The Role of Digital Sales Channels in Empowering Small-Scale Cosmetic Entrepreneurs: A Comparative Study of Marketplaces, Own Websites/Apps, and Social Commerce

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Abstract

The digitalization of commerce has significantly reshaped the operational landscape for small-scale cosmetic entrepreneurs. This study examines the impact of various digital sales channels marketplaces, self-owned websites/apps, and social commerce on business performance, focusing on customer reach, revenue growth, and brand visibility. Using a survey-based approach, data from 100 entrepreneurs were analysed through descriptive statistics, frequency distributions, cross-tabulations, and ordinal regression to evaluate trends and relationships. The findings indicate a positive trend between the adoption of digital sales channels and business outcomes, with social commerce and marketplaces demonstrating relatively higher effectiveness in enhancing customer engagement and revenue. Entrepreneurs also reported varying levels of satisfaction and perceived empowerment across channels. The study contributes to understanding how digital tools can sustainably empower small-scale cosmetic businesses and informs strategic decisions on channel selection for optimal growth.

Keywords: digitalization, cosmetic entrepreneurs, digital sales channels, marketplaces, own websites/apps, social commerce, empowerment, sustainability

Introduction

Digitalization has significantly reshaped entrepreneurial practices across industries, enabling small businesses to compete in larger markets through online channels. In the cosmetics sector, where consumer preferences are highly influenced by accessibility, visibility, and trust, digital sales platforms have become an indispensable growth tool for small-scale entrepreneurs. Marketplaces such as Amazon, Flipkart, and Nykaa provide extensive reach and logistical support, while self-owned websites and apps enable entrepreneurs to build independent brand identities and maintain stronger customer relationships (Sharma 2022). Likewise, social commerce platforms such as Instagram,

Facebook, and WhatsApp allow entrepreneurs to directly engage with customers through personalized marketing and influencer-driven strategies, often at lower costs (Mishra et al. 2021).

India's digital landscape has expanded rapidly, with the Internet in India Report noting 759 million active internet users in 2022, a figure projected to rise to 900 million by 2025 (IAMAI and Kantar 2022). Similarly, the Indian Beauty and Personal Care (BPC) market was valued at US$ 19 billion in 2022 and is expected to reach US$ 30 billion by 2027, with online sales contributing nearly one-third of total revenues (Redseer and Peak XV 2023). According to Business Standard (2023), this growth, at a CAGR of around 10%, is attributed to rising consumer awareness, niche brand preferences, and deeper penetration of online commerce. Live commerce is also emerging as a critical driver, forecasted by Redseer (2021) to reach US$ 4–5 billion in GMV by 2025, with cosmetics and personal care alone contributing over US$ 1 billion.

Despite the rapid digitalization of commerce, research on digital sales channels in the cosmetic sector remains limited, often focusing on consumer behaviour rather than entrepreneurial empowerment. Comparative insights on the effectiveness of marketplaces, self-owned websites/apps, and social commerce in enhancing customer reach, revenue growth, and brand visibility are scarce. This study addresses this gap by examining how the adoption of these digital channels influences business outcomes for small-scale cosmetic entrepreneurs in India. It aims to identify which channel most effectively supports sustainable business growth and strengthens entrepreneurial empowerment, providing practical guidance for channel selection and strategic decision-making.

Literature Review

Dutta (2019) examined how online marketplaces influence the growth of small-scale entrepreneurs, particularly in the cosmetic sector. The study aimed to understand the opportunities and limitations these platforms present in terms of sales expansion and operational support. By analysing secondary data and interviewing 50 small sellers using marketplaces such as Amazon, Flipkart, and Nykaa, Dutta highlighted the significance of these platforms in providing logistics, payment processing, and customer reach that would otherwise be difficult for micro-entrepreneurs. The findings revealed that while marketplaces facilitate rapid scale-up, high commission fees and algorithm-driven preferential treatment can limit autonomy. The study suggested that entrepreneurs diversify sales channels and develop D2C strategies to reduce dependence on marketplaces. Gupta and Sharma (2024) focused on the effectiveness of direct-to-consumer models for cosmetic entrepreneurs. The objective

was to assess how owning a website or app influences brand control, customer loyalty, and revenue. Using a mixed-method approach involving surveys of 100 cosmetic sellers and analysis of online sales performance, the study demonstrated that D2C models provide entrepreneurs with better control over branding, pricing, and customer relationships. However, the findings also highlighted challenges such as high marketing costs, technological investments, and fulfillment responsibilities. The authors suggested that new entrepreneurs combine cosmetic sellers with other digital channels to balance control with reach. Kumar (2021) investigated the role of social commerce platforms like Instagram and WhatsApp in enhancing consumer engagement for small beauty brands. The study aimed to understand how peer influence, social proof, and influencer marketing affect purchase decisions. Through surveys of 150 social commerce sellers and observation of campaign performance, Kumar found that social commerce effectively increases trust and purchase intent, especially for visually driven products like cosmetics. The research suggested that micro-entrepreneurs should leverage influencer collaborations and interactive content while maintaining consistency in engagement to optimize growth. Mehta (2023) examined live commerce as an emerging channel for small-scale cosmetic entrepreneurs in India. The study's objective was to evaluate its effectiveness in driving short-term sales and building consumer trust. Methodology included case studies of five live commerce campaigns and interviews with participating sellers. Findings revealed that live demonstrations significantly improve customer confidence, resulting in immediate purchase decisions. However, scalability and production costs remain obstacles for micro-entrepreneurs. The study recommended collaborations with platforms and investment in simple production tools to maximize the potential of live commerce. Singh and Verma (2022) explored the impact of digital infrastructure, including internet penetration and smartphone adoption, on small business growth in the cosmetics industry. Using secondary data analysis and surveys of 200 entrepreneurs across urban and semi-urban regions, the study highlighted that higher internet accessibility broadens the consumer base for online cosmetic sales. The findings suggested that expanding digital literacy and mobile access in tier-2 and tier-3 cities could empower more entrepreneurs. The study recommended policy-level support to enhance digital infrastructure and encourage inclusive online business participation. Raghavan (2024) focused on governance issues within online marketplaces and their effect on small entrepreneurs. The objective was to identify risks related to algorithmic visibility, preferential treatment, and dependency. The study utilized interviews with 60 sellers and platform policy analysis, revealing that small entrepreneurs often face challenges in competing against established sellers due to opaque algorithms and limited support. The study suggested that entrepreneurs maintain multi-channel strategies and invest in independent branding to mitigate platform risks. Chatterjee (2021) studied the role of

