

IdleFish



The Joy of Reuse Greening IdleFish

Consumer Acceptance and Improvement
Strategies for **IdleFish**'s Green Marketing:
Evidence from **the Low-Carbon Double 11
Campaign**





Research Plan

Background, Approach, Model

Survey Design

Sampling Design



Background

Key National Policies

2021-2022

14th Five-Year Plan for Circular Economy Development

The 20th CPC National Congress

Building a **recycling system** for **waste** and used materials as a key task in promoting green transformation

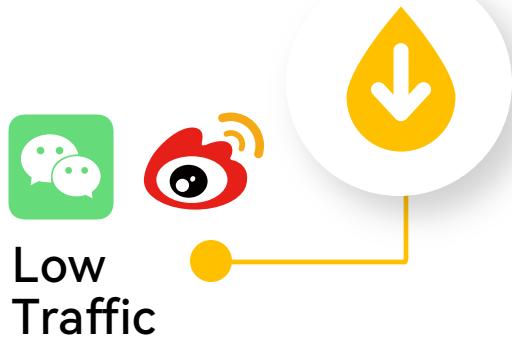
IdleFishes First Low-Carbon Double 11 Campaign

It broke the stereotype of IdleFish as a “**consumption downgrade**” platform, enhanced **brand awareness** and **reputation**, enriched its social value, and promoted **market standardization** and **regulation**.

Pre-Event Sentiment and Text Mining

After-Event Sentiment and Text Mining

Background



Low Traffic

IdleFishes official WeChat posts received **very few views and likes**. Meanwhile, posts from partner official Weibo accounts had even **lower engagement**, with view counts comparable to those of inactive accounts.

Current Challenges in IdleFishes Green Marketing Strategies

Low acceptance of the campaign among target users



Weak Exposure



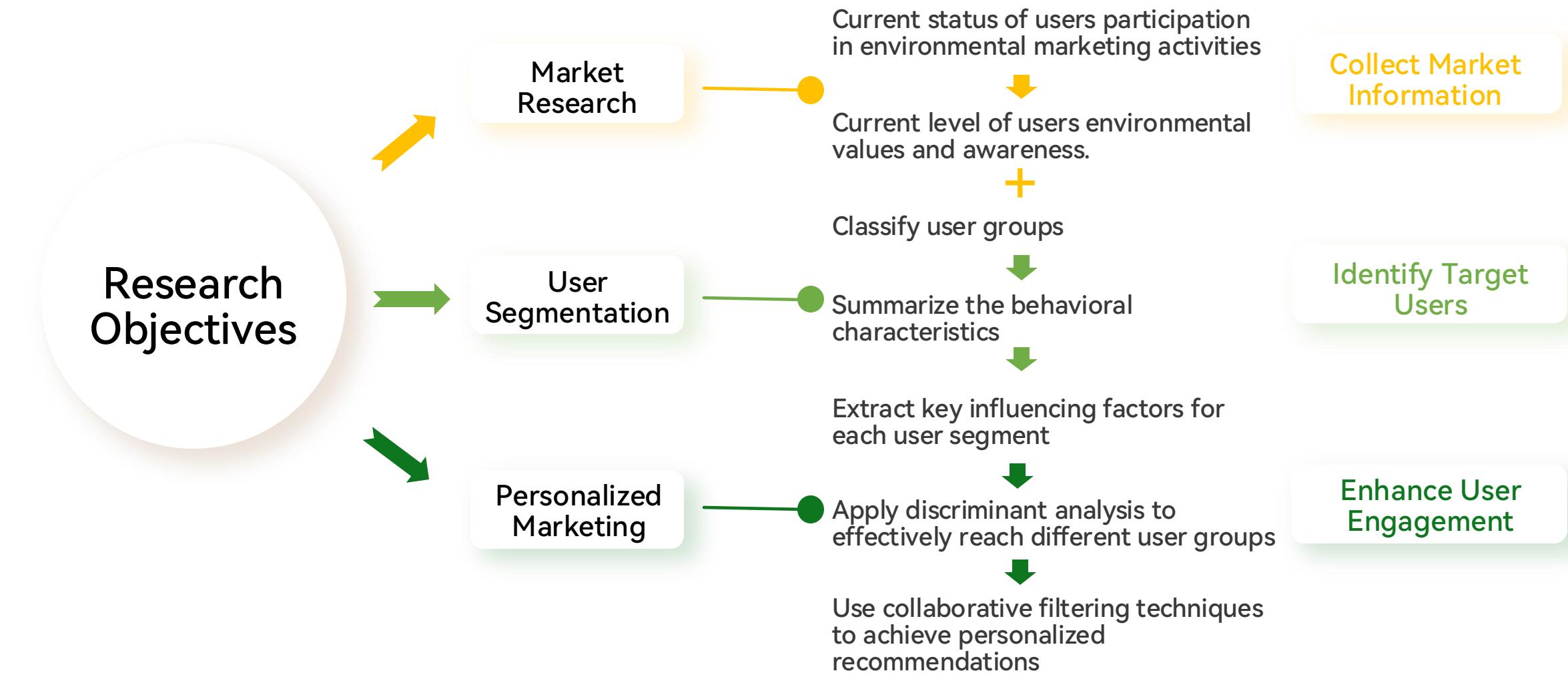
Few or no posts about Xianyus Low-Carbon Double 11 on major social media platforms, **no exclusive tag** and minimal discussion (**only a handful of posts**).



Low level of discussion

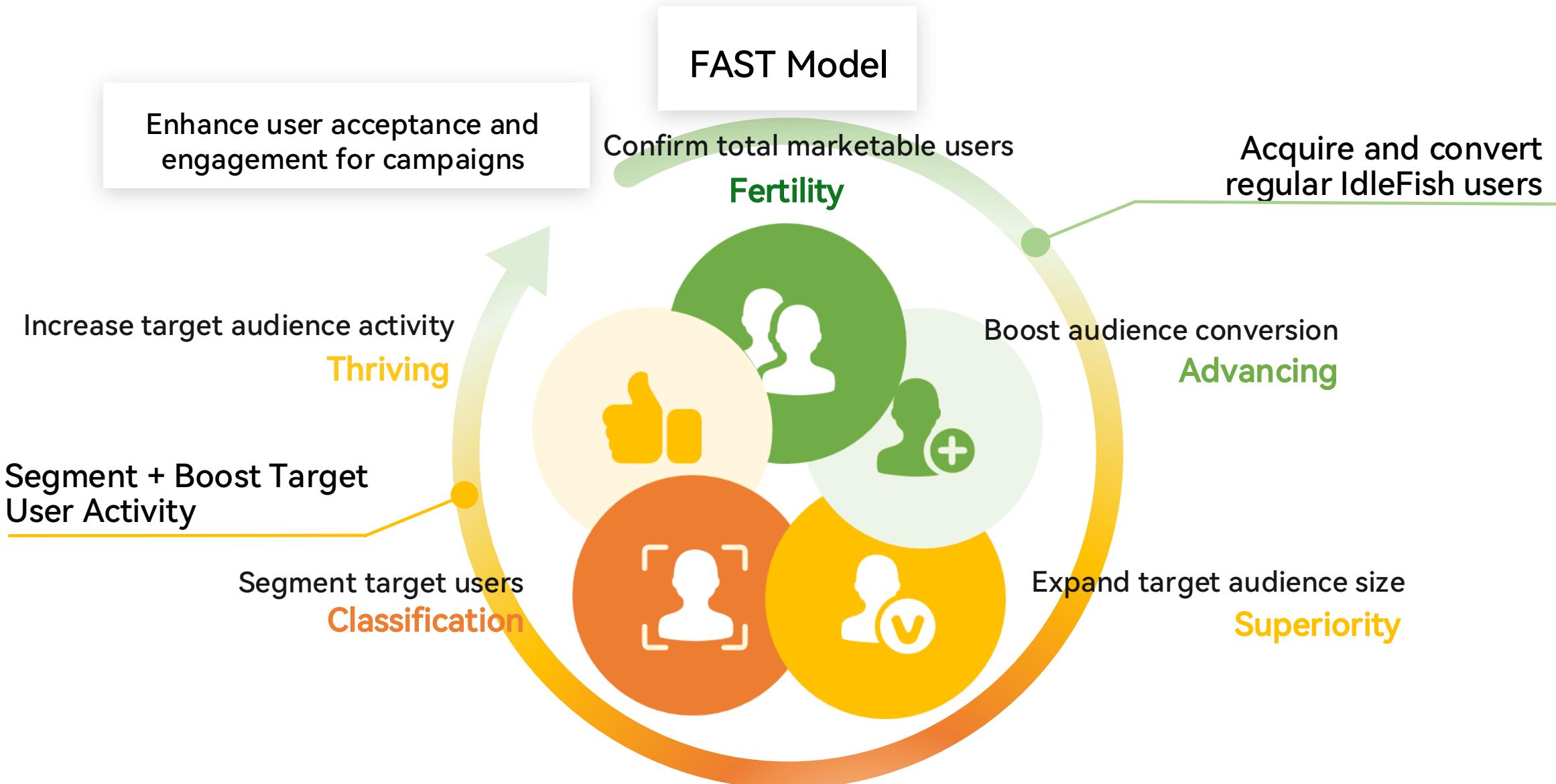
From Nov. 111, out of 4,400+ Weibo trending topics (400 per day), **none were related** to IdleFishes Low-Carbon Double 11

