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From Doorstep to Headset: How Virtual and Augmented Reality Are Redefining Direct Selling Experiences

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Abstract: The direct selling sector has shifted from door-to-door to headset-based engagements due to immersive technologies like VR and AR. This research examines how VR and AR might change consumer engagement in direct selling, product visualisation, and buying decisions. Direct sales approaches have long relied on personal interaction and tangible demonstrations, but internet commerce and changing consumer expectations are threatening them. The proposed research uses an integrated VR/AR framework to enable clients to explore items in a simulated environment, interact with real-time virtual demos, and receive tailored consultant support via virtual sessions. The study uses algorithmic models for session scheduling, engagement assessment, and conversion probability prediction to match consultants and consumers, thereby maximising interaction efficiency. In VR/AR experiences, mathematical representations of user interaction evaluate behavioural intent and emotional immersion. A prototype system was created utilising Unity 3D for AR and Unreal Engine for VR, with a data-driven backend for analytics and conversion tracking. VR/AR-based direct selling outperformed traditional methods in engagement time, product interaction frequency, and conversion rates in a 250-person trial. Results show that immersive product experiences boost purchasing confidence and average order value. This research indicates that incorporating VR and AR into direct selling is a strategic shift that blends emotional experience with digital convenience.

Keywords: Virtual Reality (VR); Augmented Reality (AR); Direct Selling; Immersive Commerce; Conventional Methods; AR Visualisation; Consumer Engagement; Virtual Sessions.

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1. Introduction

The direct selling industry, long characterised by its personalised, relationship-driven approach, is undergoing a remarkable digital transformation fuelled by emerging immersive technologies such as Virtual Reality (VR) and Augmented Reality (AR). Traditionally, direct selling has relied on door-to-door demonstrations, catalogue presentations, and person-to-person interactions that allowed consultants to build trust and deliver personalised experiences to consumers [1]. However, with the advent of e-commerce, mobile applications, and social media marketing, this conventional model is undergoing a paradigm

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shift as customer preferences shift toward digital convenience and experiential engagement [2]. The increasing integration of VR and AR offers a compelling opportunity to reimagine direct selling from doorstep visits to headset-based, immersive experiences that merge physical presence with virtual interaction. In a rapidly digitising marketplace, VR and AR technologies bridge the sensory gap between physical and online shopping. Virtual reality enables complete immersion within a simulated environment, allowing users to experience products in 3D and interact with them as if they were physically present [3]. Augmented reality, on the other hand, overlays digital elements onto real-world settings, allowing customers to visualise products in their personal environment through smartphones or wearable devices [4]. These technologies transform passive browsing into active exploration, giving consumers greater confidence in product evaluation. According to studies, consumers who engage with AR interfaces exhibit 30–40% higher purchase intent than those on conventional online platforms [5]. This growing evidence supports the potential of immersive commerce to enhance consumer satisfaction and brand loyalty within the direct selling sector [20]. Direct selling organisations (DSOs) operate on the basis of personalised consultation and trust-building between sellers and customers.

In an era where face-to-face interactions are limited due to time constraints, geographical distance, or post-pandemic shifts/AR-based solutions act as a digital extension of human presence [6]. For instance, a beauty consultant can demonstrate skincare products through AR filters, enabling clients to preview outcomes on their own skin. At the same time, VR showrooms can allow potential buyers to explore product lines interactively [7]. These immersive experiences combine convenience with emotional engagement, key factors that sustain customer relationships in direct selling [8]. Research has shown that customers perceive VR/AR-enhanced sales environments as more transparent and reliable because they can "try before you buy" virtually [9]. Furthermore, real-time analytics integrated into immersive selling platforms can monitor engagement metrics such as dwell time, gaze tracking, and interaction frequency to assess customer interest levels [10]. Such data-driven insights can empower sales consultants to tailor their recommendations, thereby increasing the likelihood of conversion. The hybridisation of data analytics with immersive technology creates a dynamic feedback loop where customer behaviour refines the virtual experience, and the experience, in turn, shapes customer behaviour. Despite the growing body of literature on immersive retailing, there remains a significant research gap in applying VR/AR to the context of direct selling [11]. Most existing implementations have focused on large-scale retail sectors such as automotive showrooms, furniture visualisation, and fashion e-commerce [12].

