

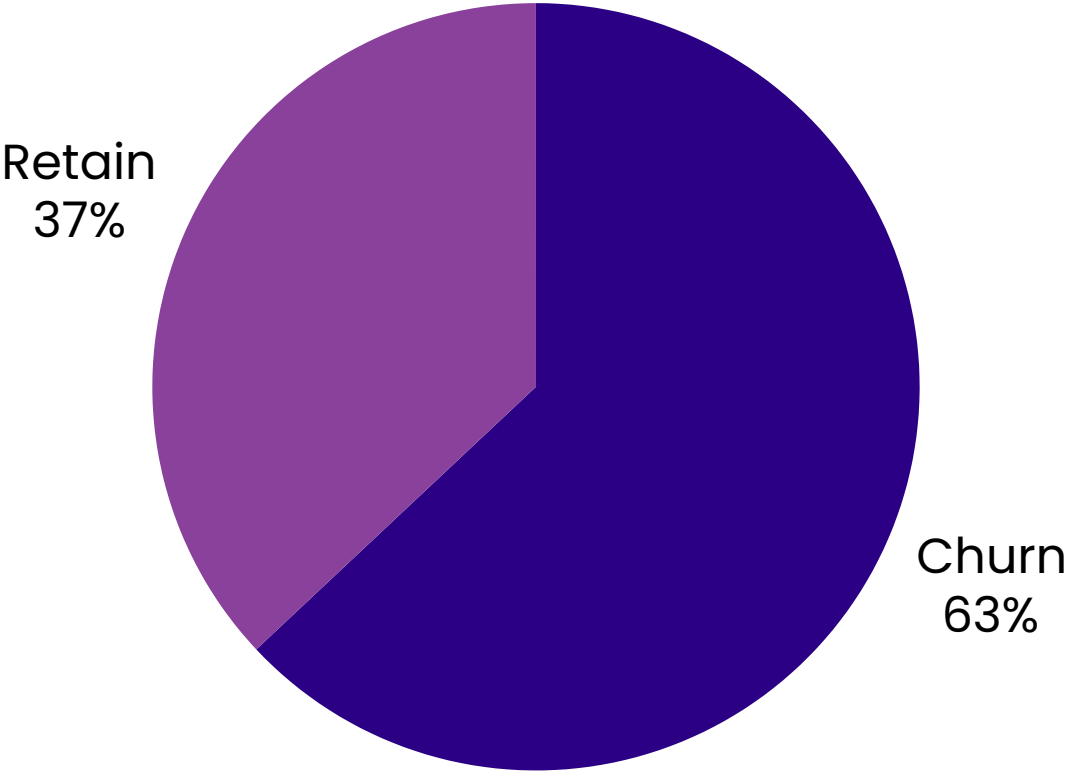
Crew's Cup Customer Analysis

LINH CHU



Survey & CRM Data

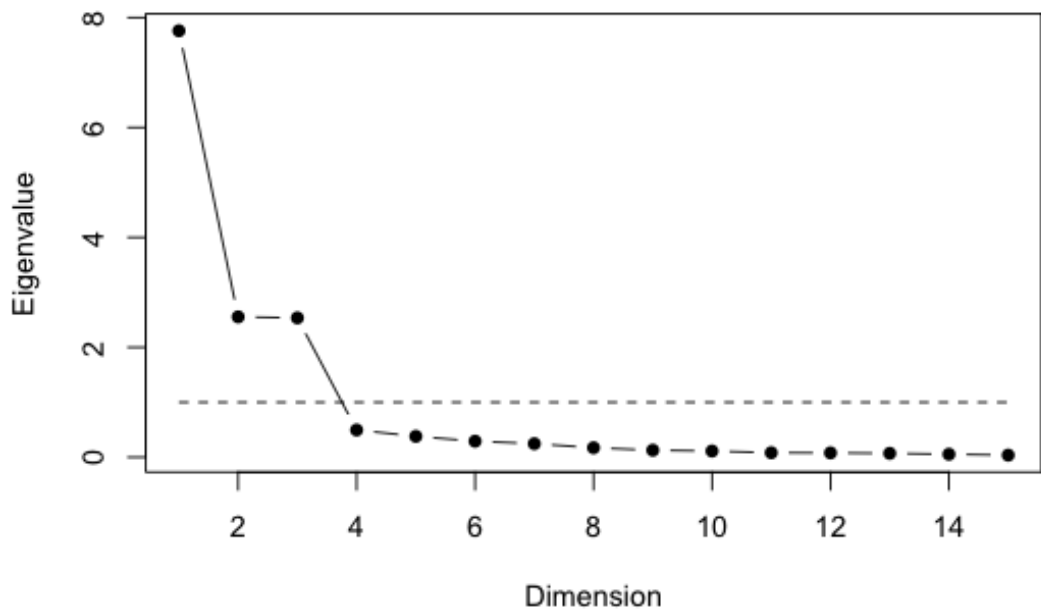
Variable	Median	Mean	SD	Min	Max	NAs
a1	5	5.30	1.38	1	7	0
a2	5	5.31	1.44	1	7	0
a3	5	5.24	1.34	1	7	0
classes	66	158.07	160.23	2	730	0
contribution	626	1,631.63	1,680.64	22	7,526	0
csat	4	4.25	1.34	1	7	0
e1	4	3.70	1.88	1	7	0
e2	4	3.80	1.82	1	7	0
e3	4	3.72	1.99	1	7	0
f1	4	3.83	2.07	1	7	0
f2	4	3.71	2.12	1	7	0
f3	4	3.61	1.98	1	7	0
h1	5	4.61	2.13	1	7	0
h2	5	4.52	2.12	1	7	0
h3	5	4.49	2.10	1	7	0
intent	4	4.16	0.98	1	7	0
n1	3	3.22	1.51	1	7	0
n2	3	2.91	1.44	1	7	0
n3	3	3.04	1.63	1	7	0
tenure	3	5.02	3.37	1	14	0



