

“Impact of Digital Platforms on Marketing of Regional Dairy Products in the Cooperative Sector”

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Abstract

This paper examines how digital platforms are transforming the marketing of regional dairy products produced by cooperative institutions. Focusing on value-added activities such as regional branding (ghee, paneer, and artisanal cheese), quality-based premium pricing, traceability, and Direct-to-Consumer (D2C) channels, the study uses a multi-site mixed-methods research design to measure their impact on market reach, price realization, seasonal management, and cooperative governance.

The paper proposes that platform affordances—such as market access, traceability, digital payments, and targeted marketing—interact with cooperative capabilities and regional brand identity to shape marketing outcomes. The findings aim to guide cooperative leaders, digital platform designers, and policymakers in scaling regional dairy brands without weakening cooperative principles.

The rapid adoption of digital platforms is reshaping the marketing of regional dairy products in the cooperative sector. Products such as locally branded ghee, paneer, traditional cheese, and dairy sweets derive value from origin, quality, and cultural identity. However, they often face challenges such as limited market access, weak branding, and high distribution costs. This study examines how digital platforms—including D2C marketplaces, social media marketing, traceability systems, digital payments, and logistics integration—affect the marketing performance of these products within dairy cooperatives.

Keywords

Digital Platforms, Regional Dairy Products, Cooperative Sector, Marketing, Traceability, D2C, India.

1. Introduction

Regional dairy products are defined as dairy items with a specific local identity, such as region-branded ghee, paneer, specialty cheese, and dairy sweets. These products offer high potential for cooperatives because they can earn quality premiums and strengthen local value chains.

Digital platforms—such as online marketplaces, social media, mobile applications, and traceability systems—create new marketing channels beyond traditional retail. They allow cooperatives to reach niche consumers, communicate product origin, and coordinate supply chains more effectively.

Leading cooperative institutions (for example, the Amul model and major state federations) have already invested in digital marketing and integrated platforms to maintain scale and access new markets.

2. Objectives of the Study

1. To study the use of digital platforms by dairy cooperatives.
2. To analyze the role of digital platforms in market expansion and sales growth.
3. To evaluate the effectiveness of digital marketing tools in brand building and Customer engagement.

1. To study the use of digital platforms by dairy cooperatives.

Digital platforms are being adopted by dairy cooperatives at varying speeds, primarily to disintermediate the supply chain, enhance transparency, and directly reach stakeholders.

Key Digital Platforms in Use:

Enterprise Resource Planning (ERP) & Supply Chain Management Systems: Platforms like SAP or tailored Agri-ERPs integrate procurement, production, inventory, and logistics. They track milk from collection at village societies to processing plants, ensuring quality and payment traceability (Example: Amul's system).

Farmer-Facing Mobile Applications: These apps provide farmers with:

Payment Information: Instant updates on milk quality-based payments.

Animal Care: AI-based advisory on cattle health, nutrition, and breeding.

Input Access: Digital catalogs for fodder, veterinary medicines, and insurance.

Knowledge Hub: Weather alerts and best practices. (Example: Karnataka Milk Federation's "KsheerSagar" app).

E-Commerce and Direct-to-Consumer (D2C) Platforms:

Own Websites/Apps: Cooperatives sell products directly to consumers (B2C) and businesses (B2B).

Marketplace Partnerships: Listing on platforms like BigBasket, Blinkit, Amazon Fresh, SwiggyInstamart to access urban markets.

Social Media and Communication Platforms:

WhatsApp Business: Used for farmer groups, grievance redressal, and B2B customer orders.

Facebook & Instagram: Primarily for consumer engagement, promotions, and brand building.

Data Analytics & Iota Platforms: Sensors at collection centers, GPS in logistics, and AI for demand forecasting help optimize operations and reduce waste.

Drivers of Adoption:

Government Initiatives: Policies like Digital India and subsidies for Agri-tech.

COVID-19 Pandemic: Accelerated the shift to online sales and contactless transactions.

Competition: Pressure from private dairy brands and the need for market agility.

Consumer Demand: For transparency, subscription models, and niche products (organic, A2 milk).

Challenges in Use:

Digital Literacy: Varying levels among farmers and rural staff.

Infrastructure: Unreliable internet connectivity in remote areas.

Integration Costs: High initial investment for robust platforms.

Data Management: Handling vast amounts of data securely and effectively.

2. To analyze the role of digital platforms in market expansion and sales growth.

Digital platforms are transformative for market expansion, allowing cooperatives to break geographical and logistical barriers.

Mechanisms for Expansion and Growth:

Geographic Expansion: E-commerce enables a cooperative from one state to sell paneer, ghee, or specialty cheeses pan-India without a physical supply chain in every city. (Example: Nandini (KMF) supplying to North Indian markets online).

New Customer Segments:

Urban, Premium Consumers: D2C websites attract health-conscious consumers seeking traceability and artisanal products.

Institutional Buyers: B2B portals cater to hotels, restaurants, cafés (HORECA), and catering businesses with bulk ordering.

Product Portfolio Diversification: Digital channels are ideal for launching and testing niche, high-margin products (e.g., probiotic yogurts, flavored cheeses) that may not have shelf space in general trade.

Demand-Driven Production: Analytics from sales platforms provide insights into regional preferences and seasonal demand, allowing for better production planning and reduced inventory costs.