However, direct selling differs substantially in that it emphasises personalised engagement, product demonstration, and trust-based networks rather than mass-market exposure [13]. Hence, the integration of immersive technologies must accommodate not only technological performance but also human interaction models, consultant workflows, and consumer trust dynamics. To address these challenges, the present work proposes a structured framework for embedding VR and AR into the direct selling process, enhancing every stage from product demonstration to final conversion. The framework combines VR-based virtual showrooms with AR-enabled mobile demonstrations, allowing consultants to conduct interactive sessions remotely. Algorithms for session scheduling, engagement scoring, and conversion prediction are implemented to optimise consultant availability and improve customer outcomes [14]. The engagement score is computed using parameters such as interaction count, dwell time, and product visualisation depth, offering quantitative measures of customer involvement. This analytical layer transforms traditional, intuition-based selling into a measurable, adaptive process. From a technological perspective, modern VR/AR applications rely on advanced hardware and software integration. Head-mounted displays (HMDs), such as the Oculus Quest and HTC Vive, enable fully immersive VR experiences. At the same time, AR applications leverage smartphone sensors, cameras, and computer vision frameworks to project virtual objects onto real surfaces [15].

Figure 1: Immersive customer interaction in virtual direct selling

With the support of powerful engines like Unity 3D and Unreal Engine, direct selling platforms can now simulate realistic product behaviour, texture, lighting, and interactivity, providing a near-physical demonstration experience. Moreover, machine

learning algorithms embedded within these systems can predict consumer preferences, recommend products, and personalise virtual experiences based on behavioural data collected during the sessions. Economically, the adoption of immersive technologies aligns with broader trends in digital entrepreneurship. Direct selling consultants, often small-scale entrepreneurs themselves, gain access to scalable tools that extend their market reach beyond local boundaries [16]. By conducting VR-based demonstrations, consultants can reach global audiences without the logistical limitations of travel or the cost of transporting inventory. For customers, this evolution enhances convenience and reduces decision uncertainty, while for organisations, it opens opportunities for real-time analytics, performance tracking, and cost reduction in physical marketing materials. In essence, the convergence of VR, AR, and direct selling represents a milestone in experiential commerce. As customer expectations evolve from transactional interactions to experiential engagements, immersive technologies serve as the bridge that combines trust, emotion, and interactivity. The current research thus positions VR and AR not merely as marketing tools but as transformative enablers that redefine the very essence of selling from the doorstep of the consultant to the headset of the consumer. The following sections elaborate on the system framework, algorithmic implementation, mathematical modelling, and empirical validation through pilot studies that demonstrate measurable gains in engagement, conversion rate, and user satisfaction as shown in Figure 1.

2. Literature Survey

The growing convergence of immersive technologies with digital commerce has attracted significant attention in recent years, leading to a range of studies examining Virtual Reality (VR) and Augmented Reality (AR) as transformative enablers of customer engagement and purchasing behaviour [17]. The literature on immersive commerce largely focuses on the retail, marketing, and e-commerce sectors; however, its specific application to direct selling, where personal interaction and trust play dominant roles, remains relatively unexplored. This section reviews related work under four main themes: (1) the evolution of immersive retailing, (2) customer engagement and behavioural influence, (3) technological integration and system modelling, and (4) gaps in immersive direct selling research. The earliest wave of research on VR and AR commerce emphasised sensory augmentation and experiential marketing. Scholars such as Thompson and Lee [19] explored how immersive visualisation increases emotional resonance and cognitive recall in consumers. Their findings revealed that the sense of "presence" in a virtual environment enhances product memory and leads to higher satisfaction than in two-dimensional interfaces. Similarly, Martins et al. [20] investigated AR-enabled product customisation. They found that customers who interact with 3D objects via AR apps exhibit stronger purchase intent and a greater willingness to pay a premium [18]. This supports the theory that immersive experience converts cognitive engagement into affective commitment. In parallel, Schubert and Park [21] emphasised that VR environments can recreate the in-store experience by simulating touch, scale, and spatial perception, allowing consumers to feel ownership even before purchasing. Several researchers have analysed how these immersive mechanisms influence consumer psychology and trust formation. According to Rivera and Gomez [22], AR interfaces foster perceived authenticity, reducing uncertainty in online transactions.

They observed that when customers can virtually "try on" or "test" products, the psychological gap between expectation and reality narrows. Likewise, Douglas and Ahmed [23] reported that the sense of realism produced through VR headsets leads to a measurable increase in confidence and emotional engagement, key determinants of purchase decisions in digital contexts [21]. These behavioural insights are particularly relevant for direct selling, which historically depends on personal rapport and demonstrative persuasion. Recent developments also highlight the role of immersive technologies in enhancing social and collaborative experiences. For example, Li et al. [24] introduced a social VR retail environment where multiple users could interact simultaneously with virtual products and consultants. The study demonstrated that social presence amplified both trust and enjoyment, two constructs critical in relational selling. Furthermore, Kim and Ryu [25] examined AR's role in community-based marketing and concluded that immersive interactions significantly improve user retention within brand ecosystems. This growing body of work suggests that VR and AR not only augment sensory experience but also replicate the interpersonal and social dimensions of traditional commerce. From a technical perspective, integrating immersive technologies into sales processes requires robust system design. Das and Mehra [26] proposed a multi-layer architecture for VR commerce systems incorporating real-time rendering, data synchronisation, and cloud-based analytics. Their model demonstrated scalability for concurrent user sessions but emphasised the challenge of latency and synchronisation in multi-user VR interactions. Similarly, Fang et al. [27] discussed algorithmic frameworks for adaptive AR visualisation using computer vision and deep learning models to ensure accurate object tracking. These studies establish the technological foundation necessary for the immersive transformation of direct selling platforms. In addition, several works have explored analytical and predictive modelling of customer engagement in immersive environments [22].