- The dataset has no missing data
- 2 sources of data:
 - Survey responses: commitment model questions, satisfaction, intent
 - CRM data: classes, origination, contribution

Commitment Model | Survey response shows strong signs of 5-factor commitment model

Scree plot



Scree plot suggests 3 factors are stable.

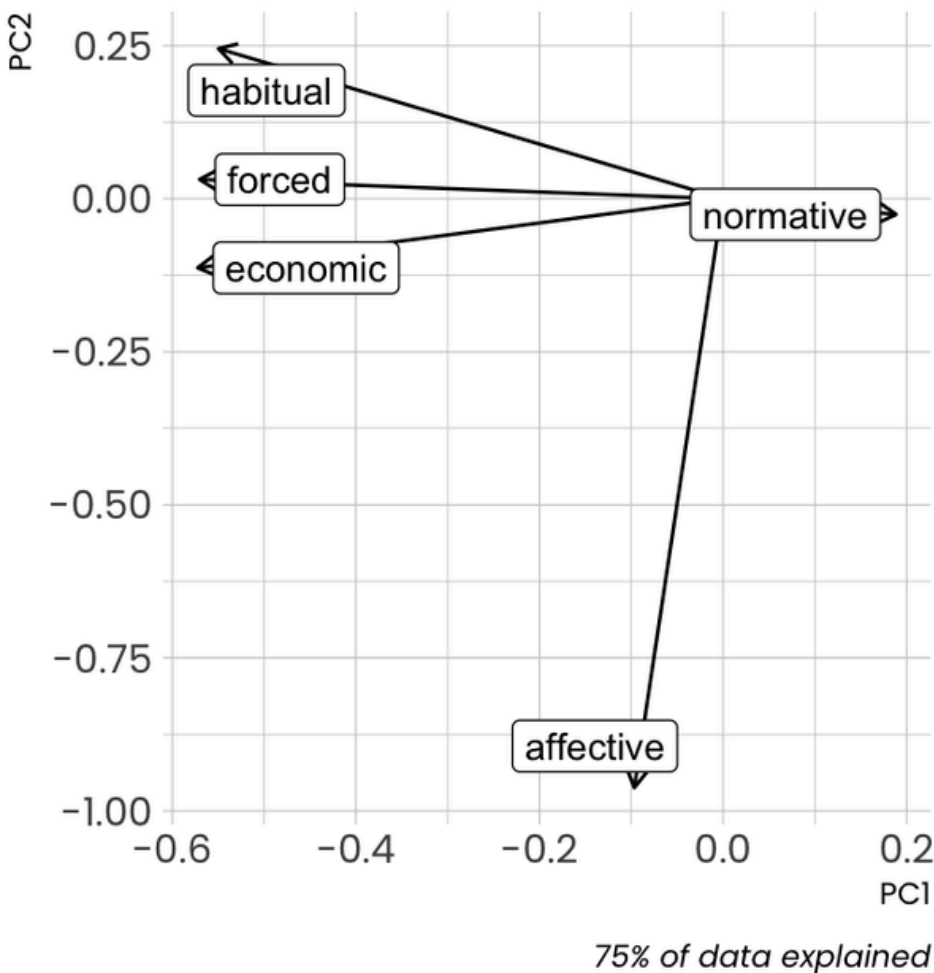
Factor reliability

factor	raw_alpha	std.alpha
ffective	0.86	0.86
normative	0.93	0.94
economic	0.97	0.97
forced	0.97	0.97
habitual	0.98	0.98

All 5 factors strong pass the Chronback's alpha threshold.