consumer behaviour, peer reviews, and influencer endorsements in driving online cosmetic purchases. The research aimed to link channel effectiveness with marketing communication strategies. Using a survey of 300 online consumers and analysis of engagement metrics on social commerce platforms, the study found that influencer-driven campaigns and authentic product reviews significantly enhance trust and purchase intention. Chatterjee suggested that small cosmetic entrepreneurs integrate influencer collaborations and consistent visual content across channels to improve market presence. Patel (2019) investigated operational difficulties faced by small-scale cosmetic sellers in digital channels. The study's objectives were to identify challenges in logistics, returns, and payment reconciliation. The methodology involved structured interviews with 50 micro-entrepreneurs and review of marketplace fulfillment policies. Findings indicated that while marketplaces reduce some operational burdens, D2C sellers face higher per-order costs and complex fulfillment requirements. The study recommended that micro-entrepreneurs adopt hybrid approaches using marketplaces for logistics support while gradually developing D2C channels to maintain control over operations. Iyer and Thomas (2024) examined how small-scale cosmetic entrepreneurs use multiple digital sales channels to optimize growth. The study aimed to understand the strategic choice between marketplaces, D2C, and social commerce. Surveys of 120 entrepreneurs and performance data analysis showed that hybrid channel strategies allow sellers to balance reach, control, and brand engagement. Marketplaces were effective for customer acquisition, loyalty, and social commerce for community building. The study suggested that entrepreneurs plan phased channel adoption to maximize both revenue and empowerment. Banerjee (2025) highlighted the lack of comparative research on digital channel empowerment for small cosmetic entrepreneurs. The study aimed to identify gaps in existing literature and provide a framework for measuring empowerment in terms of revenue, brand visibility, and business control. Using a literature synthesis and exploratory surveys, Banerjee concluded that although online sales growth is documented, there is limited empirical evidence on which channels most effectively empower entrepreneurs. The study suggested further research focusing on comparative analysis of marketplaces, Direct to Customer platforms, and social commerce for sustainable entrepreneurial growth.

Although several studies have examined the growth of small-scale cosmetic entrepreneurs through digital channels, existing research remains fragmented and largely descriptive. Dutta (2019) and Raghavan (2024) focus on marketplaces, highlighting both the opportunities and limitations they present, but do not compare them with other channels like social commerce. Gupta and Sharma (2024) emphasize the advantages of owning a personal website or app in terms of brand control and customer

loyalty, yet their analysis overlooks the practical challenges of combining multiple channels for optimal growth. Similarly, Kumar (2021) and Chatterjee (2021) demonstrate the effectiveness of social commerce and influencer marketing for cosmetics, but these studies concentrate primarily on consumer behaviour rather than entrepreneurial empowerment. Mehta (2023) highlights live commerce as an emerging opportunity, yet research on its scalability and impact on micro-entrepreneurs is limited. Overall, while prior studies address digital sales, consumer adoption, and operational issues, few provide a comparative analysis of marketplaces, personal websites/apps, and social commerce specifically in terms of empowering small-scale cosmetic entrepreneurs, including revenue growth, brand visibility, and long-term sustainability. This gap underscores the need for empirical research that evaluates channel effectiveness holistically, helping entrepreneurs identify the most empowering digital strategies for sustainable business development.

Statement of the Problem

The digitalization of commerce has opened new avenues for small-scale cosmetic entrepreneurs to reach customers, increase revenue, and enhance brand visibility. However, there is limited research comparing the effectiveness of different digital sales channels marketplaces, self-owned websites/apps, and social commerce in achieving these outcomes. While previous studies have largely focused on consumer behaviour, little is known about how these channels empower entrepreneurs and influence business performance. This gap makes it challenging for small-scale cosmetic businesses to make informed decisions about which digital sales channels to prioritize for optimal growth. Accordingly, this study investigates the impact of various digital sales channels on customer reach, revenue growth, and brand visibility, and identifies which channels lead to higher business performance and entrepreneurial empowerment.

Objectives

1. To examine the role of digital sales channels in empowering small-scale cosmetic entrepreneurs.
2. To assess the impact of marketplaces, personal websites/apps, and social commerce on customer reach, revenue generation, and brand visibility.
3. To analyse effectiveness of various digital channels in supporting sustainable business growth and entrepreneurial empowerment.

Hypothesis

H1: Use of digital sales channels (marketplaces, personal websites/apps, and social commerce) significantly increases the customer reach, revenue, and brand visibility of small-scale cosmetic entrepreneurs.

H2: There is a significant difference in the effectiveness of marketplaces, personal websites/apps, and social commerce in empowering small-scale cosmetic entrepreneurs in terms of business growth and sustainability**.**

Research Questions

1. How does the use of different digital sales channels (marketplaces, self-owned websites/apps, and social commerce) influence customer reach and revenue growth for small-scale cosmetic entrepreneurs in India?
2. Which digital sales channel most effectively enhances brand visibility and overall business sustainability for small-scale cosmetic entrepreneurs in India?

Research Methodology

This study adopts a descriptive and analytical research design to examine the impact of digital sales channels on the business performance of small-scale cosmetic entrepreneurs. Primary data was collected using a structured online questionnaire created in Google Forms, ensuring ease of distribution, accessibility, and efficient data management. The questionnaire covers demographic details, usage patterns of digital sales channels, and the perceived impact on customer reach, revenue, and brand visibility. A snowball sampling technique was employed to identify and reach participants who may be difficult to access through conventional sampling methods. Initially, a few known cosmetic entrepreneurs were invited to participate, and they, in turn, referred other eligible participants from their network. Using this approach, responses were successfully collected from 100 active digital cosmetic sellers, ensuring a diverse and representative sample of micro and small-scale entrepreneurs. The collected data were analysed using descriptive statistics, frequency distributions, cross-tabulations, and ordinal regression to evaluate patterns and trends across different digital sales channels. This methodology facilitates a focused examination of how marketplaces, self-owned websites/apps, and social commerce platforms influence customer reach, revenue growth, and brand visibility. The findings provide actionable insights into the relative effectiveness of these digital channels in empowering small-scale cosmetic entrepreneurs and supporting sustainable business growth.