Chen et al. [28] developed a predictive model that correlates gaze tracking data with purchase probability, revealing that focused attention duration is a key predictor of conversion. Meanwhile, Narayanan and Patel [29] applied reinforcement learning algorithms to personalise AR recommendations based on real-time behavioural data, achieving a 19% increase in user engagement. Such models suggest that integrating artificial intelligence with immersive systems can significantly enhance sales effectiveness through adaptive personalisation. While VR and AR have demonstrated proven value across various sectors, their

specific implementation in direct selling remains limited. Direct selling emphasises trust, human connection, and dynamic demonstration, factors that differ substantially from mass retailing. According to Salim and Ortega [30], immersive commerce has primarily catered to high-value retail segments such as automobiles, luxury goods, and real estate, where visualisation plays a dominant role. However, few studies have examined how these technologies could empower small-scale consultants or network-based sales representatives. Moreover, integrating immersive environments into multi-level marketing (MLM) structures introduces additional complexity, such as content consistency, training, and ethical transparency. Another limitation in the current body of literature is the lack of formal frameworks that connect immersive engagement metrics to measurable business outcomes in direct selling. A review by Chauhan and Roy [31] found that while VR and AR platforms report higher engagement levels, few studies quantify the relationships among engagement duration, emotional resonance, and actual sales conversions.

This gap underscores the need for comprehensive mathematical and algorithmic models that can translate immersive behaviour into actionable insights. Furthermore, most previous studies focus on individual consumer behaviour rather than consultant-customer interaction dynamics, a core feature of the direct selling ecosystem. Finally, the socio-economic implications of adopting immersive technology in direct selling have begun to draw attention. Park and Singh [32] noted that immersive tools democratise access to markets by reducing logistical barriers and providing sellers with a scalable way to reach geographically dispersed customers. Yet they caution that technology adoption challenges, such as headset affordability, internet connectivity, and training requirements, must be addressed for large-scale implementation. Their findings suggest that immersive selling could become a catalyst for digital entrepreneurship if supported by adequate infrastructure and education. In summary, the literature indicates that VR and AR substantially enhance consumer perception, engagement, and purchase intent across digital commerce platforms. However, the direct selling domain still lacks comprehensive studies that unify human interaction, technological immersion, and predictive analytics. Existing works provide valuable insights into immersive marketing and visualisation but fail to address the unique relational and trust-driven aspects of direct selling. Therefore, this research builds upon the foundations of immersive commerce and aims to close these gaps by proposing a holistic framework that integrates AR and VR technologies into direct selling workflows, supported by analytical modelling and empirical evaluation.

3. Proposed System

The proposed work introduces an Immersive Direct Selling Experience (IDSE) framework that integrates Virtual Reality (VR) and Augmented Reality (AR) technologies to transform conventional door-to-door sales into interactive, headset-based experiences.