Factor loadings

a1	-0.028	0.064	0.823
a2	0.324	-0.141	0.763
a3	-0.098	0.092	0.778
e1	0.862	-0.188	0.224
e2	0.870	-0.127	0.247
e3	0.876	-0.199	0.242
f1	0.875	-0.127	0.059
f2	0.879	-0.084	0.019
f3	0.849	-0.134	0.143
h1	0.935	0.019	-0.218
h2	0.939	-0.001	-0.196
h3	0.940	-0.004	-0.180
n1	-0.105	0.878	0.073
n2	-0.131	0.915	0.049
n3	-0.071	0.920	-0.066
	Factor 1	Factor 2	Factor 3



- The survey responses were clearly loaded onto 3 factors, matching the theme of the commitment model.
- **Factor 1** has economic, forced, and habitual. The high correlation of the 3 confirms that they have the 'calculative' theme, but the 5-factor still reveals more granular insights/differences than the 3-factor one.
- **Factor 2** and **factor 3** are clearly normative and affective, all loads > 0.75

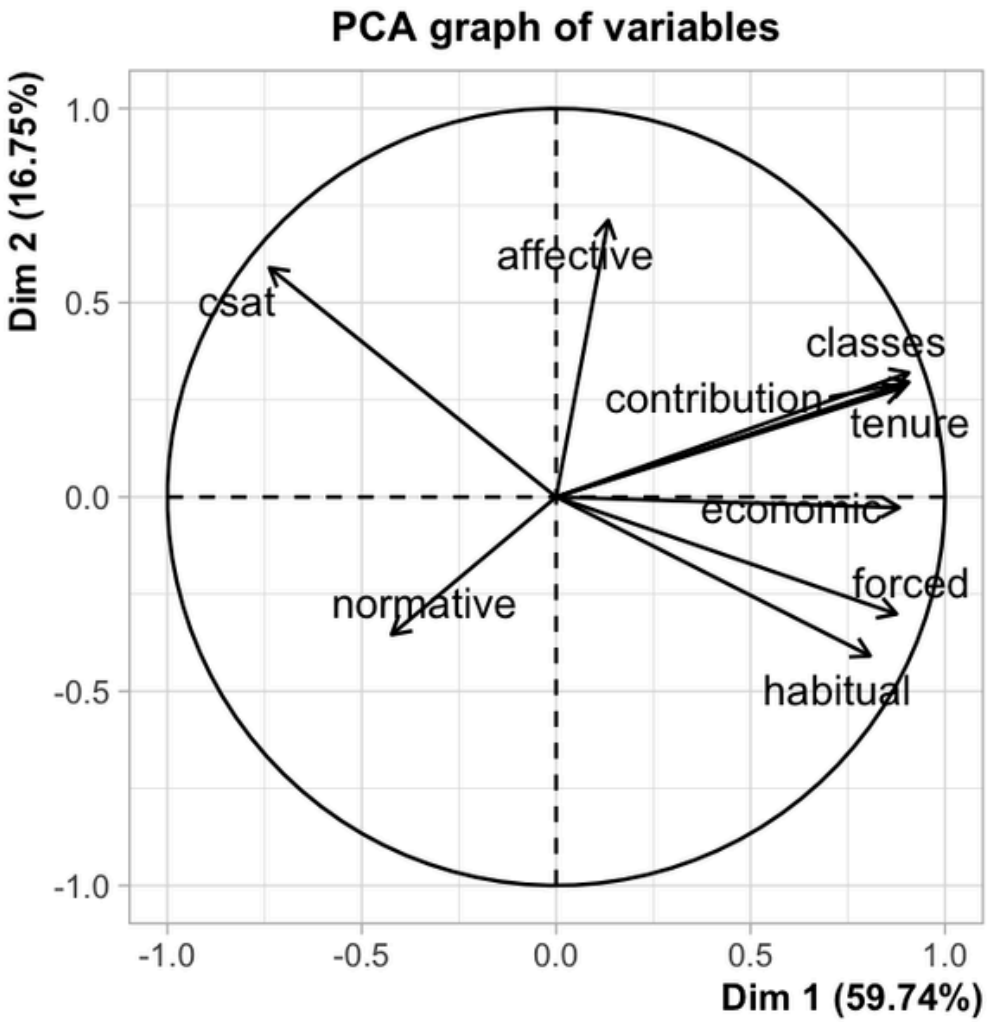
→ keep using the 5-factor structure for better granularity in the analysis

→ Crew's Cup can rely on the 5-factor model to analyze commitment levels for different market segments, thus understanding each segment and developing tailored retention strategies for targets.

Customer Segment | K-means clustering suggested 3-segment

PCA

- PC1 and PC2 explain for 76% variance in the data, which is considered quite good
- Commitment levels and CRM data are both well captured through 2 components
- Interestingly, satisfaction seem to be inversely correlated with tenure, contribution and habitual → loyal and profitable customers are not satisfied