Subscription & Loyalty Models: "Milk-on-subscription" models ensure predictable sales and deepen customer relationships.

Operational Efficiency Leading to Growth: Digital procurement and logistics reduce costs, allowing for competitive pricing and better margins, which can be reinvested in growth.

Evidence of Impact:

Sales Growth: Major cooperatives report 20-40% of new sales coming from digital channels, with D2C margins often being higher than traditional trade.

Market Intelligence: Digital tools provide real-time data on what is selling where, informing both marketing and production strategies.

3. To evaluate the effectiveness of digital marketing tools in brand building and customer engagement.

Digital marketing has shifted cooperatives from being B2B wholesalers to consumer-facing brands.

Effectiveness in Brand Building:

Storytelling & Authenticity: Platforms like Instagram and YouTube are used to tell the cooperative's story—the farmer's livelihood, sustainable practices, and community impact. This builds an authentic, trust-based brand distinct from corporate entities.

Reinforcing Core Values: Content highlighting quality checks, women dairy farmers (Dudhmotis), and rural empowerment strengthens the cooperative's ethical brand image.

Creating Modern Perception: Sleek websites, engaging social media content, and influencer partnerships help shed the "old-fashioned" image and appeal to younger demographics.

Effectiveness in Customer Engagement:

Two-Way Communication: Social media enables direct conversation. Responding to queries and complaints publicly demonstrates responsiveness.

Educational Content: Blogs and videos on nutrition, recipes using dairy products, and behind-the-scenes processes keep the audience engaged and positioned as an expert.

Targeted Campaigns: Tools like Facebook/Google Ads allow for:

Geo-targeting: Promoting specific products in cities where they are available.

Interest-based targeting: Reaching fitness enthusiasts with protein-rich products.

User-Generated Content (UGC): Running contests for recipes or experiences encourages customers to create content, providing social proof and deepening engagement.

Performance Metrics: The effectiveness is highly measurable through:

Engagement Rate: Likes, shares, comments on posts.

Website Traffic & Conversion Rate: From ads or social media.

Email Open Rates & Click-Through Rates (CTR).

Sentiment Analysis: Gauging brand perception from social media comments.

Limitations & Challenges:

Resource Intensity: Requires a dedicated digital marketing team and budget.

Consistency: Maintaining regular, high-quality content is challenging.

Balancing Audiences: The messaging must resonate with both urban end-consumers and rural farmer-members, which can be divergent.

ROI Measurement: Attributing direct sales to specific brand-building activities can be complex.

3. Literature Review and Theoretical Framework

3.1 Cooperatives and Regional Branding

Historically, cooperatives have enabled small producers to pool supply, invest in processing, and market under a collective brand. Regional branding converts local identity and traditional processes into market differentiation. However, capturing premium prices requires consistent quality, certification, and storytelling.

3.2 Digital Platforms in Dairy Marketing

Literature on “Dairy 4.0” and cooperative digitalization shows that digital tools improve operational performance, market reach, and member services when supported by good governance and capacity building.

3.3 Platform Affordances → Marketing Outcomes Model

The proposed causal pathway includes:

Platform Affordances, Marketplaces and D2C channels, Traceability and quality certification

Targeted digital marketing and storytelling, Digital logistics coordination, Payment and financial integration, Mediators, Brand credibility, Fulfillment reliability, Price signaling, Customer engagement, Outcomes, Expanded market reach, Higher price premiums, Reduced seasonal losses, Improved farmer income, Changes in cooperative bargaining power and governance, This framework guides measurement and hypothesis development.

5. Methodology

5.1 Research Design – Comparative Mixed Methods

A multi-site study of six dairy cooperatives of different sizes and regions that launched region-specific dairy products and adopted digital marketing in the last three years.

Components

1. Quantitative Data

Monthly sales and price records (before and after platform adoption, up to 36 months)

Platform analytics: traffic, conversion rates, repeat purchases, geographic distribution

Farmer income survey (approximately 900 households)

2. Consumer Experiments

Discrete Choice Experiments (DCEs) and willingness-to-pay auctions to test traceability labels and origin stories

3. Qualitative Methods

Semi-structured interviews with cooperative managers, marketing staff, logistics partners, and 60 consumers

Ethnographic observation of procurement, processing, and packaging practices

6. Advantages of Digital Platforms in Marketing Regional Dairy Products

1. Expanded market reach
2. Cost-effective marketing
3. Direct customer engagement
4. Improved brand building and awareness
5. Real-time market information
6. Enhanced supply chain efficiency
7. Support for farmer empowerment and income stability

7. Limitations and Ethical Considerations

1. Limited generalizability beyond Indian cooperatives
2. Data gaps in cooperative records
3. Risk of unequal benefit distribution among members
4. Ethical protocols ensure informed consent, anonymity, and data protection

8. Conclusion

Digital platforms offer high-return opportunities for cooperatives marketing regional dairy products by enabling urban reach, origin-based premiums, and shorter supply chains. However, success depends on complementary investments in infrastructure, marketing skills, and governance systems that ensure fair benefit sharing among producer members. This paper provides a strong empirical framework to measure these impacts and offers actionable guidance for cooperatives and policymakers.

9. References (Indicative)

- Amul Cooperative Model and Digital Marketing Reports
- Dairy 4.0 and Cooperative Digitalization Studies
- Indian Dairy Branding and Digital Marketing Case Studies

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