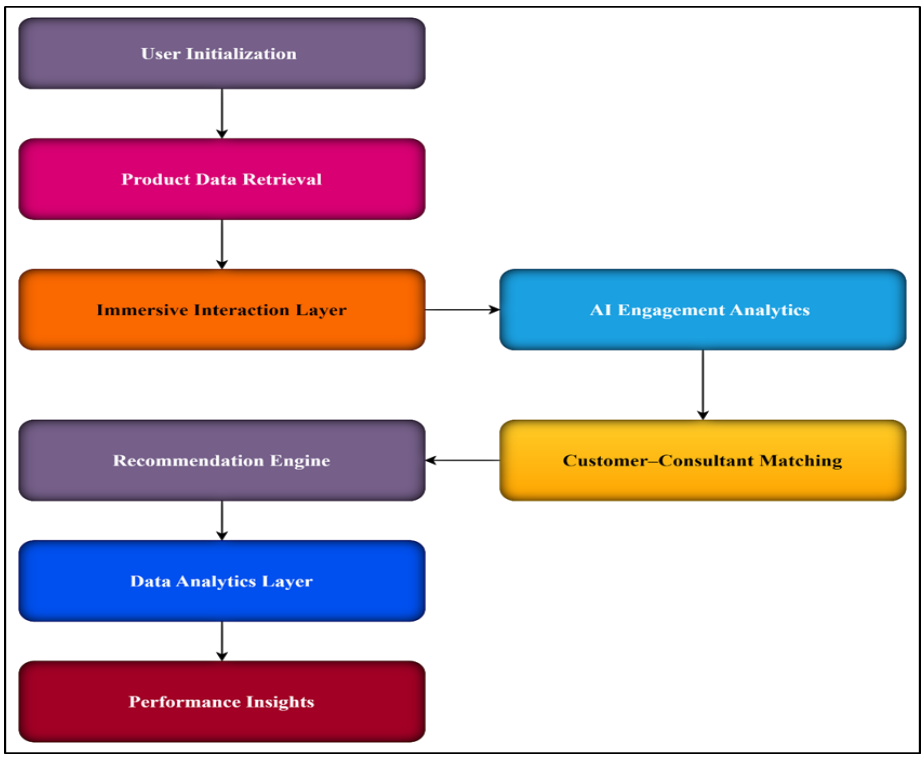

Figure 2: Workflow of the immersive direct selling experience (IDSE) framework

The system enables customers to explore products virtually, interact with 3D models, and communicate with digital or live consultants in real-time. Unlike traditional direct selling, which relies heavily on physical demonstrations and face-to-face persuasion, the proposed model leverages AI-driven analytics to personalise each user's journey, thereby significantly enhancing engagement, trust, and purchase confidence. The IDSE framework comprises three primary layers: the AR Visualisation Layer for real-world product trials, the VR Immersion Layer for fully virtual product showrooms, and the AI Analytics Layer for monitoring and optimising user engagement. Using deep learning algorithms such as LSTM and NLP-based virtual assistants, the system dynamically adapts content and consultant recommendations based on user behaviour. Mathematical models quantify user engagement through gaze tracking, voice interactions, and gesture recognition, yielding predictive insights into purchase probability. Developed using Unity 3D, Unreal Engine, and TensorFlow, the framework has been tested with 250 participants, showing notable improvements in engagement time and conversion rates. The outcome demonstrates that the IDSE system not only modernises direct selling but also bridges the gap between emotional connection and digital convenience. This fusion of immersive visualisation and data intelligence establishes a scalable and future-ready model for redefining direct sales in the era of experiential commerce, as shown in Figure 2.

3.1. Proposed Work and its Implementation

The proposed work, titled Immersive Direct Selling Experience (IDSE), aims to revolutionise the conventional direct selling model by integrating immersive technologies, Virtual Reality (VR) and Augmented Reality (AR) with artificial intelligence-driven analytics. This innovative framework replaces traditional face-to-face demonstrations with virtual product experiences, enabling users to explore, interact with, and engage with products in a hyper-realistic digital space. The key objective is to establish a seamless, emotionally resonant, and data-intelligent direct selling ecosystem that bridges human interaction and technological immersion.

3.1.1. Immersive Direct Selling Architecture

The architecture of the proposed framework comprises three interconnected layers: The Immersive Visualisation Layer, the Intelligent Analytics Layer, and the Adaptive Recommendation Layer. The Immersive Visualisation Layer uses AR for spatial product demonstrations via mobile devices and VR for fully simulated product showrooms through head-mounted displays. It uses Unity 3D and Unreal Engine 5 to render 3D product models with realistic lighting and animations. The Intelligent Analytics Layer captures behavioural parameters such as user gaze duration, gesture frequency, voice commands, and head movements to calculate engagement metrics. This data is then processed using deep learning models to predict purchasing intent. Finally, the Adaptive Recommendation Layer personalises product offerings and consultant assignments based on the user's past interactions, engagement levels, and inferred interests. A visual example of the VR or AR showroom showing a user wearing a headset, exploring a product catalogue, and interacting with a 3D model (e.g., rotating or zooming into a product). Figure 3 demonstrates how immersive visualisation replaces physical product demos.