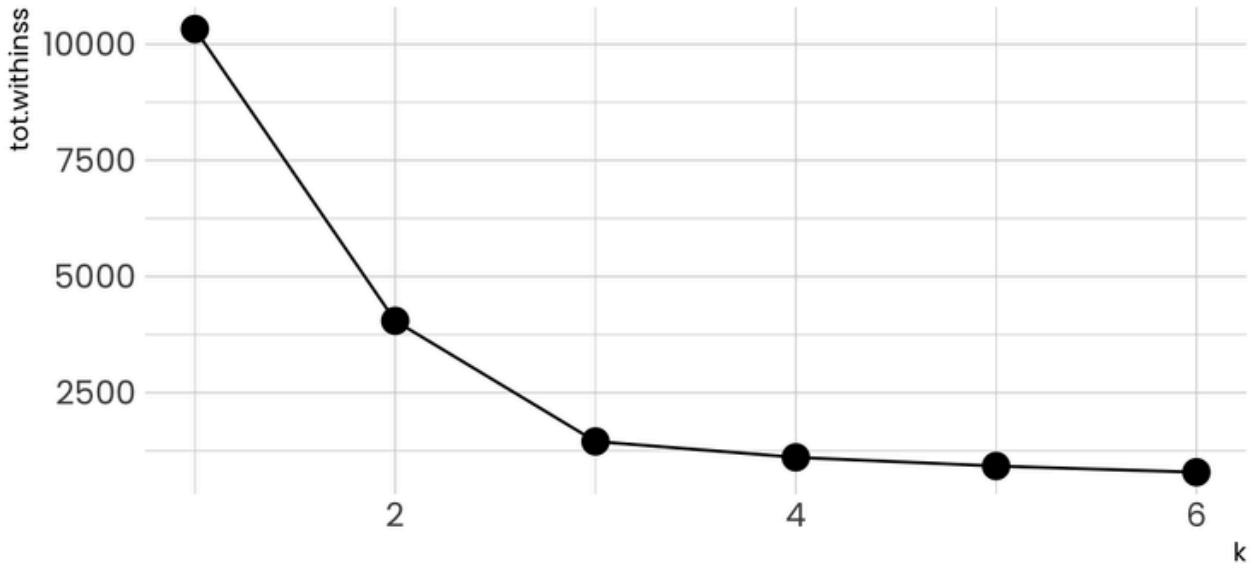


K-means clustering

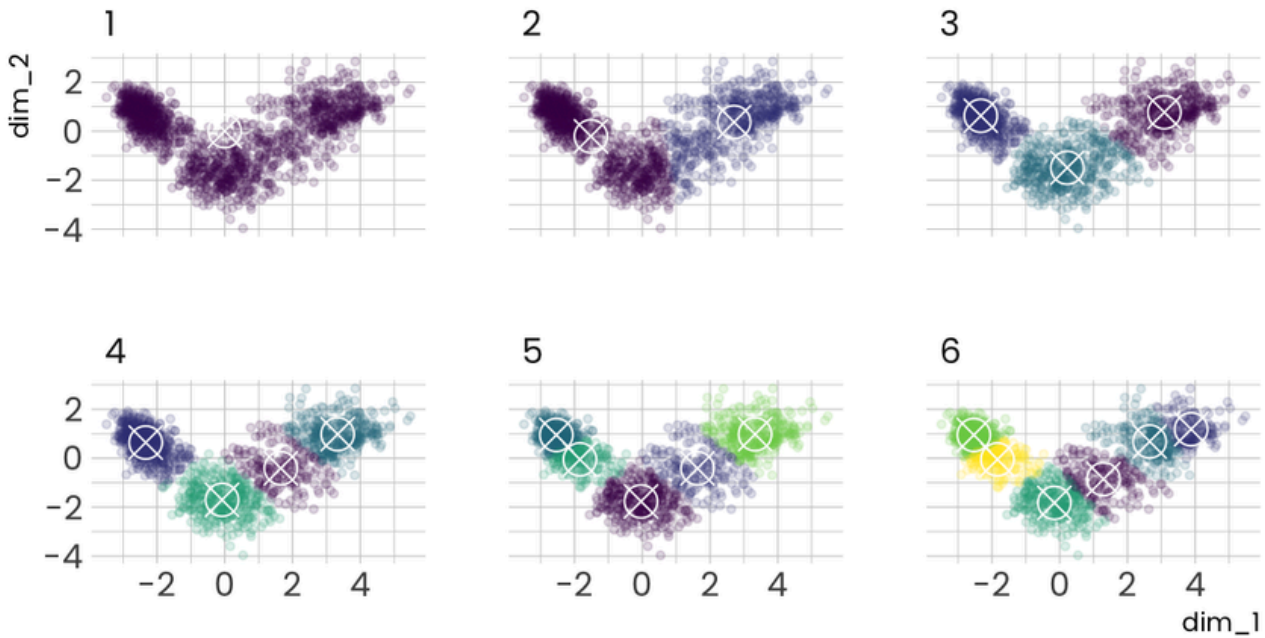
Both scree plot and cluster visualization suggest the **optimal number of clusters is 3**, which would balance the trade-off between the number of clusters and the quality of clustering. So far, this match with the number of customer segments from Monk