Research Approach



Theoretical Model

FAST Model — Alibaba Groups
User Operations Framework



Survey Design

User Attributes

Basic information (gender, age, average monthly income, education level, city of residence) and usage characteristics (average daily usage time, preference for e-commerce marketing activities).

User Environmental Value Scale

VBN (ValueBeliefNorm) Theoretical Model



Environmental Concern
Concern about the environmental impact of disposing of unused items



Environmental Attitude
Recognition of the “low-carbon” value of trading unused items



Environmental Responsibility
Belief in a personal obligation to participate in environmental protection activities



Environmental Behavior
Frequency of engaging in environmentally friendly behaviors in daily life



Environmental Consumption Decision
Preference for considering environmental factors when making consumption choices

Campaign Attributes

Marketing Ease of Use

Marketing Usefulness

Marketing Effectiveness

Marketing Externality

Perceived Public Welfare

Personal Value Proposition

Experience with Marketing Activities

Trust in IdleFish

Interest in Campaigns

Expectation of Campaign Outcomes

Campaign Acceptance

Marketing Activity Preference Scale

Facilitates circulation of unused items; user-friendly design

Meets public welfare and environmental protection needs; beneficial to daily life

Effectively conveys information; information is accurate and reliable

Large scale; wide recognition; high participation in e-commerce activities

Contributes to social sustainability; promotes environmental protection

Personal relevance to environmental causes; sense of obligation

Frequent participation in e-commerce campaigns; familiarity with campaign details

Recognition of IdleFish reliability and environmental/public welfare credibility

Preference for campaigns with mass participation, cross-industry collaborations, or public welfare value

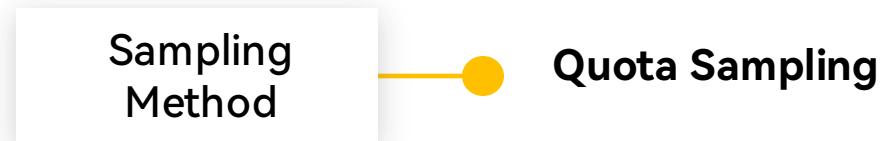
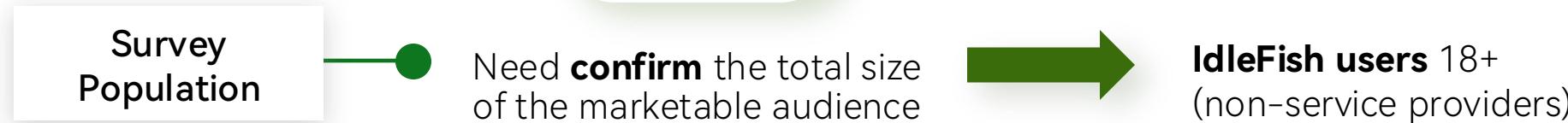
Anticipated environmental results; expected positive impact on the environment

Social Value

Activity Content

Sampling Design

FASCT Model



Pilot Survey	18-24 years	25-30 years	31-35 years	36-40 years	41 years+	Total
	New first-tier cities	3.75%	3.75%	3.75%	2.25%	1.50%
	First-tier cities	5.00%	5.00%	5.00%	3.00%	2.00%
	Second-tier cities	5.00%	5.00%	5.00%	3.00%	2.00%
	Third-tier cities	6.25%	6.25%	6.25%	3.75%	2.50%
	Fourth-, fifth-tier and below	5.00%	5.00%	5.00%	3.00%	2.00%
	Total	25.00%	25.00%	25.00%	15.00%	10.00%

Main Survey

Data Processing and Validation

A total of **1,064** questionnaires were collected in this survey, and **877 valid responses** were obtained, yielding a **validity rate of 82.62%**. The overall **reliability** and **validity** of the questionnaire were **satisfactory**.