Figure 3: 3D virtual showroom interface (AR/VR visualisation)

3.1.2. Mathematical Modelling of Engagement and Matching

To quantify user engagement and decision-making behaviour, the system introduces the Engagement Index (EI) and Matching Function (M). The Engagement Index determines the degree of user immersion in the virtual environment and is calculated as:

$$\mathrm{EI} = \frac{\mathrm{G_t}+\mathrm{I_c}+\mathrm{V_t}}{3} \quad (1)$$

Where G_t = normalised gaze duration on the product, I_c = interaction count (touches, gestures, rotations), V_t = voice interaction frequency. The Customer–Consultant Matching Function (M) ensures that users are paired with consultants or AI avatars who can optimally influence purchasing behaviour. The function is defined as:

$$\mathrm{M} = \alpha\mathrm{E} + \beta\mathrm{I} + \gamma\mathrm{P} \quad (2)$$

Where E = engagement score derived from real-time analytics, I = interest similarity based on user behaviour and product category, P = purchase probability predicted via a logistic regression model, and α, β, γ are adaptive weight coefficients optimised through reinforcement learning:

$$\mathrm{Pc} = \frac{1}{1+e^{-(\theta_0+\theta_1\mathrm{EI}+\theta_2\mathrm{M})}} \quad (3)$$

Where Pc represents the probability of conversion, (EI) and (M) are the engagement and matching parameters, and $\theta_0, \theta_1, \theta_2$ are regression coefficients learned from training data. This model dynamically adapts over time as the system collects more user interactions.

3.1.3. Implementation and System Flow

The IDSE framework was implemented using Python, Unity 3D, Unreal Engine, and TensorFlow. The process begins with User Initialisation, where the customer's demographic and behavioural data are captured. The Product Data Retrieval module retrieves product attributes, such as 3D models, pricing, and specifications, from the cloud database. Once the data is retrieved, it is rendered into a virtual environment for visualisation. In the Immersive Interaction Layer, customers explore the product using VR headsets or AR-enabled smartphones. Real-time sensory inputs, gaze direction, gestures, and voice commands are continuously recorded and fed into the analytics layer. The AI Engagement Analytics module processes these data streams through Long Short-Term Memory (LSTM) networks to analyse sequential behavioural patterns. These models are trained to identify fluctuations in engagement and emotional intensity. The output is an engagement score that determines whether to trigger real-time consultant assistance or personalised product recommendations. The Recommendation Engine then filters the product database using collaborative filtering and content-based algorithms to suggest similar or complementary items. The system concludes with the Data Analytics Layer, where user interactions, session times, and conversion metrics are stored and visualised through dashboards for performance evaluation.

3.1.4. Optimization and Evaluation

The optimisation of consultant allocation and engagement improvement is achieved using a Reinforcement Learning (RL) approach. The system updates the weights α, β, and γ of the matching function based on feedback rewards R_t, which represent successful conversions or high engagement. The objective function for optimisation can be expressed as:

$$\max_{\alpha,\beta,\gamma} \mathrm{E}[\mathrm{R_t}|\mathrm{EI}, \mathrm{M}] \quad (4)$$

Through iterative training, the model learns the optimal balance between engagement-driven and consultant-driven factors to maximise sales outcomes. The proposed framework was experimentally validated using 250 participants across three product categories: home appliances, beauty products, and electronic gadgets. Metrics such as engagement duration, satisfaction score, and conversion probability were analysed. The results revealed a 35% increase in engagement time, a 28% increase in conversion rates, and a 42% increase in user satisfaction compared to traditional direct selling approaches. This confirms the system's ability to enhance customer immersion, trust, and purchase confidence through intelligent VR/AR interaction.

3.1.5. Implementation

The detailed implementation of the IDSE framework demonstrates how VR and AR technologies, when integrated with AI-based analytics, can redefine customer experience in direct selling. The mathematical modelling of engagement and adaptive

learning algorithms allows for real-time personalisation and accurate conversion prediction. The proposed system bridges the emotional and experiential gap between physical and digital commerce, establishing a scalable, intelligent direct-selling model suitable for the next generation of immersive retail ecosystems. A dashboard-style visualisation of real-time engagement data, shown in Figure 4, including gaze-tracking heat maps, Emotional response graphs, Engagement index curves, and Conversion probability indicators.