Scree Plot

Using first two factor dimensions

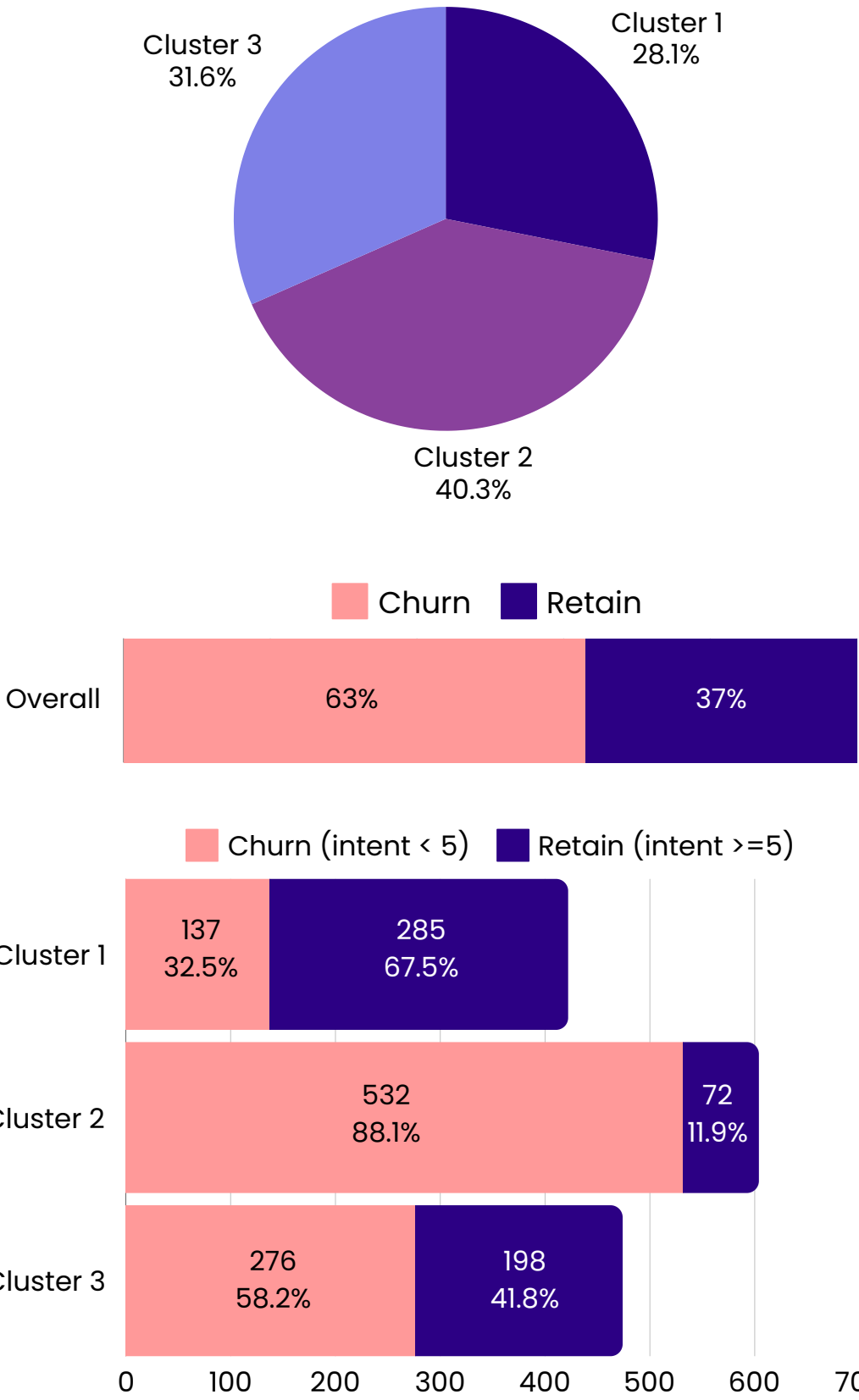


Cluster Centers

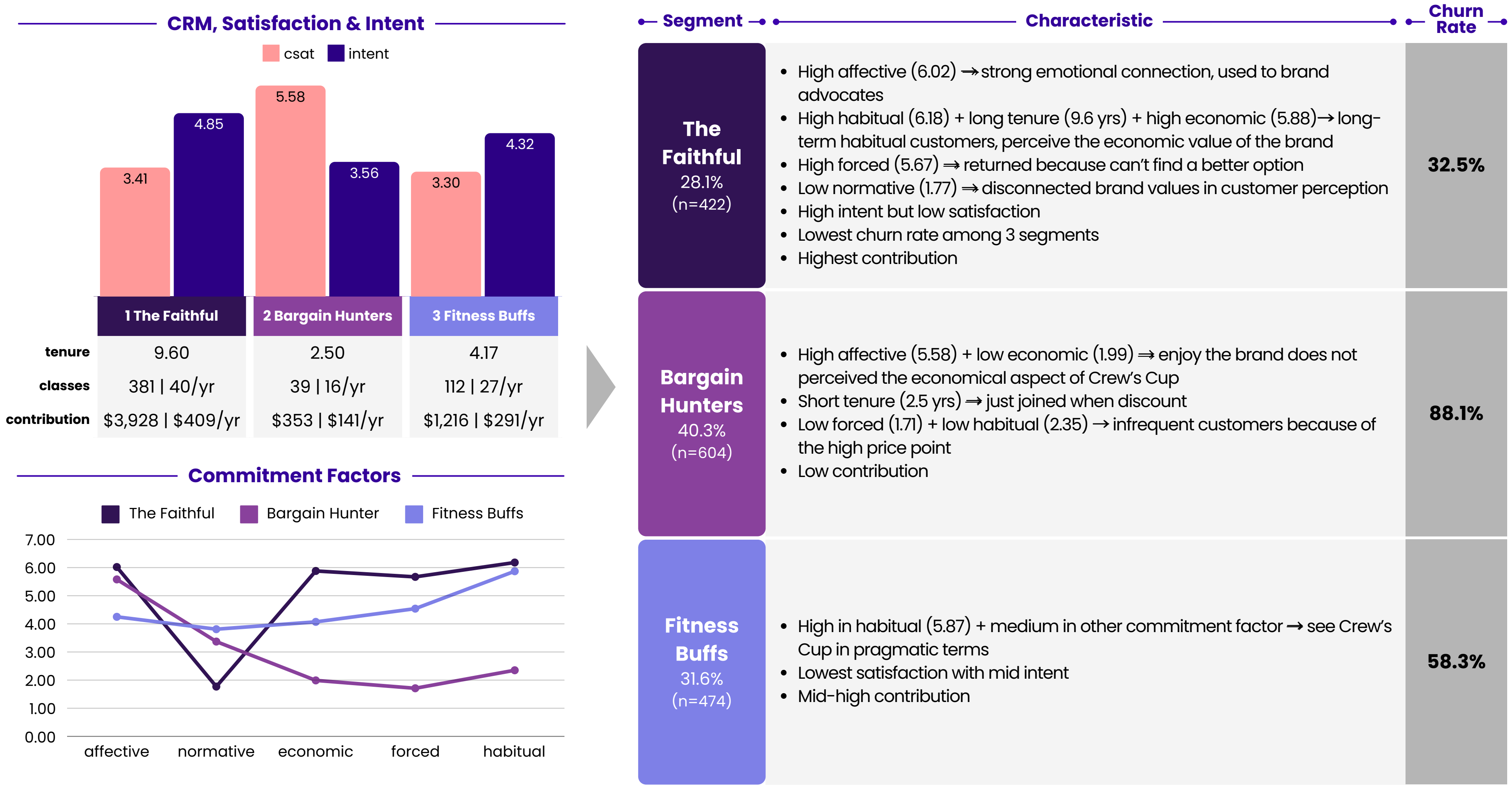


76% of data explained

Cluster Overview



Customer Segment | Strong signs of 5-factor



Intent Drivers | Base models using only commitment factors

Model 1: Baseline (control for satisfaction) – Adj. R-squared = 0.125

	coef	std err	t	P> t
const	5.2606	0.079	66.758	0.000
csat	-0.2583	0.018	-14.605	0.000

- Without any control variable, satisfaction appears to negatively influence retention, which does not seem logical

Model 2: Commitment factors (control for satisfaction) – Adj. R-squared = 0.384

	coef	std err	t	P> t
const	2.0062	0.291	6.904	0.000
csat	0.0479	0.068	0.703	0.482
affective	0.0795	0.036	2.217	0.027
normative	0.0460	0.015	3.121	0.002
economic	0.2020	0.024	8.266	0.000
forced	0.0429	0.055	0.773	0.440
habitual	0.1051	0.021	5.019	0.000

- 4 out of 5 commitment factors are statistically significant
- Economic (+0.20) is the most influential factor, followed by habitual (+0.11) and affective (+0.08)
- Normative (0.04) slightly increase intent

Based on the simple model, improving economic and habitual commitment might help improve retention for Crew’s Cup

Intent Drivers | Commitment factors and treatments

Model 3: Interaction term with commitment model – Adj. R-squared = 0.42

To test for the 3 hypotheses for ad campaign, subscription model and new product, dummy variables and interaction terms were added to model 2.

	coef	std err	t	P> t
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Intercept	1.8255	0.286	6.381	0.000
csat	0.0247	0.066	0.373	0.709
affective	0.0847	0.035	2.430	0.015
normative	0.0712	0.016	4.330	0.000
economic	0.2344	0.025	9.473	0.000
forced	0.0008	0.054	0.014	0.989
habitual	0.1129	0.020	5.551	0.000
treatment_Ad	0.3923	0.111	3.547	0.000
treatment_NewProduct	0.0249	0.104	0.239	0.811
treatment_Subscription	0.6519	0.106	6.137	0.000
normative:treatment_Ad	-0.0913	0.031	-2.971	0.003
economic:treatment_Subscription	-0.1113	0.025	-4.521	0.000
forced:treatment_NewProduct	0.0830	0.023	3.534	0.000

Ad Campaign and Subscription Model are the 2 statistically significant treatments with p-value < 0.

