].

Recommendations for Gradual Implementation and Future Research

Based on socio-technical and economic assessment, the following recommendations are proposed for successful implementation and scaling up of DMPS:

- **Recommendation for Practical Adoption:** DMPS should be introduced voluntarily, not as a mandatory legal requirement, taking into account the modern couple's desire for personalised, premium and ethically responsible event management. This strategy requires promoting DMPS by leveraging their influence as cultural and technological intermediaries, primarily through wedding planners and catering technology firms.
- **Recommendation for Emergent Design and Technology:** Regulatory bodies should encourage or mandate that all DMPS systems integrate an AI/ML layer. This technology must be trained specifically on localized consumption and attendance history to provide dynamic forecasts, ensuring that the contingency buffer required for unexpected guests is optimized statically, preventing the recurrence of excessive manual over-preparation.
- **Recommendation for Policy and Security:** Given the documented prevalence of digital scams targeting wedding logistics, government and industry stakeholders should collaborate to ensure that all DMPS platforms operate under stringent security protocols and are fully compliant with the DPDPA. It helps to utilize clear "consent artefacts" to protect sensitive personal and dietary data.

Future research should focus on detailed behavioural economics studies, specifically examining the impact of different choice architectures within the DMPS interface (e.g., default option, visualization of carbon footprint) on guests' menu selection and the resulting verifiable reduction in food wastage across different regional wedding styles in India. Longitudinal studies tracking return on investment (ROI) for caterers adopting DMPS are also needed to validate the long-term cost efficiency of the system.

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