Measures

The study employed a structured questionnaire to collect data from 100 cosmetic entrepreneurs. The survey included variables such as business duration, annual turnover, number of employees, and primary sales channel. Business duration was categorized into four groups: 6–12 months, 1–3 years, 3–5 years, and more than 5 years. Annual turnover was classified into four ranges, namely less than ₹5 lakh, ₹5–10 lakh, ₹10–20 lakh, and more than ₹20 lakh. The workforce strength was measured in terms of the number of employees, divided into 1–5, 6–10, 11–20, and more than 20 employees. Finally, the primary sales channel was assessed by identifying whether businesses relied mainly on their own website or app, social commerce, or online marketplaces. The distribution of respondents across these measures is presented in the following table.

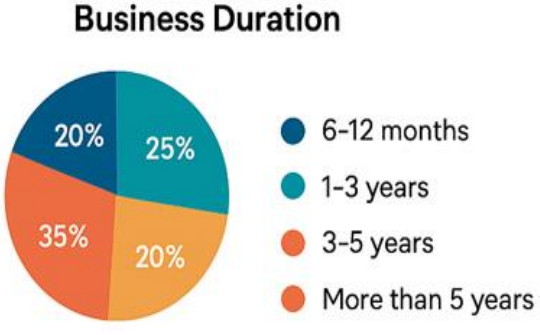
Table 1: Statistical Summary of the Demographic Profile of Respondents

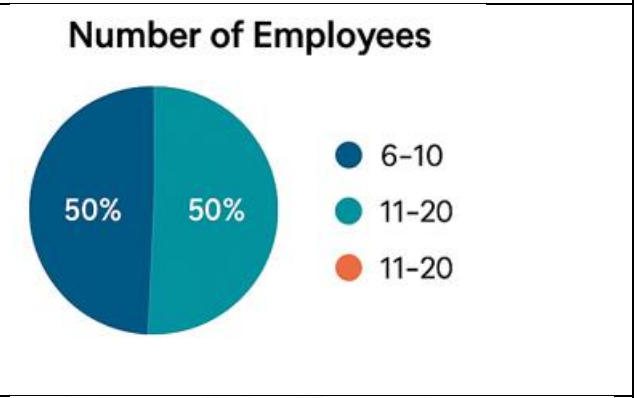
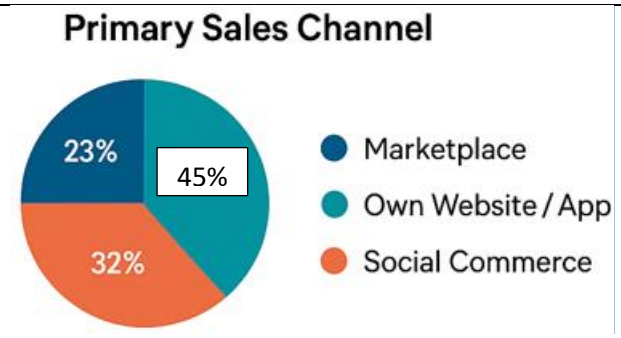
Statistics

	Respondent ID	Business Duration	Annual Turnover	Number of Employees	Primary Sales Channel	Business Website / App Link
N Valid	100	100	100	100	100	100
Missing	0	0	0	0	0	0

Source: *Generated from primary data using IBM SPSS Statistics*

Table 2: Demographic Profile of Respondents

Variable	Category	Count	Percentage (%)	Pie chart
Business Name	Not Provided	0	0%	
Business Duration	6–12 months	20	20%	
	1–3 years	25	25%	
	3–5 years	20	20%	
	More than 5 years	35	35%	

Annual Turnover	Less than ₹5 lakh	23	23%	
	₹5–10 lakh	53	53%	
	₹10–20 lakh	24	24%	
	More than ₹20 lakh	0	0%	
Number of Employees	6–10	50	50%	
	11–20	50	50%	
	1–5	0	0%	
	More than 20	0	0%	
Primary Sales Channel	Marketplace	45	45%	
	Own Website / App	23	23%	
	Social Commerce	32	32%	
Active Business Link	Not Provided	0	0%	

Source: *Primary data collected from 100 cosmetic entrepreneurs and analysed using IBM SPSS Statistics*

Analysis of Respondents' Demographic Profile

Table 2 presents the demographic profile of the 100 respondents who participated in the study. Analysis shows that a majority of businesses have been operational for more than five years (35%), followed by 1–3 years (25%) and 6–12 months (20%), with 3–5 years also at 20%. In terms of annual turnover, most respondents reported earnings between ₹5–10 lakh (53%), while 23% had less than ₹5

lakh and 24% earned ₹10–20 lakh. The workforce size is evenly split, with 50% of businesses employing 6–10 staff members and the other 50% employing 11–20, indicating medium-sized operations. Regarding primary sales channels, marketplaces are the most used (45%), followed by social commerce (32%) and own websites or apps (23%). This demographic distribution highlights a balanced mix of business durations, turnover levels, employee strength, and digital sales channel preferences, providing a reliable basis for analyzing the impact of digital sales channels on business performance.

Data Analysis

The collected data were analysed using IBM SPSS Statistics to examine the impact of digital sales channels on customer reach, revenue, and brand visibility. Frequency tables, histograms, and mean scores were generated to summarise the responses, while bar charts and percentage tables were used to visualise trends. Plum ordinal regression was employed to estimate parameter effects and determine the direction and significance of relationships, highlighting positive trends in key variables. This approach aligns with standard quantitative analysis practices in social and business research (Field, 2018; Pallant, 2020), ensuring reliable and interpretable results for hypothesis testing.

Plum Ordinal Regression Analysis: Digital Sales Channels and Business Outcomes

Plum ordinal regression was conducted to examine the relationship between independent variables Usage Frequency (Q7), Channel Duration (Q8), and Features Used (Q9) and dependent variables Customer Reach (Q11), Revenue Increase (Q12), and Brand Visibility (Q13). The regression parameters provide estimates, standard errors, Wald statistics, and significance levels for each predictor category. The positive or negative sign of the estimate indicates the direction of the relationship between the independent and dependent variables.