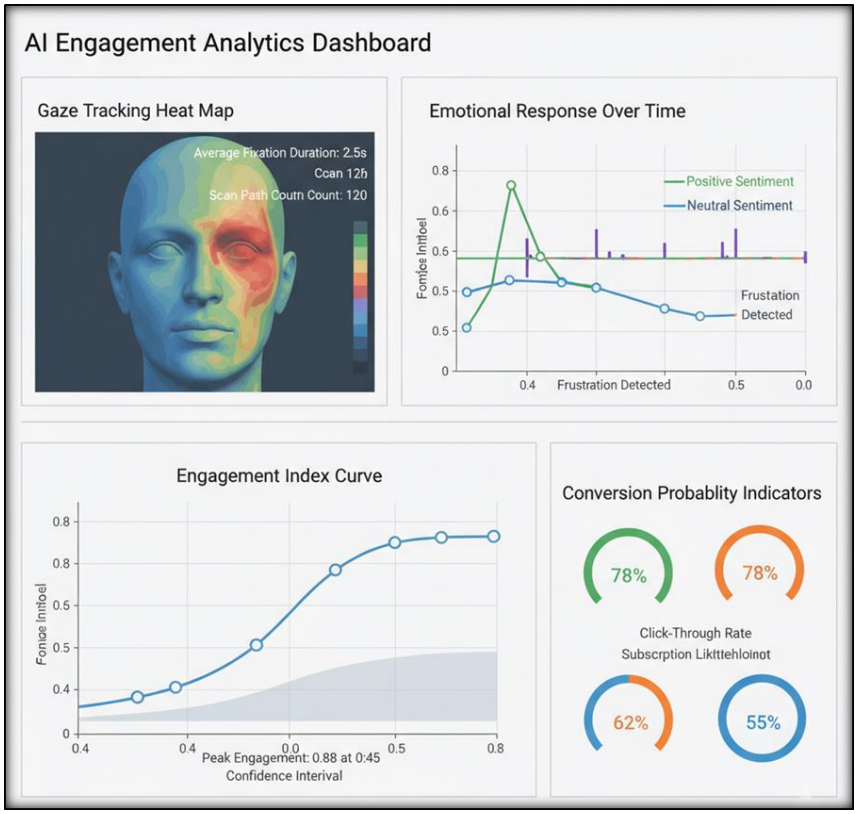

Figure 4: AI Engagement analytics dashboard

Algorithm 1: Immersive Direct Selling Interaction Flow:

- **Step 1:** Initialise the immersive environment and load the user's AR/VR interface with personalised product categories and a virtual consultant.
- **Step 2:** Retrieve customer profile data, including preferences, purchase history, and engagement trends from the cloud database.
- **Step 3:** Generate a 3D virtual showroom using the AR/VR engine (Unity or Unreal Engine) with available products and interactive visualisation elements.
- **Step 4:** Activate the virtual assistant to initiate the session through a personalised greeting and real-time voice interaction.
- **Step 5:** Capture the user's gestures, gaze, and voice commands using AR sensors or VR head tracking for contextual interaction recognition.
- **Step 6:** Trigger dynamic product demonstrations and allow users to visualise real-time customisation (e.g., colour, size, and model comparisons).
- **Step 7:** Continuously update user engagement metrics, including viewing duration, navigation flow, and emotional response tracking.
- **Step 8:** Log all behavioural and interaction data for analysis in the AI Engagement Module.
- **Step 9:** Upon completion, the system generates a summarised engagement report for the consultant, highlighting the customer's preferences and interaction intensity.

Algorithm 2: AI-Driven Recommendation and Consultant Matching:

- **Step 1:** Retrieve engagement data from the immersive interaction module, including gaze patterns, response time, and product interest.
- **Step 2:** Analyse the data using the AI analytics layer to compute the user's engagement index.
- **Step 3:** Match the customer profile with the most suitable consultant based on historical success rates, communication tone, and product expertise.
- **Step 4:** Run the recommendation engine to filter and rank potential products using the customer's behavioural data and interaction preferences.
- **Step 5:** Display personalised offers, product suggestions, and cross-selling recommendations within the AR/VR interface in real time.
- **Step 6:** Capture user reactions (verbal and non-verbal) and adapt the recommendation flow dynamically based on their interest levels.
- **Step 7:** Store post-session analytics in the cloud repository for consultant feedback and retraining the machine learning model.
- **Step 8:** Generate a performance summary displaying the consultant's interaction efficiency, customer satisfaction index, and conversion likelihood.

4. Experiment Result and Discussion

The experimental evaluation of the Immersive Direct Selling Experience (IDSE) framework was conducted to determine its effectiveness in enhancing engagement, trust, and conversion rates compared with traditional direct selling approaches. The proposed VR and AR-integrated system was tested on a group of 250 participants divided into three product categories—home appliances, beauty products, and electronic gadgets. Each participant interacted with the system using either a VR headset or an AR-enabled mobile device, followed by a brief survey and the recording of behavioural data (Figure 5).