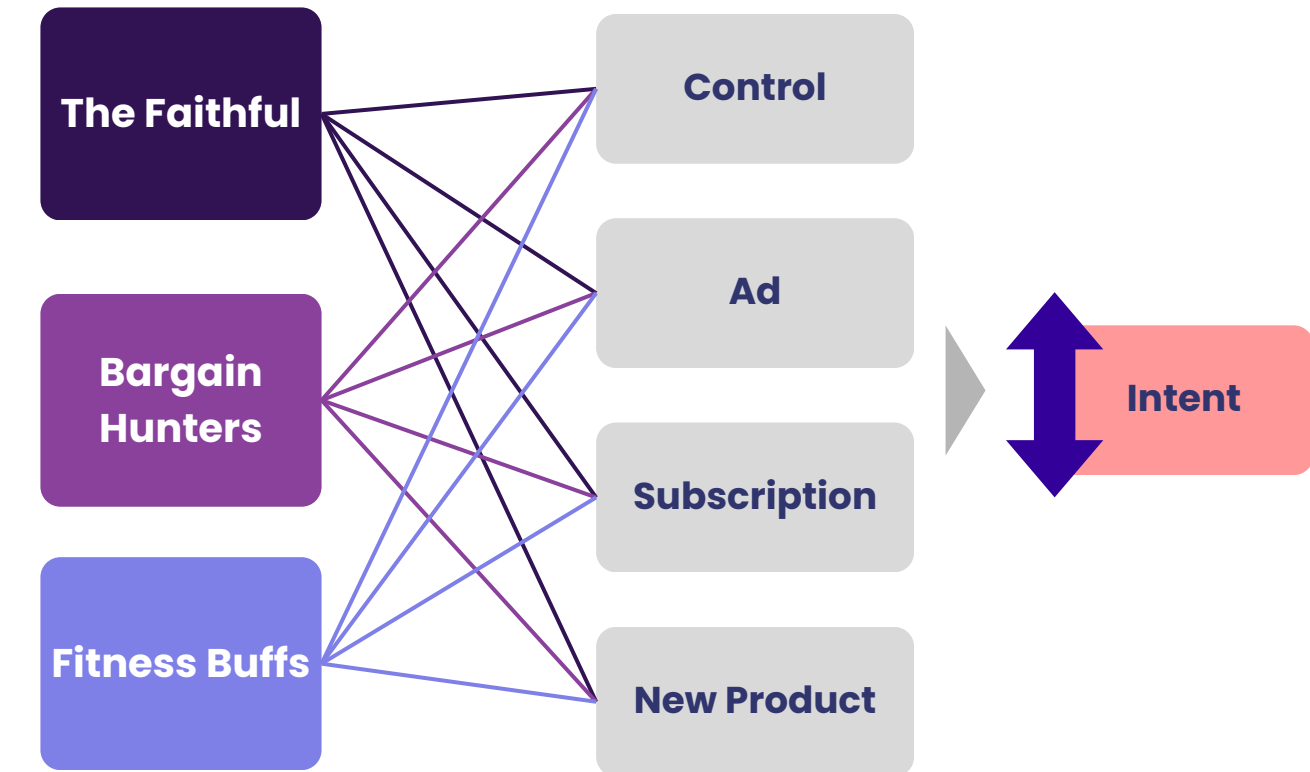
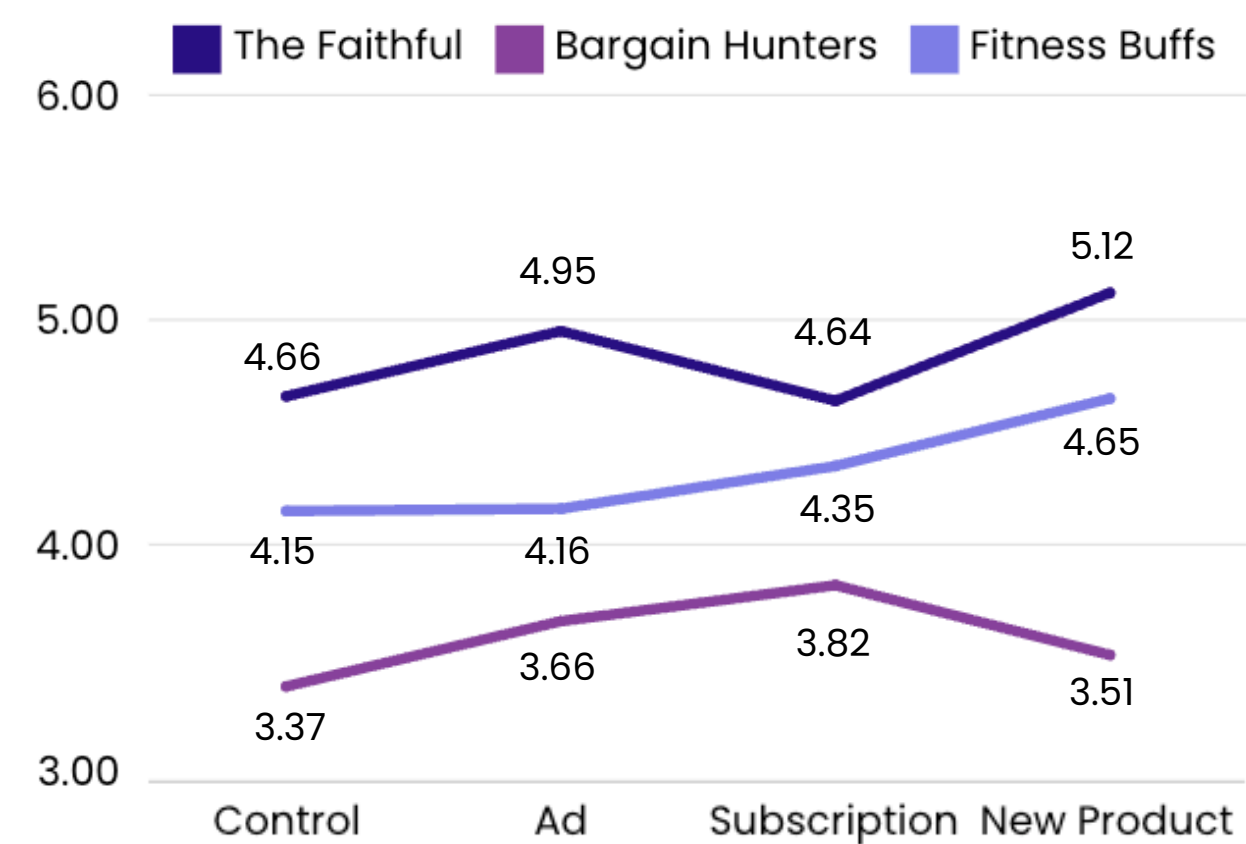
- Ad Campaign lift intent by +0.39, however, if the model penalizes customers that already have high normative level for this treatment
- Subscription Model works even better than Ad, lifting intention by 0.65. The model also penalize the treatment performance on high economic customers