Reliability and Validity Testing
Item Discrimination Testing





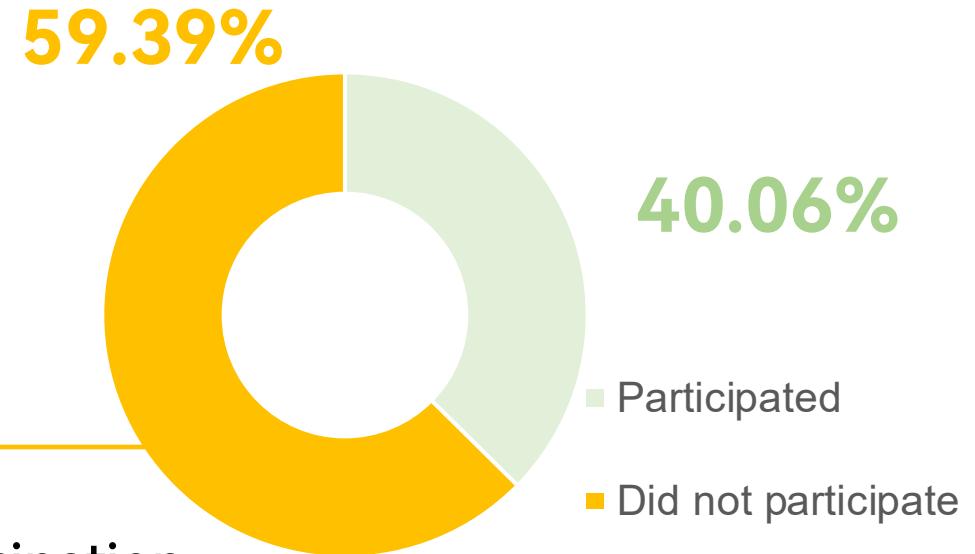
Current Situation Analysis

Current status of users participation in environmental marketing activities

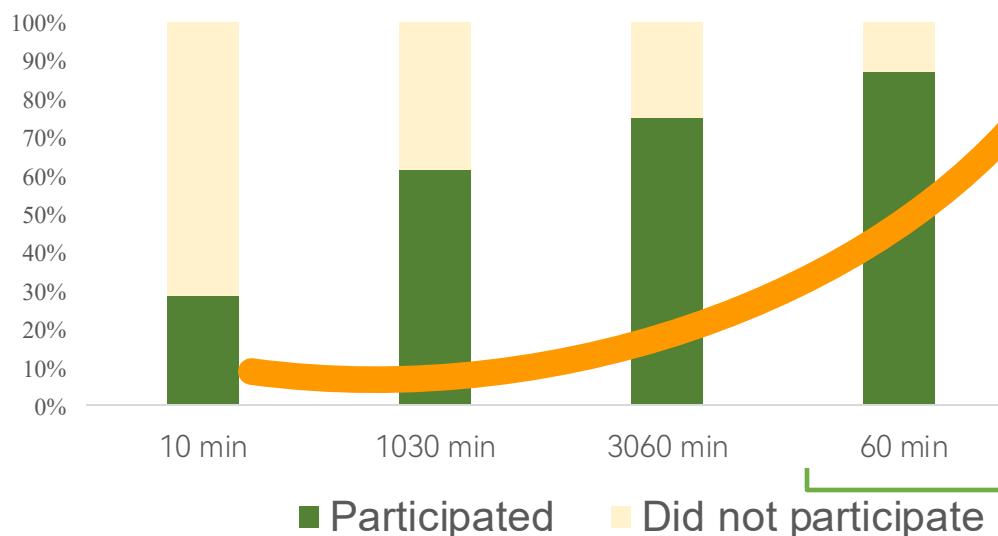
Current level of users environmental values and awareness.

Current Status of Users Participation

Over 50% of IdleFish users **have not joined** the “Low-Carbon Double 11” campaign, suggesting significant market potential



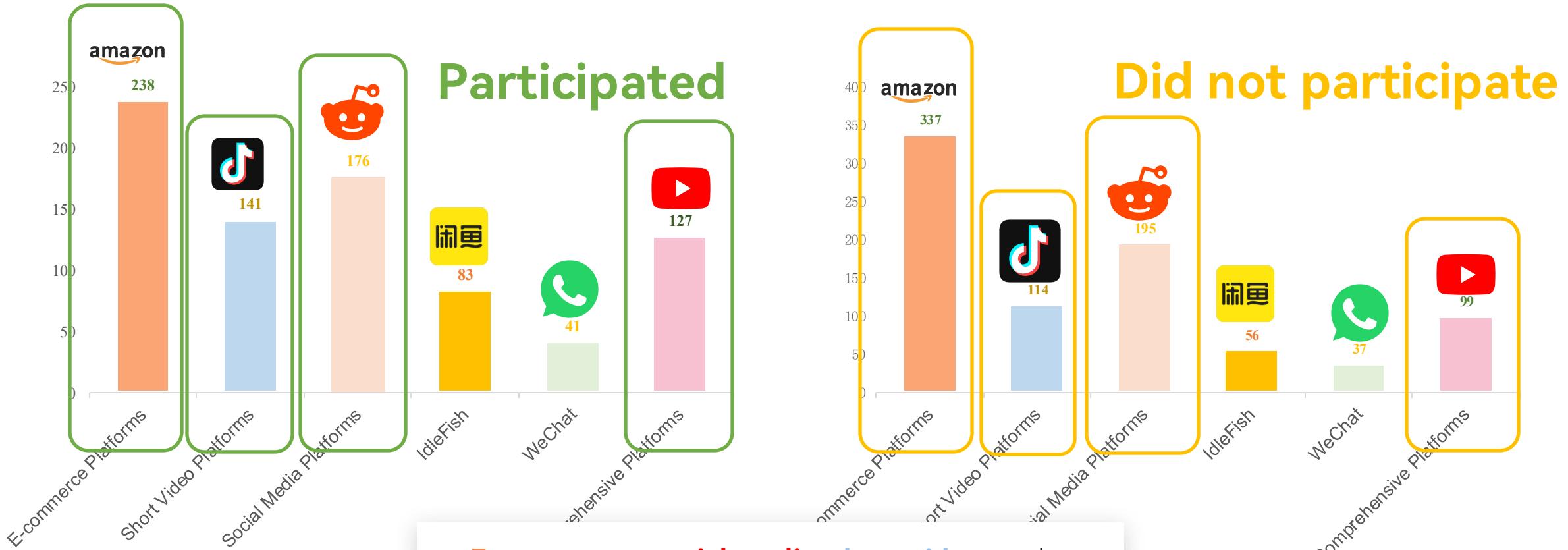
Browsing time on IdleFish is **positively related** to participation



The more time users spend on the IdleFish platform, **the higher** their likelihood of participating in campaigns.

- Among users with an average browsing time of over **60** minutes, the proportion who have participated in campaigns is **75.21%**
- Among users with an average browsing time of **30-60** minutes, the proportion who have participated in campaigns is **86.96%**

Browsing Behavior During Double 11

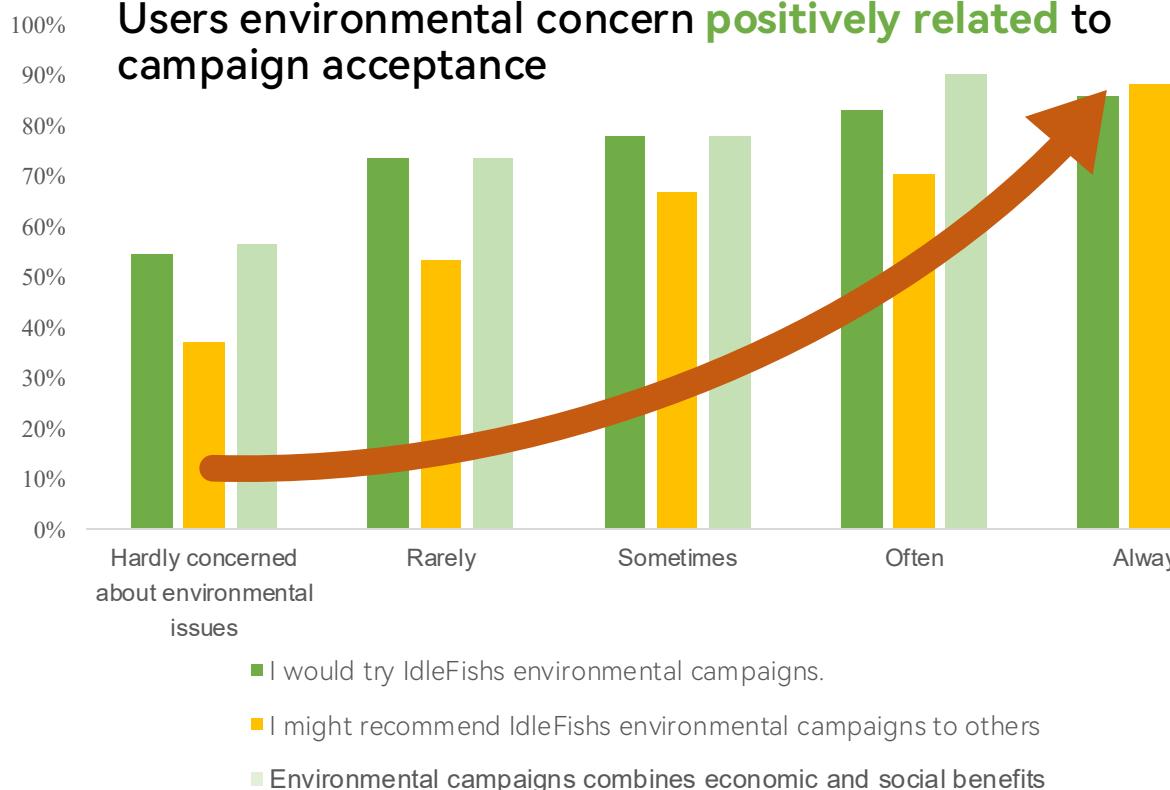


E-commerce, social media, short video, and comprehensive platforms are widely preferred by all IdleFish users, regardless of campaign participation.