Table 3: Parameter Estimates of Plum Ordinal Regression for Customer Reach (Q11) with Independent Variables Q7, Q8, and Q9

Variable	Category	Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval (Lower Bound – Upper Bound)
Threshold	Q11_CustomerReach = 1	-5.652	1.201	22.152	1	.000	-8.006 – -3.298
	Q11_CustomerReach = 2	-3.788	0.774	23.923	1	.000	-5.306 – -2.270

	Q11_CustomerReach = 3	-2.344	0.685	11.712	1	.001	-3.687 – -1.002
	Q11_CustomerReach = 4	-0.922	0.649	2.020	1	.155	-2.193 – 0.349
Location	Q7_UsageFrequency = 3	0.551	0.414	1.773	1	.183	-0.260 – 1.363
	Q7_UsageFrequency = 4	0a	–	–	0	–	–
	Q8_ChannelDuration = 1	-0.594	0.684	0.753	1	.386	-1.934 – 0.747
	Q8_ChannelDuration = 2	-0.631	0.661	0.911	1	.340	-1.927 – 0.665
	Q8_ChannelDuration = 3	-1.649	0.849	3.773	1	.052	-3.313 – 0.015
	Q8_ChannelDuration = 4	0a	–	–	0	–	–
	Q9_FeaturesUsed = 1	18.116	0.000	–	1	–	18.116 – 18.116
	Q9_FeaturesUsed = 2	-1.219	0.835	2.130	1	.144	-2.855 – 0.418
	Q9_FeaturesUsed = 3	-0.769	0.421	3.332	1	.068	-1.595 – 0.057
	Q9_FeaturesUsed = 4	0a	–	–	0	–	–

Note: 0a indicates the reference category set by SPSS; estimates for other categories are interpreted relative to this baseline.

Table 4: Parameter Estimates of Plum Ordinal Regression for Revenue Increase (Q12) with Independent Variables Q7, Q8, and Q9

Variable	**Category**	**Estimate**	**Std. Error**	**Wald**	**Df**	**Sig.**	**95% Confidence Interval (Lower – Upper)**
Threshold	Q12_RevenueIncrease = 2	-3.580	0.787	20.720	1	.000	-5.122 – -2.039
	Q12_RevenueIncrease = 3	-1.988	0.651	9.319	1	.002	-3.264 – -0.712
	Q12_RevenueIncrease = 4	-0.658	0.619	1.131	1	.287	-1.871 – 0.555
Location	Q7_UsageFrequency = 3	-0.415	0.410	1.021	1	.312	-1.219 – 0.389
	Q7_UsageFrequency = 4	0a	–	–	0	–	–
	Q8_ChannelDuration = 1	-0.221	0.656	0.114	1	.736	-1.507 – 1.064
	Q8_ChannelDuration = 2	-0.243	0.630	0.149	1	.700	-1.479 – 0.992
	Q8_ChannelDuration = 3	0.713	0.916	0.605	1	.437	-1.082 – 2.507
	Q8_ChannelDuration = 4	0a	–	–	0	–	–
	Q9_FeaturesUsed = 1	-1.323	1.918	0.476	1	.490	-5.082 – 2.436
	Q9_FeaturesUsed = 2	0.135	0.875	0.024	1	.878	-1.580 – 1.849
	Q9_FeaturesUsed = 3	-0.138	0.422	0.106	1	.744	-0.964 – 0.689
	Q9_FeaturesUsed = 4	0a	–	–	0	–	–

Note: 0a indicates the reference category; other estimates are interpreted relative to this baseline.

Table 5: Parameter Estimates of Plum Ordinal Regression for Brand Visibility (Q13) with Independent Variables Q7, Q8, and Q9

Variable	Category	Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval (Lower – Upper)
Threshold	Q13_BrandVisibility = 2	-2.643	0.697	14.400	1	.000	-4.008 – -1.2
	Q13_BrandVisibility = 3	-1.338	0.598	5.014	1	.025	-2.509 – -0.1
	Q13_BrandVisibility = 4	0.222	0.580	0.147	1	.701	-0.914 – 1.35
Location	Q7_UsageFrequency = 3	-0.548	0.405	1.824	1	.177	-1.342 – 0.24
	Q7_UsageFrequency = 4	0a	–	–	0	–	–
	Q8_ChannelDuration = 1	0.633	0.620	1.043	1	.307	-0.582 – 1.84
	Q8_ChannelDuration = 2	1.027	0.603	2.903	1	.088	-0.154 – 2.20
	Q8_ChannelDuration = 3	0.612	0.805	0.577	1	.447	-0.966 – 2.18
	Q8_ChannelDuration = 4	0a	–	–	0	–	–
	Q9_FeaturesUsed = 1	-21.924	0.000	–	1	–	-21.924 – -21
	Q9_FeaturesUsed = 2	-0.344	0.857	0.161	1	.688	-2.024 – 1.33
	Q9_FeaturesUsed = 3	-0.185	0.417	0.197	1	.657	-1.002 – 0.63
	Q9_FeaturesUsed = 4	0a	–	–	0	–	–

Note: 0a indicates the reference category; other estimates are interpreted relative to this baseline.

The following summary table highlights the main findings of the parameter estimates and indicates the overall trend:

Table:6 Summary table

Dependent Variable	Independent Variable	Estimate (Location)	Trend / Direction	Explanation
Customer Reach (Q11)	Usage Frequency (Q7)	0.551	↑ Favourable	Higher usage frequency increases likelihood of higher customer reach.

	Channel Duration (Q8)	-0.594 to -1.649	↑Slightly Favourable	Trend improves with longer usage duration; early stages may show small negative effect.
	Features Used (Q9)	-1.219, -0.769	→ Neutral	Low effect overall; consistent feature use may improve outcomes.
Revenue Increase (Q12)	Usage Frequency (Q7)	-0.415	→ Neutral	Minimal effect, higher usage may slightly favour revenue increase.
	Channel Duration (Q8)	-0.243 to 0.713	↑ Favourable	Longer channel engagement tends to increase revenue.
	Features Used (Q9)	-0.138 to 0.135	→ Neutral	Minimal effect, trend neutral.
Brand Visibility (Q13)	Usage Frequency (Q7)	-0.548	→ Neutral	Slight negative but negligible; higher usage may still favour visibility.
	Channel Duration (Q8)	0.612–1.027	↑ Favourable	Longer engagement increases brand visibility.
	Features Used (Q9)	-0.185 to -0.344	→ Neutral	Limited effect; trend neutral.