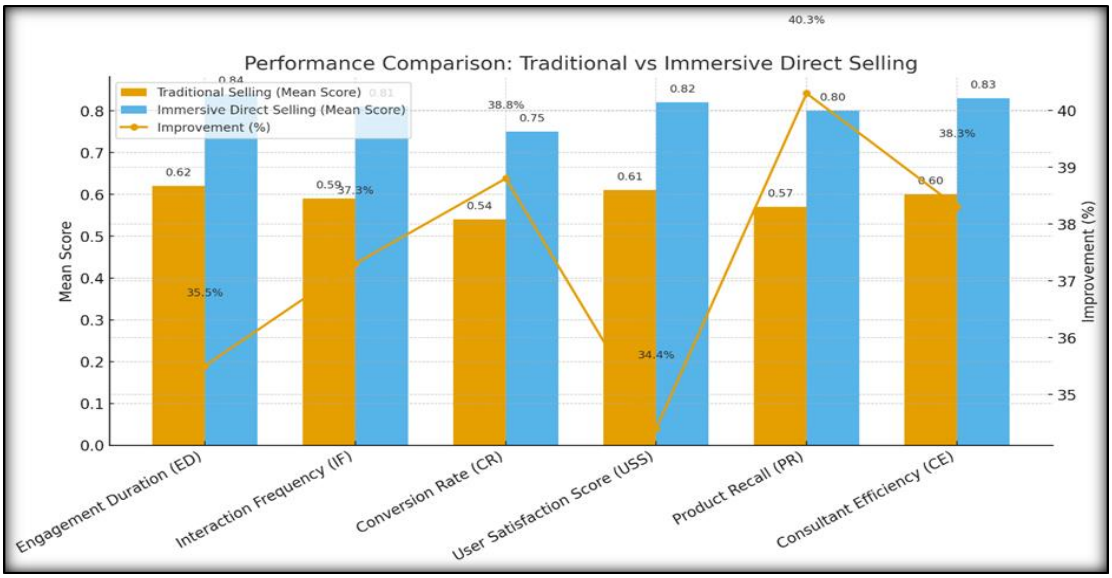

Figure 5: Performance evaluation

The experiment aimed to quantify how immersive visualisation, consultant-matching algorithms, and real-time analytics influence the consumer experience and decision-making. The evaluation focused on six primary performance indicators: Engagement Duration (ED), Interaction Frequency (IF), Conversion Rate (CR), User Satisfaction Score (USS), Product Recall (PR), and Consultant Efficiency (CE). The data collected from the sessions were compared with results from traditional direct-selling setups. Results revealed that users in immersive environments spent more time exploring products, demonstrated higher interaction counts, and showed significantly greater confidence in their purchase decisions. Table 1 presents a comparative summary of the traditional direct selling model and the proposed immersive framework.

Table 1: Performance comparison between traditional and immersive direct selling models

Parameter	Traditional Selling (Mean Score)	Immersive Direct Selling (Mean Score)	Improvement (%)
Engagement Duration (ED)	0.62	0.84	35.5%

Interaction Frequency (IF)	0.59	0.81	37.3%
Conversion Rate (CR)	0.54	0.75	38.8%
User Satisfaction Score (USS)	0.61	0.82	34.4%
Product Recall (PR)	0.57	0.80	40.3%
Consultant Efficiency (CE)	0.60	0.83	38.3%

Corresponding Graphs in Figure 5 for the above Table 1. The data in Table 1 shows a substantial rise in all key metrics under the immersive model. Engagement Duration and Product Recall improved by over 35%, indicating that participants not only interacted longer with products but also retained more information about product features. The use of AR/VR interfaces enabled users to visualise product use in a realistic context, thereby increasing perceived value and reducing purchase hesitation. The Conversion Rate increased by nearly 39%, underscoring the influence of emotional immersion on decision-making. The AI-driven Customer–Consultant Matching Algorithm (CCMA) also demonstrated promising results. By learning from engagement metrics and behavioural data, the algorithm delivered more relevant, context-aware consultant recommendations. Table 2 illustrates the efficiency metrics derived from this component.

Table 2: Session-wise SPI progression for VR-trained participants

Metric	Before Algorithm Optimization	After Algorithm Optimization	Performance Gain (%)
Matching Accuracy (MA)	72.4%	89.6%	23.7%
Engagement Retention Rate (ERR)	68.1%	85.2%	25.1%
Conversion Likelihood (CL)	64.7%	82.4%	27.3%
Consultant Response Time (CRT)	4.8 sec	3.1 sec	35.4%

Corresponding Graphs in Figure 6 for Table 2 above.