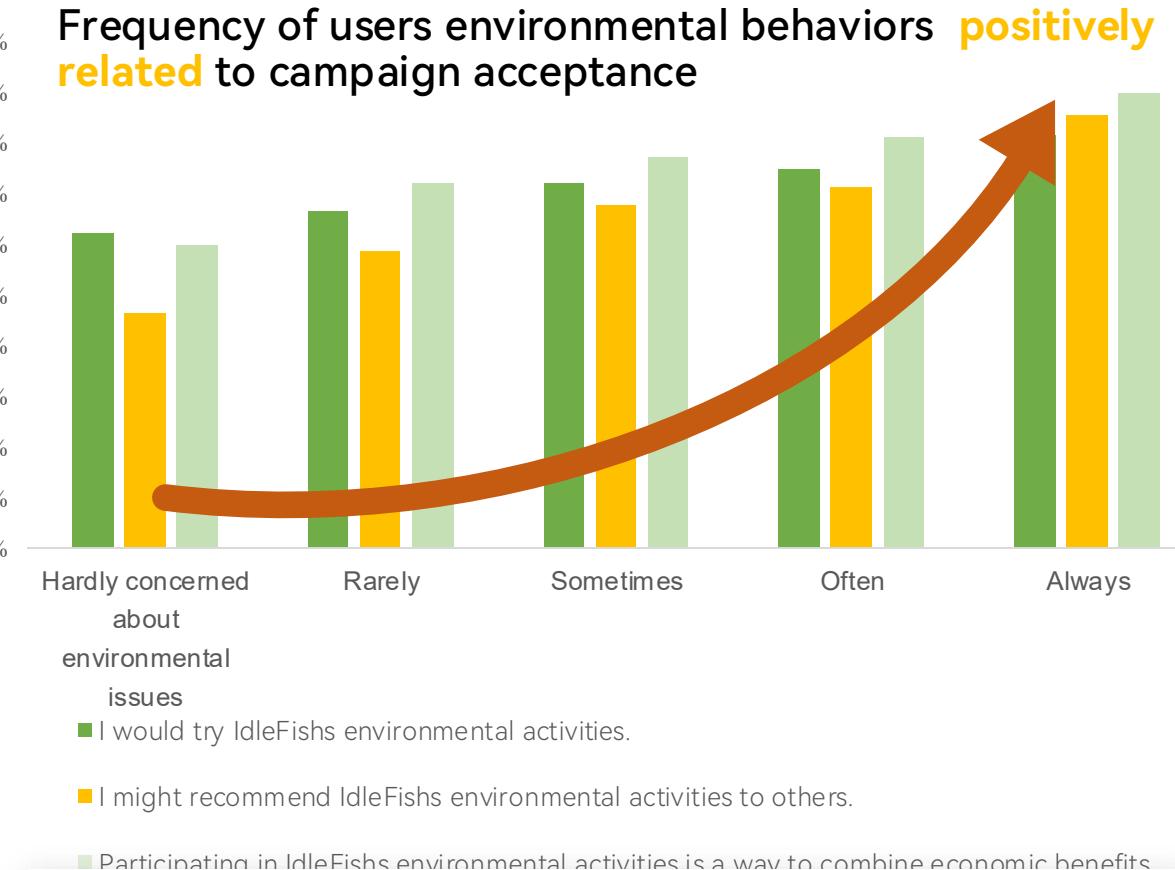
Marketing Activity Design Preferences Across Different Age Groups



Overview of IdleFish Markets Environmental Value (Descriptive Statistics)



Higher environmental concern **higher** campaign acceptance, **more likely** to recommend or re-participate



Greater focus on eco-friendly behaviors **higher** campaign acceptance, **more likely** to recommend or re-participate

User Segmentation

Classified by **environmental values**

Profile analysis

Behavioral differences



IdleFish User Segmentation by Environmental Values (K-Means Clustering)

Basic

(No Environmental Awareness, Few Environmental Behaviors)

2%



Pragmatic

(Environmental Awareness Present, Few Environmental Behaviors)

49%



Eco-Friendly

(With Environmental Awareness and Frequent Environmental Behaviors)

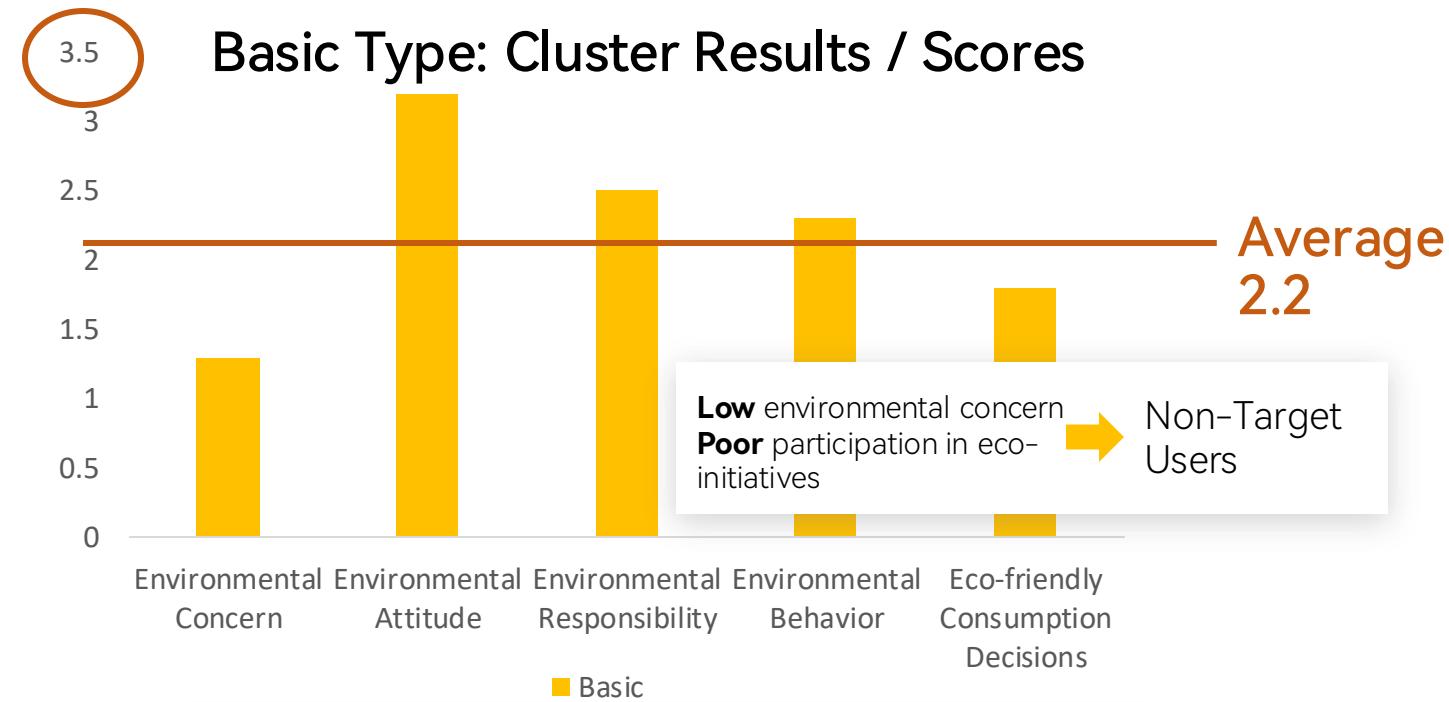
49%



IdleFish User Segmentation by Environmental Values (K-Means Clustering)

Basic

(No Environmental Awareness,
Few Environmental Behaviors)



Users **show low concern** for environmental issues, attitudes, and responsibility, and **seldom** practice eco-friendly behaviors.