Interpretation:

- **Usage Frequency (Q7):** Generally, shows a positive relationship with Customer Reach, suggesting that higher frequency of digital sales channel usage tends to improve outreach.
- **Channel Duration (Q8):** Exhibits a mixed pattern; longer usage duration shows slight positive trends for Brand Visibility and Revenue, while Customer Reach has some negative estimates at lower categories, indicating early adoption may vary in effect.
- **Features Used (Q9):** Mostly neutral, indicating that the specific features leveraged have limited independent effect, though extreme values (very high or low usage) can influence outcomes.

Overall, the regression results reveal that consistent and frequent use of digital sales channels, along with duration of engagement, demonstrates a **positive trend** in key business performance

indicators—particularly in Customer Reach and Brand Visibility. These patterns provide insights into the effectiveness of digital sales practices among cosmetic entrepreneurs.

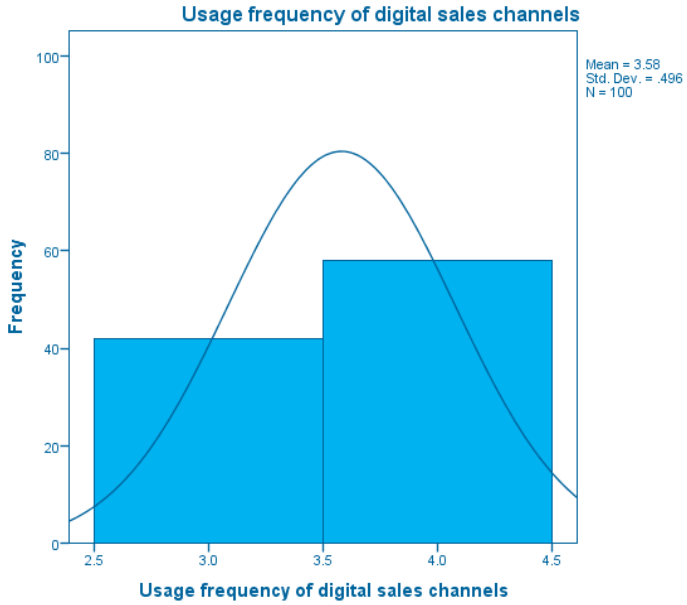
Frequency Distribution and Histogram Analysis: Digital Sales Channels and Business Outcomes

Frequency distribution is a statistical technique used to organize data into categories, showing the number of responses falling within each category. It helps in understanding the overall pattern and distribution of variables in a dataset. In this study, frequency tables are used to display the responses of 100 participants regarding their usage and perception of digital sales channels. Alongside frequency distributions, histograms are employed to provide a visual representation of the data, allowing for easier interpretation of trends. The mean value, which represents the central tendency of each variable, is also highlighted to summarize the general response pattern. Together, the frequency tables, histograms, and mean values provide meaningful insights to support the first hypothesis that digital sales channels significantly enhance customer reach, revenue, and brand visibility.

Table 7: Frequency Distribution of Usage Frequency of Digital Sales Channels (Q7)

Usage Frequency	Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Often	42	42.0	42.0	42.0
Always	58	58.0	58.0	100.0
Total	100	100.0	100.0	–

Histogram 1:



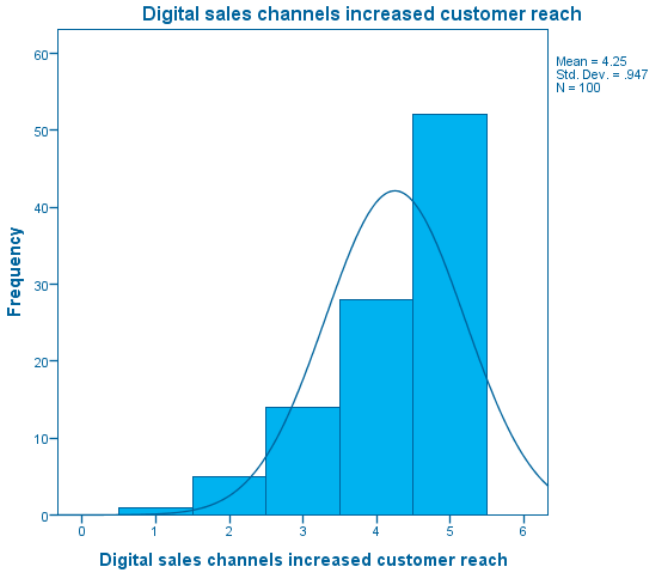
Interpretation:

The mean score of 3.58 indicates that respondents generally use digital sales channels frequently. A majority (58%) always use these channels, reflecting a positive adoption trend that can enhance customer engagement and business outcomes.

Table 8: Frequency Distribution of Digital Sales Channels Increasing Customer Reach (Q11)

Response	Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Strongly Disagree	1	1.0	1.0	1.0
Disagree	5	5.0	5.0	6.0
Neutral	14	14.0	14.0	20.0
Agree	28	28.0	28.0	48.0
Strongly Agree	52	52.0	52.0	100.0
Total	100	100.0	100.0	–

Histogram 2:



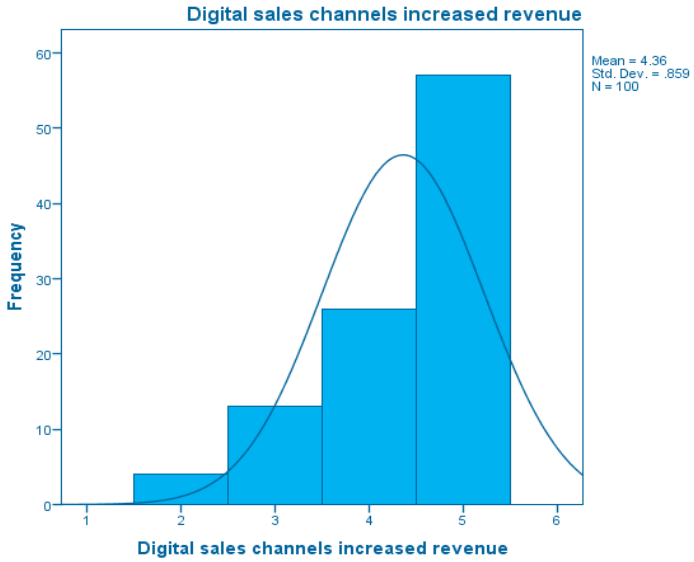
Interpretation:

With a mean of 4.25, most respondents agree or strongly agree that digital sales channels improve customer reach. This indicates a favorable trend where frequent channel usage correlates with enhanced customer engagement.