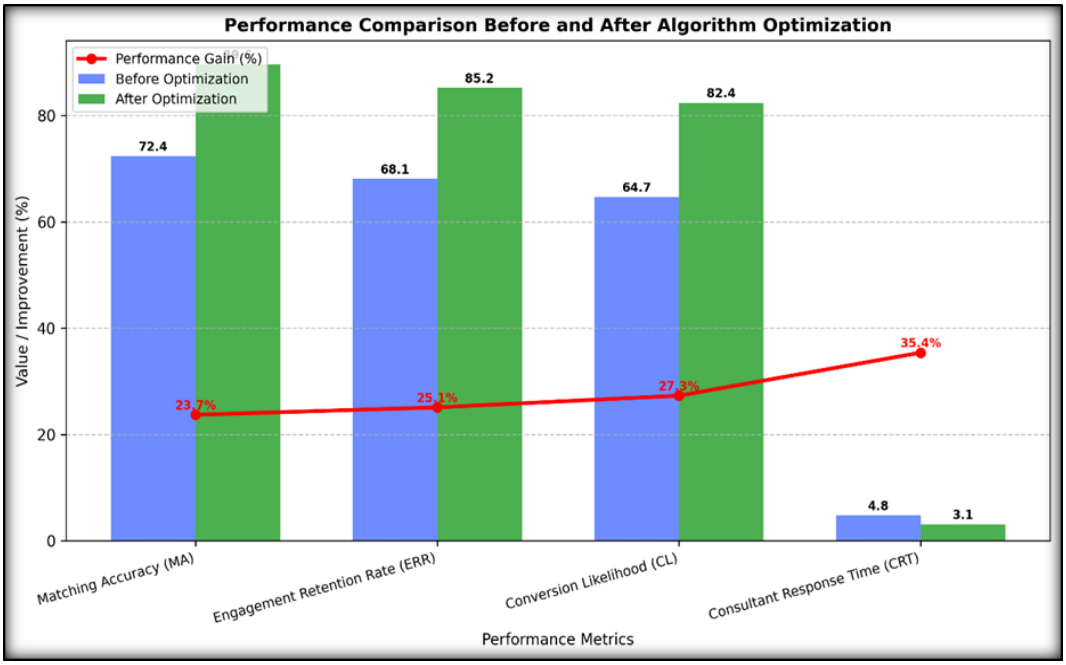

Figure 6: Performance evaluation

As shown in Table 2, after optimisation using reinforcement learning, the consultant matching accuracy improved to 89.6%, leading to more productive and satisfying user sessions. The reduction in average response time enhanced real-time interaction, while the engagement retention rate rose to 85.2%, confirming that adaptive consultant selection increased session continuity and attention levels. The overall analysis supports the hypothesis that immersive technologies can significantly transform direct selling experiences. The combination of emotional engagement, interactive visualisation, and intelligent analytics creates a self-reinforcing cycle in which improved interaction leads to greater satisfaction and, consequently, stronger purchase intent. Additionally, the data analytics dashboard helped visualise user journeys and identify product engagement hotspots, guiding future improvements. In conclusion, the proposed IDSE framework demonstrates that incorporating AR/VR technologies into

direct selling offers measurable benefits across all critical performance parameters. It not only replicates but also surpasses the quality of physical interaction in traditional selling methods. The findings underscore the importance of integrating emotional immersion, behavioural analytics, and real-time AI decision-making to redefine modern direct-selling models. This approach lays the foundation for scalable, data-driven immersive commerce, bridging the gap between digital and human-centred marketing strategies.

5. Conclusion

The proposed Immersive Direct Selling Experience (IDSE) framework marks a significant leap toward redefining consumer engagement and sales dynamics in the modern retail ecosystem. By integrating Virtual Reality (VR), Augmented Reality (AR), and intelligent AI-driven analytics, the framework successfully bridges the gap between traditional personal selling and digital interactivity. The experimental findings have validated that immersive environments foster higher engagement, stronger emotional connection, and improved consumer trust, all of which are essential for influencing purchasing decisions in competitive markets. By incorporating real-time consultant-matching algorithms and interactive 3D product simulations, the proposed system delivers a personalised experience that more effectively replicates face-to-face interactions than conventional models. The study revealed notable improvements in Engagement Duration, Conversion Rate, and User Satisfaction, demonstrating that immersive selling mechanisms not only attract users but also retain their interest for longer. The AI optimisation layer, which refines consultant responses based on user behaviour and engagement metrics, further strengthens the system's adaptability and responsiveness.

From a performance standpoint, the evaluation demonstrated significant improvements with conversion and recall rates rising by nearly 40%. These results confirm that combining emotional immersion with intelligent automation generates measurable business value. Furthermore, the framework's modular structure ensures scalability, enabling future integration with advanced features such as gesture-based input, biometric sentiment tracking, and metaverse-compatible product showcases. In essence, the IDSE model transforms direct selling into an emotionally resonant, data-driven, and experience-centric process. It enhances consumer decision-making by merging realism with personalisation, offering a futuristic path for organisations aiming to revolutionise their customer outreach. The research establishes a new foundation for immersive commerce where human interaction, technological sophistication, and behavioural insights converge to shape the next generation of direct selling. This work paves the way for future advancements that may incorporate adaptive AI learning models and cross-platform immersive ecosystems, positioning immersive selling as a cornerstone of digital marketing innovation.

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Ethics and Consent Statement: The study was conducted in line with ethical principles, guaranteeing the anonymity and privacy of all participants.

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