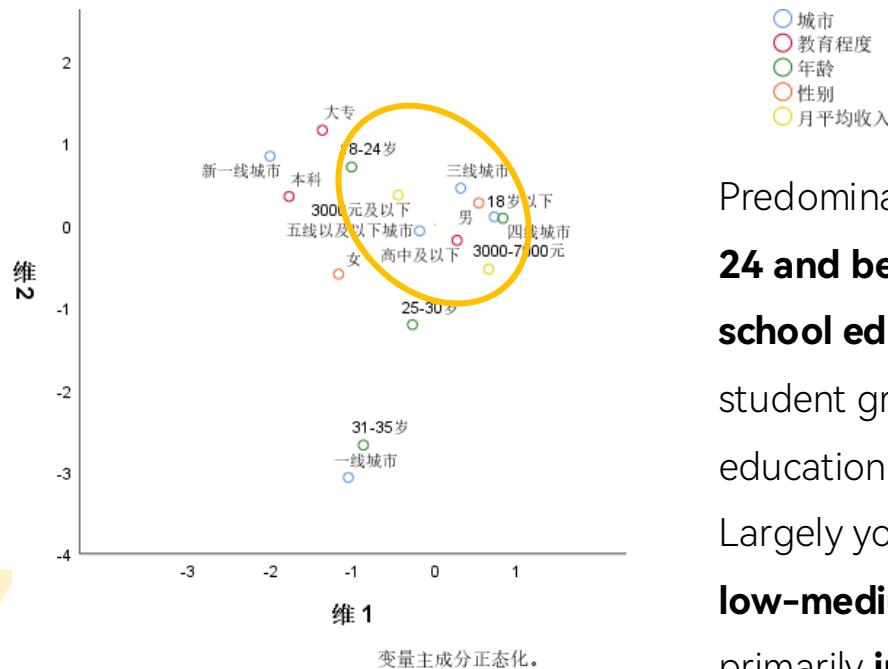
Basic Type: Profile Analysis (MCA)

Basic

(No Environmental Awareness,
Few Environmental Behaviors)



Basic User MCA Results



Predominantly **male**, with **most aged 24 and below**; most have **a high school education or lower**, including student groups, indicating an average educational level; Largely young users with a **monthly low-medium income**, residing primarily in **third-, fourth-, and fifth-tier cities**;



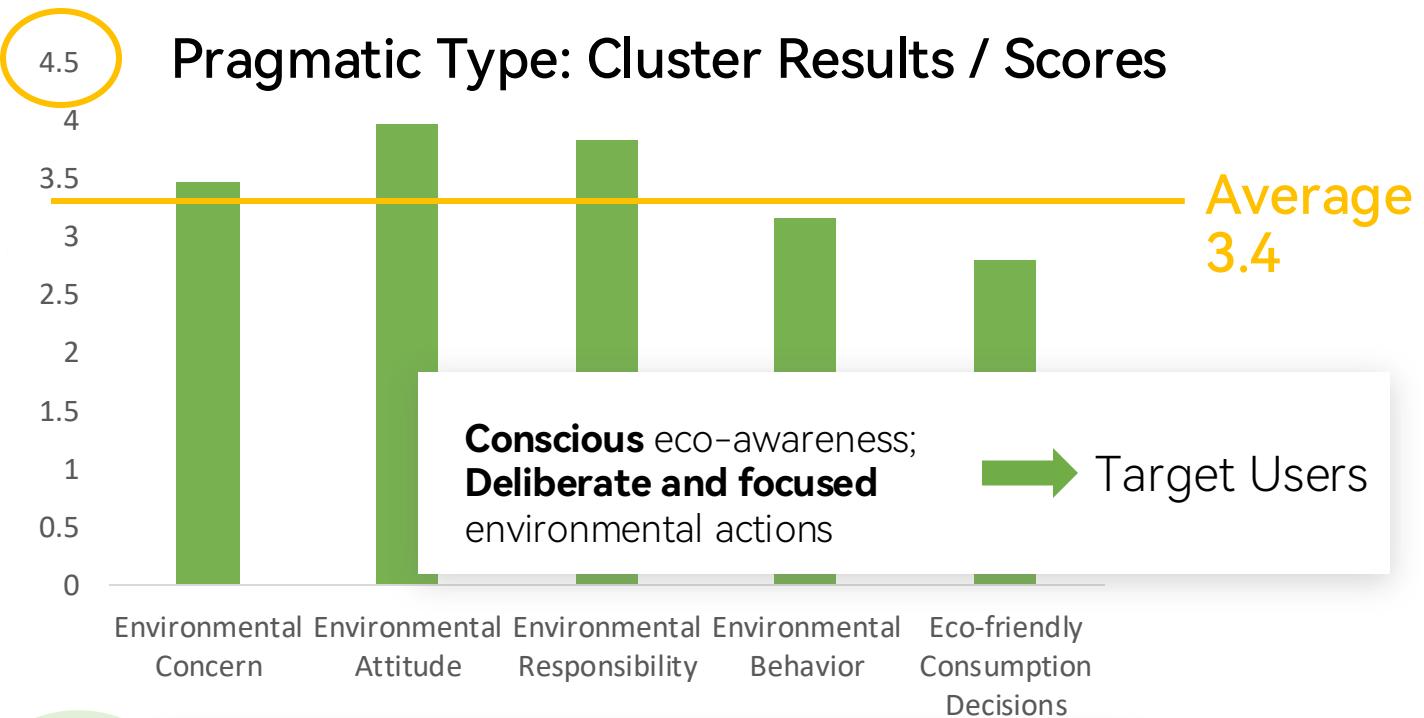
IdleFish User Segmentation by Environmental Values (K-Means Clustering)

Pragmatic

(Environmental Awareness Present, Few Environmental Behaviors)



Pragmatic Type: Cluster Results / Scores



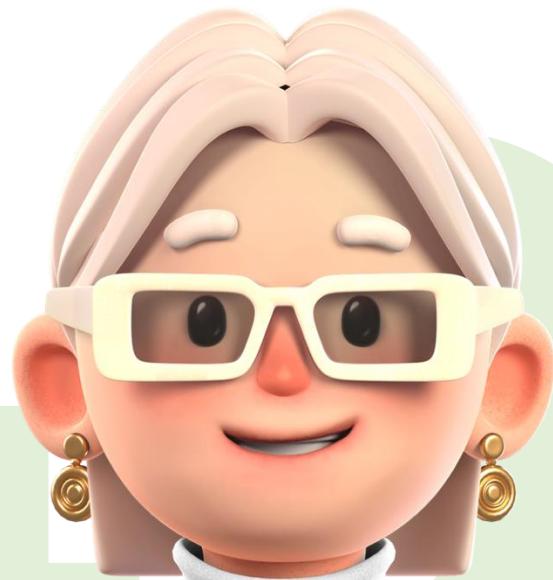
High environmental concern, strong carbon reduction awareness, proactive in environmental responsibility

Low initiative in eco-behaviors and consumption decisions; views environmental actions as costly and benefits as unclear