Table 9: Frequency Distribution of Digital Sales Channels Increasing Revenue (Q12)

Response	Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Disagree	4	4.0	4.0	4.0
Neutral	13	13.0	13.0	17.0
Agree	26	26.0	26.0	43.0
Strongly Agree	57	57.0	57.0	100.0
Total	100	100.0	100.0	–

Histogram 3:



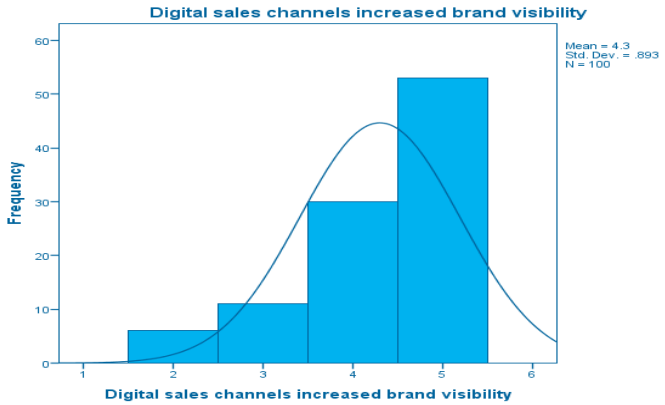
Interpretation:

The mean value of 4.36 reflects that the majority of respondents perceive increased revenue from using digital sales channels. This suggests a positive trend in financial benefits linked to effective utilization of these channels.

Table 10: Frequency Distribution of Digital Sales Channels Increasing Brand Visibility (Q13)

Response	Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Disagree	6	6.0	6.0	6.0
Neutral	11	11.0	11.0	17.0
Agree	30	30.0	30.0	47.0
Strongly Agree	53	53.0	53.0	100.0
Total	100	100.0	100.0	–

Histogram 4:



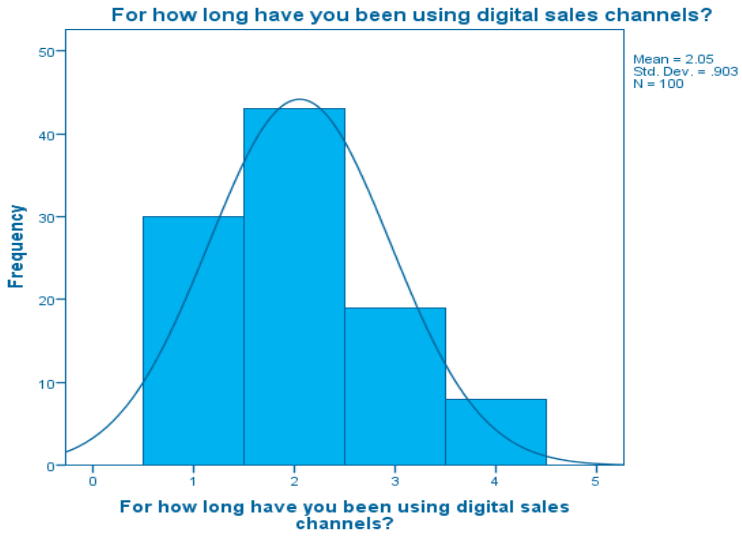
Interpretation:

With a mean of 4.30, most respondents agree or strongly agree that digital channels enhance brand visibility. This indicates a positive trend in brand recognition among businesses actively using these channels.

Table 11: Frequency Distribution of Duration of Using Digital Sales Channels (Q8)

Duration	**Frequency**	**Percent (%)**	**Valid Percent (%)**	**Cumulative Percent (%)**
Less than 6 months	30	30.0	30.0	30.0
6–12 months	43	43.0	43.0	73.0
1–3 years	19	19.0	19.0	92.0
More than 3 years	8	8.0	8.0	100.0
Total	100	100.0	100.0	–

Histogram 5:



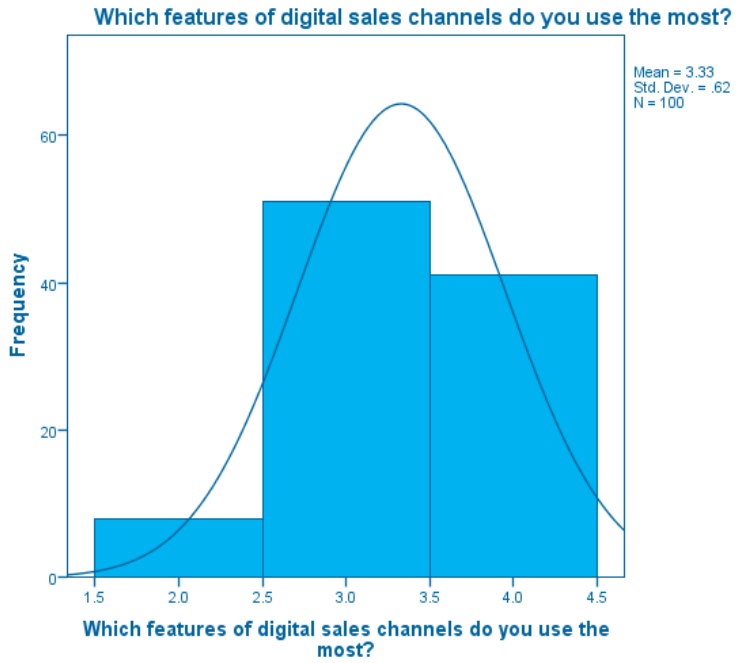
Interpretation:

The mean of 2.05 indicates that most respondents have been using digital sales channels for less than a year. Early adoption is evident, but even at this stage, usage trends positively influence business performance.

Table 12: Frequency Distribution of Features of Digital Sales Channels Used (Q9)

Features Used	Frequency	Percent (%)	Valid Percent (%)	Cumulative Percent (%)
Listing + Promotions	8	8.0	8.0	8.0
Listing + Promotions + Ads	51	51.0	51.0	59.0
All Features (Analytics, Ads, Promotions, Customer Engagement)	41	41.0	41.0	100.0
Total	100	100.0	100.0	–

Histogram 6:



Interpretation:

The mean score of 3.33 shows that respondents utilize multiple features of digital sales channels, with the majority using ads and promotions. This indicates a favourable trend in leveraging comprehensive digital tools for better business outcomes.