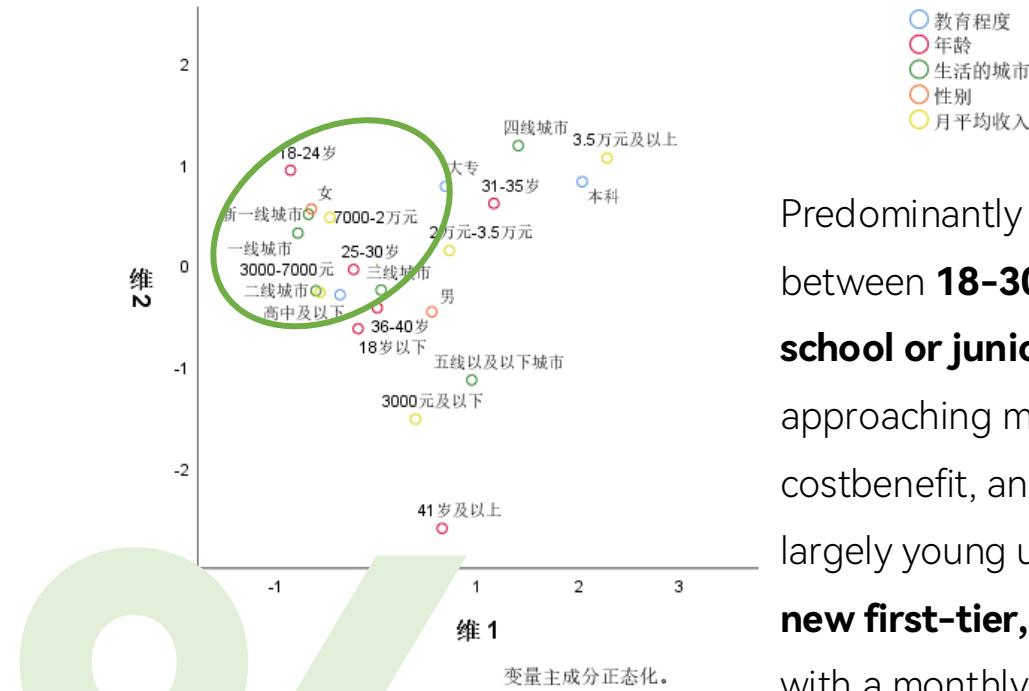
Pragmatic Type: Profile Analysis (MCA)

Pragmatic

(Environmental Awareness Present,
Few Environmental Behaviors)



Pragmatic User MCA Results



Predominantly **female**, mostly aged between **18-30**; most have a **high school or junior college education**, approaching matters from objective, costbenefit, and economic perspectives; largely young users residing in **first-tier, new first-tier, and second-tier cities**, with a monthly **medium** income

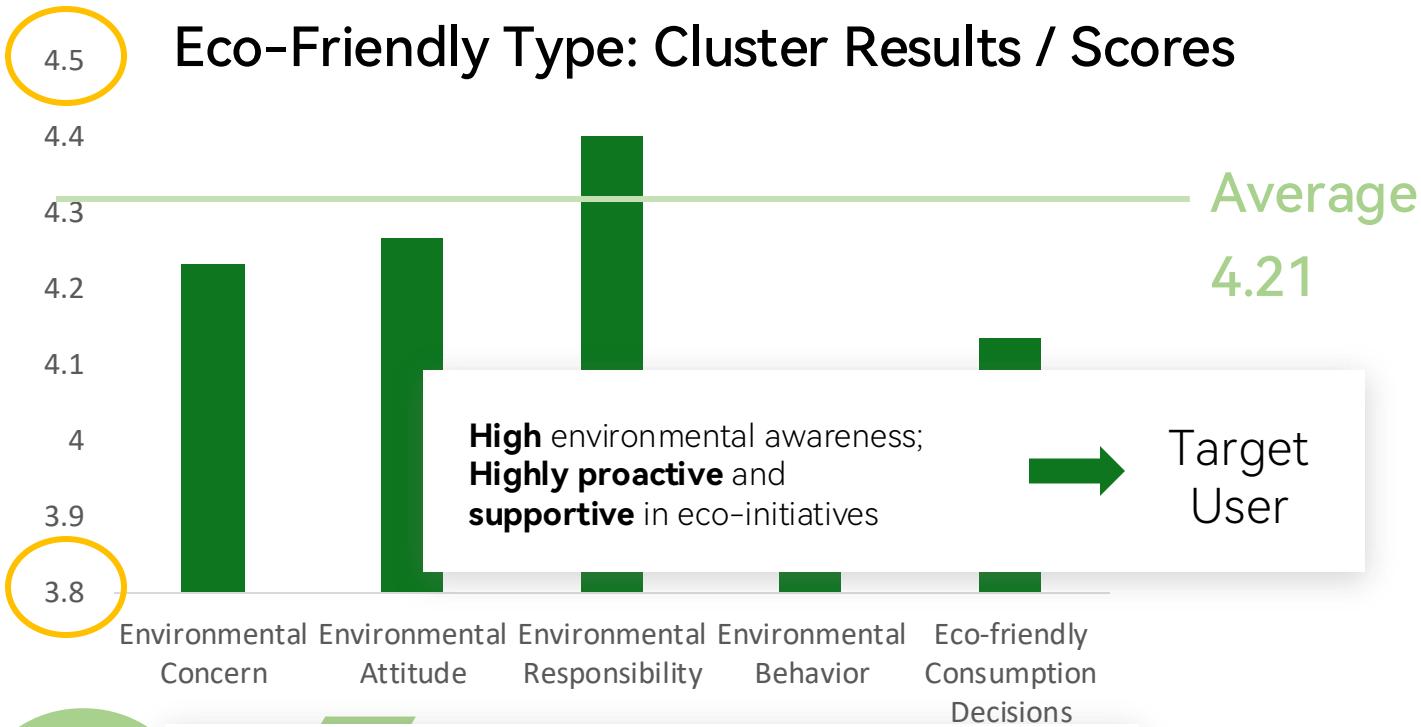
IdleFish User Segmentation by Environmental Values (K-Means Clustering)

Eco-Friendly

(With Environmental Awareness and Frequent Environmental Behaviors)



Eco-Friendly Type: Cluster Results / Scores



High environmental awareness;
Highly proactive and
supportive in eco-initiatives

Target User

Highly concerned about the environment; **strongly** values second-hand tradings eco-contribution, **highly** responsible

Actively practices eco-living, considers **environmental factors** in decisions, **willing to** buy eco-friendly products

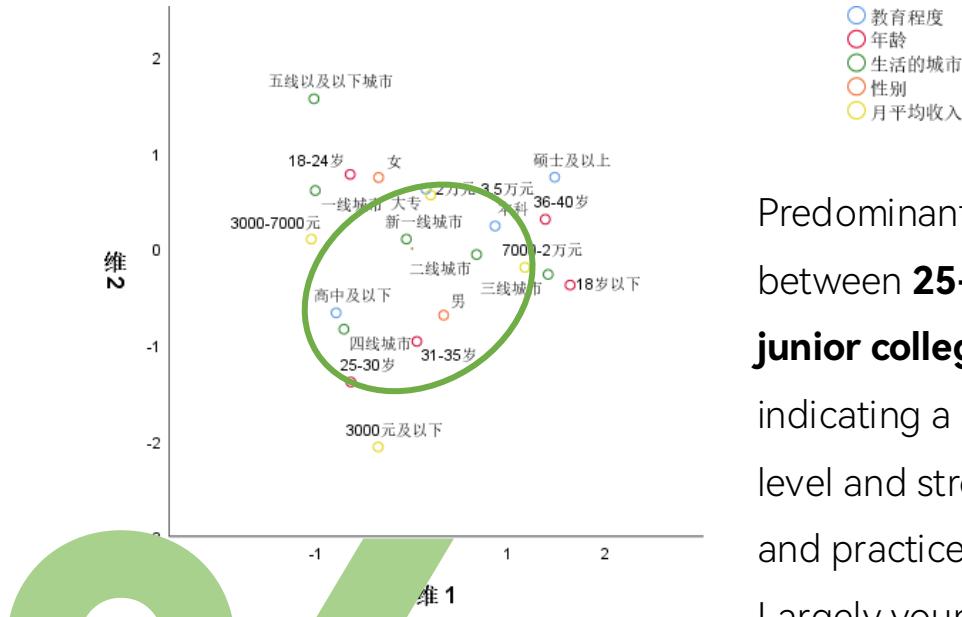
Eco-Friendly Type: Profile Analysis (MCA)

Eco-Friendly

(With Environmental Awareness and Frequent Environmental Behaviors)



Eco-Friendly User MCA Results



Predominantly **male**, mostly aged between **25-35**; Most have a **high school, junior college, or bachelors degree**, indicating a relatively high educational level and strong environmental awareness and practice; Largely young adults distributed across new **first-tier, second-tier, and fourth-tier cities**, with a **monthly high income**.

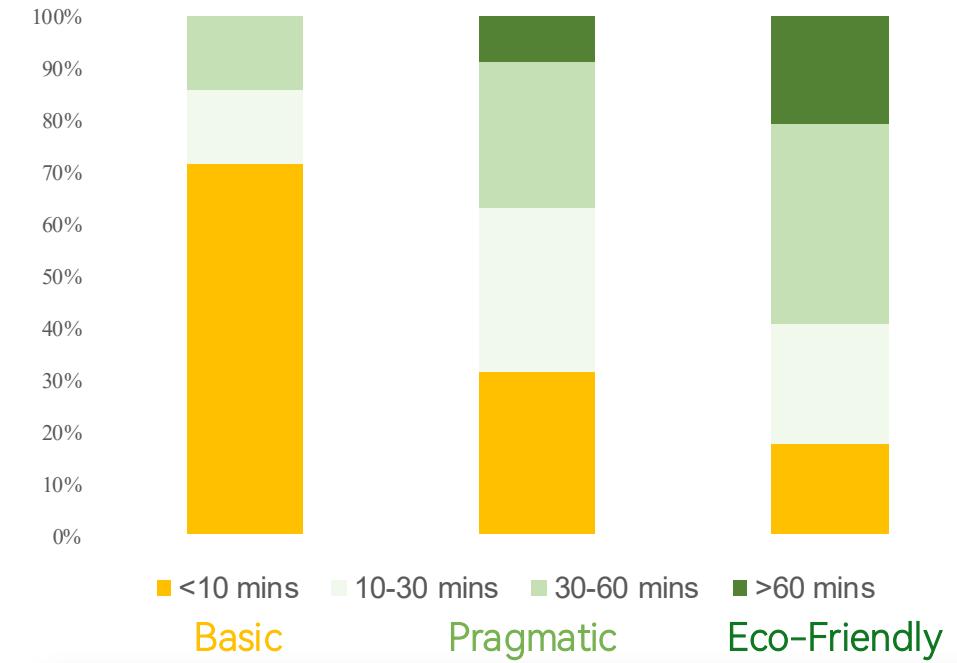


Behavioral Differences Among the Three Environmental User Groups

Acceptance Level	Basic	Pragmatic	Eco-Friendly	Total
Very Unwilling	42.40%	0.70%	0.30%	1.30%
Somewhat Unwilling	29.40%	3.60%	2.50%	3.50%
Neutral	10.30%	32.10%	11.60%	21.60%
Somewhat Willing	12.80%	52.60%	50.00%	50.50%
Very Willing	5.10%	10.90%	35.50%	23.10%

The **chi-square test** demonstrates a **positive correlation** between users environmental awareness and their acceptance of the campaign. Users with **stronger** environmental consciousness and **higher** environmental values are **more likely** to accept IdleFishes eco-friendly marketing activities.

Differences in IdleFish Usage Duration (Stacked Percentage Bar Chart)



Users with **stronger** environmental awareness and **higher** environmental values are more willing to spend **more time** on the IdleFish platform.

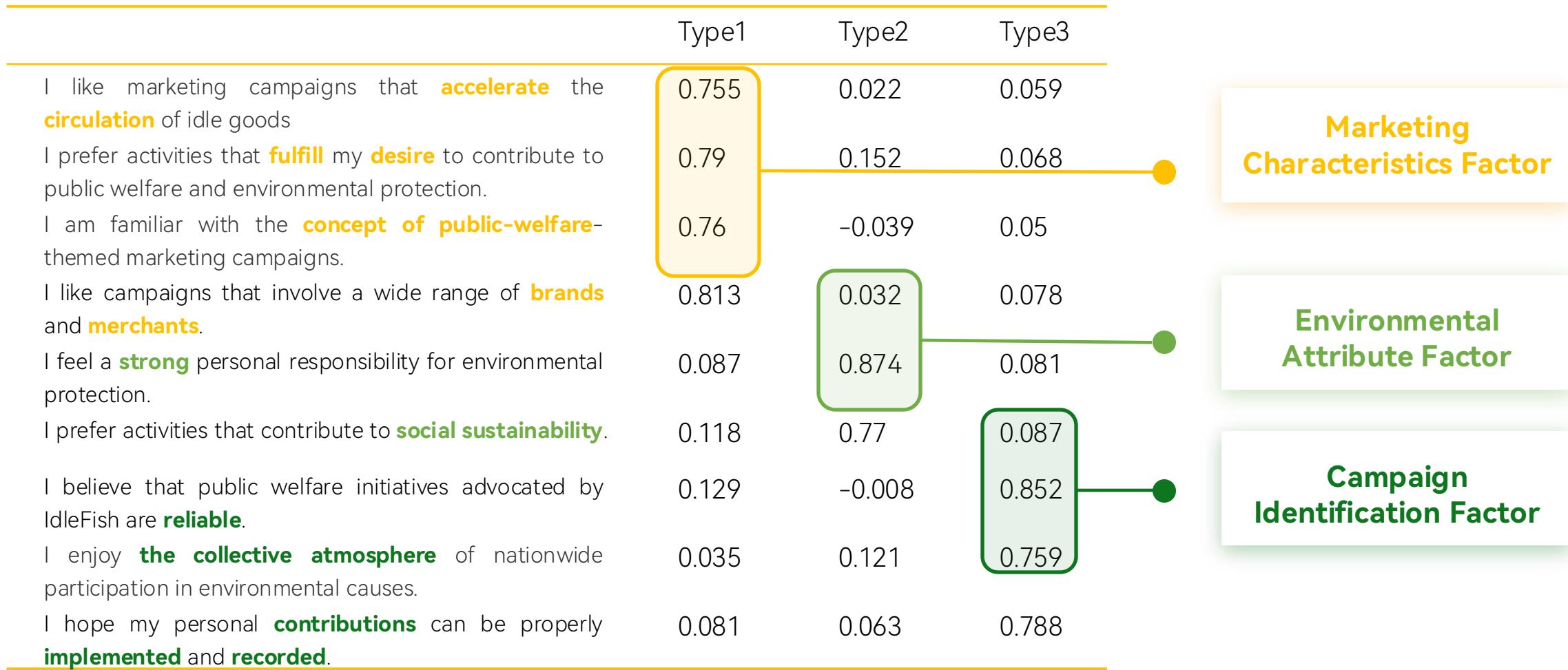


Exploration of Influencing Factors

Exploration of Factors Influencing
Overall Acceptance

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Definition and Naming of Overall Environmental Marketing Influencing Factors