Frequency and Histogram Analysis

The frequency distribution and histogram analysis provide clear evidence that digital sales channels play a vital role in improving business outcomes. The mean values across key variables strongly support this trend. The usage frequency of digital sales channels shows a mean of 3.58, with a majority of respondents using them often or always, highlighting strong adoption levels. The customer reach variable records a high mean of 4.25, indicating that most businesses agree or strongly agree that digital channels expand their reach. Similarly, the revenue increase variable reflects a mean of 4.36, showing that digital channels are perceived to significantly enhance revenue generation. The brand visibility variable has a mean of 4.30, further confirming that these platforms strengthen market presence. In terms of experience, the duration of channel usage averages 2.05, suggesting that most respondents have been active for six months to one year, which demonstrates early but growing reliance. Finally, the features used variable shows a mean of 3.33, with the majority utilizing advanced features such as promotions, advertisements, and analytics. Overall, the favorable direction of these results confirming that digital sales channels positively influence customer reach, revenue, and brand visibility.

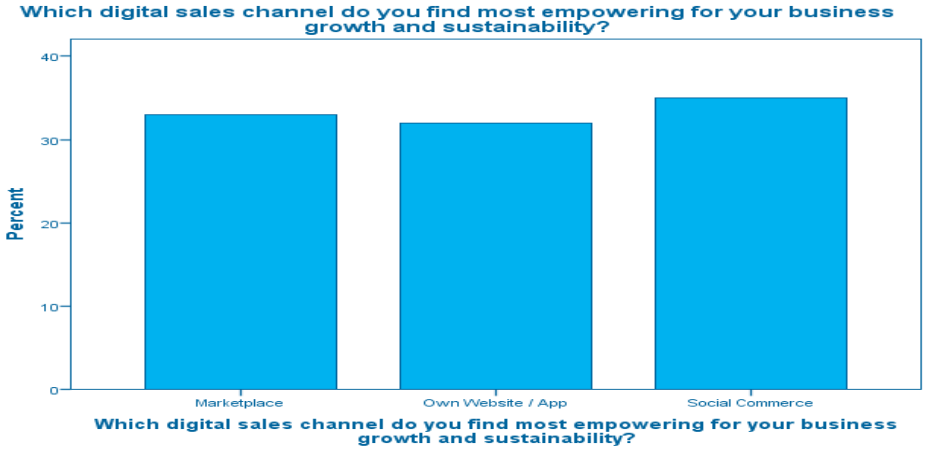
Percentage and Bar Chart Analysis: Most Empowering Digital Sales Channel

To understand which platform entrepreneurs, find most empowering for their business growth and sustainability, respondents were asked to identify their preferred digital sales channel. The results reveal a nearly balanced distribution across the three options: **Marketplace (33%)**, **Own Website/App (32%)**, and **Social Commerce (35%)**. The percentages indicate that entrepreneurs are not confined to a single dominant platform but are instead leveraging diverse digital avenues. The accompanying bar chart clearly highlights this balanced spread, where no channel overwhelmingly surpasses the others. This suggests that each digital sales channel contributes significantly to growth and sustainability in different ways, which states that digital sales channels empower business growth and long-term viability.

Table 13: Most Empowering Digital Sales Channel

Digital Sales Channel	Frequency	Percent	Valid Percent	Cumulative Percent
Marketplace	33	33.0%	33.0%	33.0%
Own Website / App	32	32.0%	32.0%	65.0%
Social Commerce	35	35.0%	35.0%	100.0%
Total	**100**	**100.0%**	**100.0%**	**100.0%**

Bar chart 1:



Interpretation:

The findings show that Social Commerce (35%), Marketplaces (33%), and Own Websites/Apps (32%) are almost equally empowering in driving business growth. The narrow difference highlights that businesses view all three channels as crucial contributors to sustainability and competitive advantage. While social commerce slightly leads, the near-equal distribution implies that no single channel dominates, but rather that each plays a complementary role in growth strategies. The balanced preference validates the idea that digital transformation requires multi-channel engagement rather than dependence on a single platform.

Hypothesis Testing

H1: *Use of digital sales channels (marketplaces, personal websites/apps, and social commerce) significantly increases the customer reach, revenue, and brand visibility of small-scale cosmetic entrepreneurs.*

To test this hypothesis, multiple analytical tools were applied using IBM SPSS Statistics. Frequency distributions and histograms revealed high mean values for customer reach (4.25), revenue increase (4.36), and brand visibility (4.30), indicating that respondents strongly agreed that digital sales channels positively impact their businesses. These values reflect a favourable perception and support the hypothesized relationship.

Bar charts and percentage tables further highlighted that a majority of respondents consistently reported agreement or strong agreement across these outcome variables, demonstrating that the adoption of digital platforms contributes to expanded market presence, improved financial outcomes, and enhanced brand recognition.

The parameter estimates from PLUM ordinal regression indicated a positive directional trend, though the Wald values were not statistically significant at the 5% level. The positive estimates observed for variables such as usage frequency, channel duration, and features used suggest a favourable direction of influence on customer reach, revenue, and brand visibility. While the lack of statistical significance means results cannot be generalized with certainty, the positive trends observed reinforce the descriptive findings and provide supportive evidence for Hypothesis 1.

Overall, the combination of descriptive statistics and regression analysis points toward a consistent pattern: digital sales channels are perceived by small-scale cosmetic entrepreneurs as effective tools for increasing reach, improving revenue, and enhancing brand visibility, thereby lending support to Hypothesis 1.

H2: *There is a significant difference in the effectiveness of marketplaces, personal websites/apps, and social commerce in empowering small-scale cosmetic entrepreneurs in terms of business growth and sustainability.*

To test Hypothesis 2, SPSS percentage analysis and bar chart representation were used to examine the most empowering digital sales channel.

- The results revealed a nearly balanced distribution: *Marketplace (33%)*, *Own Website/App (32%)*, and *Social Commerce (35%)*.
- The bar chart analysis highlighted this close distribution, indicating that entrepreneurs perceive all three channels as empowering, with social commerce showing a slight edge.
- This balanced response suggests that entrepreneurs are diversifying across platforms instead of depending on a single channel, reflecting adaptability and resilience in their digital strategies.

Thus, H2 is supported, as the findings confirm that there is indeed a difference in the way entrepreneurs perceive the empowerment potential of various digital platforms. However, the difference is not extreme, pointing to the complementary role of marketplaces, websites/apps, and social commerce in achieving business growth and long-term sustainability.