Analysis of Users Willingness Using Logistic Regression

Independent Variable	S.E.	Degree of Freedom	P-value		
Gender	0.338	1	0.664	Marketing Characteristics Factor	Develop marketing activities that emphasize usability and usefulness , integrate eco-friendly and public-welfare values , and enhance content innovation to attract broader user participation.
Age	0.174	1	0.121	Environmental Attribute Factor	Strengthen the promotion of IdleFishes environmental philosophy and low-carbon public-welfare initiatives to enhance the platforms sustainability and corporate reputation.
Education	0.199	1	0.279	Campaign Identification Factor	Regularly integrate current social trends into the design of activity types and recommendation algorithms to increase user participation, while ensuring transparency and reliability in activity outcome reporting.
Marketing Characteristics Factor	0.035	1	0.026 ✓		
Environmental Attribute Factor	0.034	1	0.000 ✓		
Campaign Identification Factor	0.042	1	0.000 ✓		

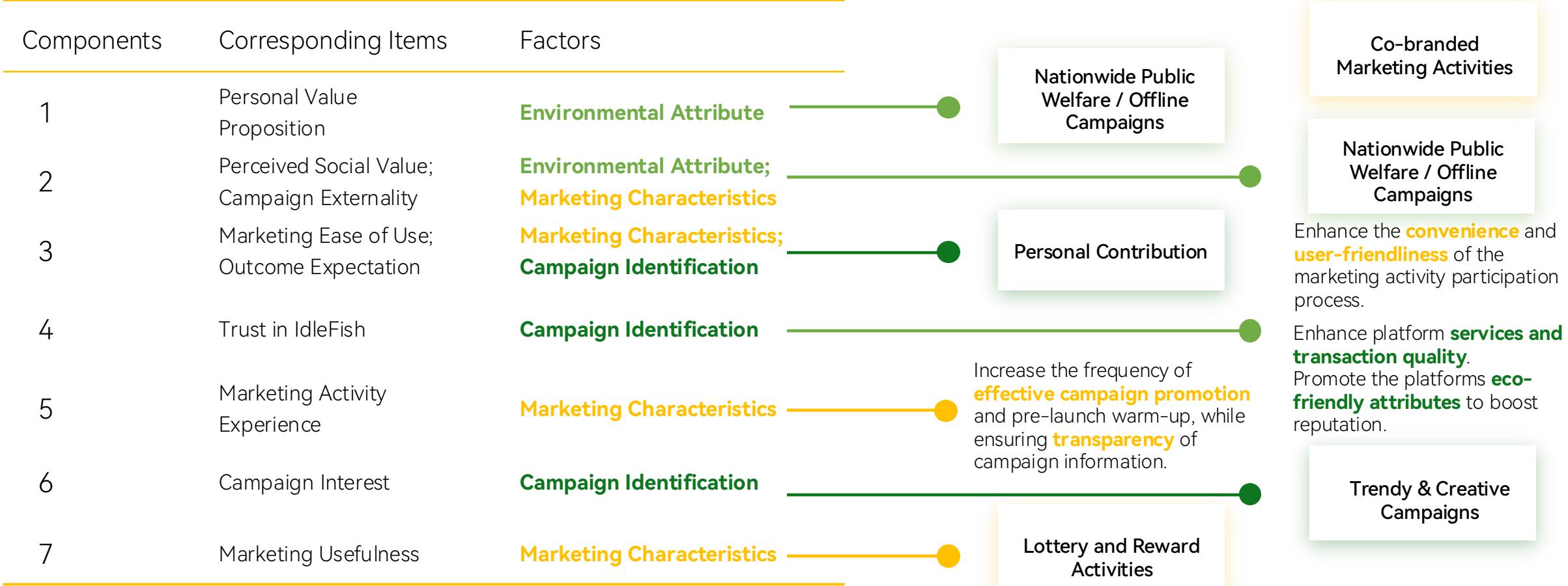
Influencing Factors on the Activity Acceptance of Pragmatic Users (PCA)

Components and Corresponding Items for Pragmatic Users

Components	Corresponding Items	Factors	
1	Marketing Usefulness	Marketing Characteristics	Lottery and Reward Activities
2	Outcome Expectation; Perceived Social Value	Campaign Identification; Environmental Attribute	Personal Contribution
3	Personal Value Proposition	Environmental Attribute	
4	Trust in IdleFish; Campaign Externality	Campaign Identification	Enhance platform services and transaction quality . Promote the platforms eco-friendly attributes to boost reputation.
5	Campaign Interest	Campaign Identif	
6	Marketing Activity Experience	Marketing Characteristics	Boost the occurrence of classic and popular campaigns. Ensure transparency in campaign information.
7	Marketing Ease of Use	Marketing Characteristics	Enhance the convenience and user-friendliness of the marketing activity participation process.

Influencing Factors on the Activity Acceptance of Eco-Friendly Users (PCA)

Components and Corresponding Items for Eco-Friendly Users



Marketing Strategy

Target environmental user groups via
discriminant analysis

Provide personalized recommendations
using collaborative filtering

Discriminant Analysis (Accuracy Validation)

IdleFish User
Characteristics



Discriminant
Analysis

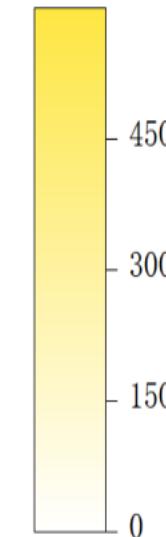


User
Classification

Gender Income Cities Education
Environmental Concern Environmental Responsibility
Age
Environmental Attribute

Prediction Result

		Basic	Pragmatic	Eco-Friendly
Basic	Basic	18	0	1
	Pragmatic	1	413	3
Eco-Friendly	Eco-Friendly	2	3	436



High prediction accuracy
Strong model performance

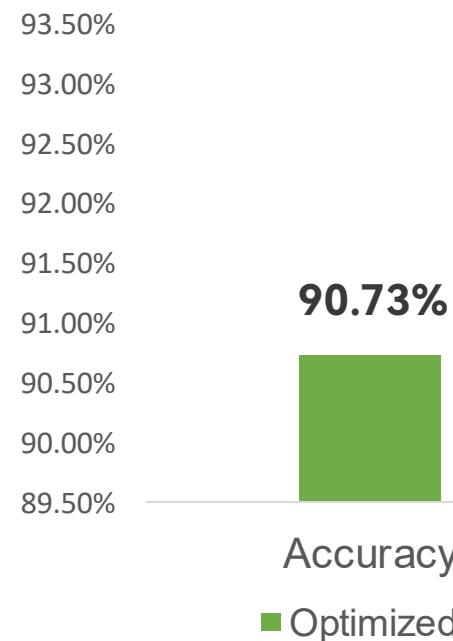


Differentiated
Marketing

Personalized Service Recommendations (Collaborative Filtering Algorithm)

Optimized Collaborative Filtering

Use **user ratings of similar services** + **IdleFish user clustering** + **IdleFish platform rules**
Apply weighted calculations to rank recommendations by similarity.



RMSE

0.94

Strong model
performance

Partially addresses the user **cold-start**
problem

Personalized Service Recommendations (Collaborative Filtering Algorithm)

Collaborative Filtering Recommendation Scheme

User Environmental Type	Service Recommendation (I = Priority Recommendation)					
	I	II	III	IV	V	VI
Pragmatic	Lottery & Reward Activities	Personal Contribution	Nationwide Public Welfare	Offline Campaigns	Co-branded Marketing Activities	Co-branded Marketing Activities
Eco-Friendly	Nationwide Public Welfare	Offline Campaigns	Co-branded Marketing Activities	Personal Contribution	Co-branded Marketing Activities	Lottery & Reward Activities

Recommendation Approach



Identify users through authentication methods and further **track** their characteristics



Give top priority to recommending marketing campaigns that are directly linked to **personal interests** and **individual benefits**



Give top priority to recommending marketing campaigns that embody **environmental values** and have **public welfare** and social significance.

IdleFish



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