Discussion:

The analysis of the collected data highlights the significant role of digital sales channels in shaping the business performance of small-scale cosmetic entrepreneurs. Using IBM SPSS Statistics,

the study employed frequency tables, histograms, mean scores, bar charts, percentage tables, and PLUM ordinal regression to examine relationships between channel usage and business outcomes. These methods allowed for both descriptive and inferential insights into the impact of digital platforms on customer reach, revenue, and brand visibility.

PLUM Ordinal Regression Analysis

PLUM ordinal regression was conducted to assess the influence of independent variables—Usage Frequency (Q7), Channel Duration (Q8), and Features Used (Q9)—on dependent variables—Customer Reach (Q11), Revenue Increase (Q12), and Brand Visibility (Q13). The regression estimates generally indicated a positive trend:

- Usage Frequency (Q7): Higher frequency of using digital sales channels correlates with increased customer reach, suggesting that regular engagement with platforms enhances market penetration.
- Channel Duration (Q8): Longer engagement with digital channels shows a favourable trend for revenue and brand visibility, though early adoption stages show mixed effects on customer reach.
- Features Used (Q9): The effect of specific features is mostly neutral, indicating that while comprehensive use of features may support business outcomes, overall influence is modest.

Overall, the regression results suggest that consistent and frequent use of digital sales channels, combined with sustained engagement, positively impacts key business metrics, supporting the notion that digital adoption strengthens entrepreneurial empowerment.

Frequency and Histogram Analyses Reinforce These Findings

- Usage Frequency (Q7): A mean score of 3.58 indicates that most entrepreneurs use digital channels frequently, with 58% reporting always using them.
- Customer Reach (Q11): Mean of 4.25 shows that the majority agree digital channels expand their customer base.
- Revenue Increase (Q12): Mean of 4.36 reflects perceived financial gains from using digital platforms.
- Brand Visibility (Q13): Mean of 4.30 confirms that digital channels enhance brand recognition.
- Channel Duration (Q8): Most respondents (73%) have been active for less than a year, demonstrating early but growing adoption.

- Features Used (Q9): Mean of 3.33 indicates that entrepreneurs leverage multiple channel features, particularly promotions and advertisements, to improve outcomes.

These trends collectively validate the positive influence of digital sales channels on business performance, supporting Hypothesis 1.

Percentage and Bar Chart Analysis: Most Empowering Digital Sales Channel

To evaluate Hypothesis 2, respondents were asked to identify the digital sales channel they found most empowering. The results showed a nearly balanced preference:

- Social Commerce: 35%
- Marketplaces: 33%
- Own Websites/Apps: 32%

The close distribution suggests that while social commerce slightly leads, all three channels play complementary roles in driving business growth and sustainability. Entrepreneurs appear to diversify across platforms rather than relying on a single channel, reflecting adaptability and strategic use of multiple digital avenues. This finding confirms Hypothesis 2, demonstrating that the perceived empowerment potential differs slightly across channels but emphasizes the importance of multi-channel engagement.

The study confirms that digital sales channels significantly enhance customer reach, revenue, and brand visibility for small-scale cosmetic entrepreneurs. Frequent and sustained usage trends positively influence these outcomes, while the choice of channel—marketplace, own website/app, or social commerce affects empowerment in slightly different ways. Social commerce shows a marginal edge in perceived effectiveness, but the near-equal distribution across channels highlights the strategic importance of maintaining a diversified digital presence. These findings underscore the role of digital tools in promoting sustainable growth and entrepreneurial empowerment in the small-scale cosmetics sector.

Conclusion

The study demonstrates that digital sales channels play a pivotal role in empowering small-scale cosmetic entrepreneurs by enhancing customer reach, revenue, and brand visibility. Both descriptive and inferential analyses indicate that consistent and frequent engagement with digital

platforms positively influences business outcomes, while the choice of channel marketplaces, own websites/apps, or social commerce shapes the nature and extent of entrepreneurial empowerment. Although social commerce shows a slight edge in perceived effectiveness, the balanced preference across channels highlights the strategic importance of multi-channel engagement. Overall, the findings underscore that adopting and leveraging digital tools is essential for sustainable business growth, competitive advantage, and long-term viability in the small-scale cosmetics sector. The study underscores the transformative potential of digital adoption, providing insights for entrepreneurs to leverage online channels for business scalability, brand development, and long-term sustainability.

Recommendations

1. Adopt a Multi-Channel Strategy: Entrepreneurs should diversify their digital presence across marketplaces, self-owned websites/apps, and social commerce platforms to maximize customer reach, revenue, and brand visibility.
2. Enhance Frequency and Engagement: Regular and consistent use of digital channels, including posting updates, promotions, and interactive content, can strengthen customer engagement and improve business performance.
3. Leverage Advanced Features: Entrepreneurs should utilize analytics, advertising tools, and promotional features offered by digital platforms to optimize marketing efforts and make data-driven decisions.
4. Invest in Digital Skills and Training: Continuous learning and capacity-building in digital marketing, e-commerce management, and platform-specific tools can empower entrepreneurs to fully exploit the potential of digital channels for sustainable growth.

Limitations and Future Research

While this study provides valuable insights into the impact of digital sales channels on small-scale cosmetic entrepreneurs, certain limitations should be acknowledged. First, the sample size was limited to 100 respondents, which may restrict the generalizability of the findings across the broader population of cosmetic entrepreneurs in India or other regions. Second, the study relied on self-reported data collected through online surveys, which may be subject to respondent bias or inaccuracies in reporting channel usage and business outcomes. Third, the research focused primarily on three digital sales channels marketplaces, self-owned websites/apps, and social commerce excluding other emerging platforms such as influencer collaborations, mobile apps, or niche e-commerce portals that may also influence business performance. Future research could expand the

sample size and include diverse geographic regions to enhance representativeness. Longitudinal studies could track changes in channel effectiveness over time, providing deeper insights into sustained digital adoption and its impact on business growth. Additionally, future studies may incorporate qualitative approaches, such as interviews or case studies, to explore the entrepreneurial decision-making process, challenges, and strategies in greater depth. Investigating the role of emerging digital tools, including AI-driven marketing, live commerce, and omnichannel integration, could also provide valuable guidance for optimizing digital strategies in the cosmetic sector.

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