Intent Drivers | Treatments and Segments Model

Model 4: Treatments and Segments – Adj. R-squared = 0.34

- The difference in commitment levels and satisfaction were already captured in each customer segment, therefore, they are not included in this model.
- Instead, interaction terms were created for each treatment group and each segment, to clearly observe the change in intent.

	coef	std err	t	P> t
Intercept	4.6566	0.080	58.160	0.000
bargain_hunter	-1.2859	0.104	-12.346	0.000
fitness_buff	-0.5074	0.109	-4.637	0.000
treatment_Ad	0.2939	0.113	2.609	0.009
treatment_NewProduct	0.4673	0.110	4.261	0.000
treatment_Subscription	-0.0144	0.111	-0.130	0.897
bargain_hunter:treatment_Ad	-0.1854	0.147	-1.263	0.207
bargain_hunter:treatment_NewProduct	-0.3278	0.144	-2.274	0.023
bargain_hunter:treatment_Subscription	0.4614	0.143	3.230	0.001
fitness_buff:treatment_Ad	-0.2843	0.153	-1.863	0.063
fitness_buff:treatment_NewProduct	0.0357	0.152	0.235	0.814
fitness_buff:treatment_Subscription	0.2182	0.152	1.435	0.152



All 3 experiments are statistically significant towards different segments and at different magnitude

- **Ad Campaign** works on The Faithful (has low normative commitment), which validated Monk's proposal. The campaign expect to lift avg. intent of the segment from 4.66 to 4.95 (+0.29), which borderlines the retention threshold of 5.
- **New Product** shows strong effect on The Faithful (+0.47) and slight effect on Bargain Hunters (+0.14). This is probably due to the high forced in The Faithful, which is interesting because the impact was not large in previous models. The lifted intent of 5.12 passed the threshold.
- **Subscription Model** attracts Bargain Hunters (+0.45) to 3.82, which makes sense because this group has low economic factor. The subscription would position Crew's Cup as a good deal for this price-sensitive customer group. However, lifted intent still falls short from retention threshold

Strategies Analysis and Recommendation

	Hypothesis	Experiment Result	Marketing Impact & Analysis	Recommendation
01	Ad Campaign Launch a new campaign to signal to its most loyal customers that it was getting back to its foundational values	Significant on The Faithful Mean Intent: 4.66 → 4.95	<ul style="list-style-type: none">Primary focus for The Faithful to rebuild loyalty and normative commitment.Can also appeal to broader segments like Fitness Buffs if designed with an emotional and values-driven message.Reduce churn in the most profitable segment and repair customer trust might be beneficial for both churn rate and contribution.	Yes, Crew's Cup should implement as a short-term strategy because of high practicality and feasibility.
02	Subscription Model Move to a subscription model would lower margin in the short term but increase retention in the long term and provide stable, recurring revenue.	Significant on Bargain Hunters Mean Lifted Intent: 3.37 → 3.82	<ul style="list-style-type: none">Primary focus for Bargain Hunters, the current crowdest segment with 40% size.Effective for stabilizing revenue but less impactful for reducing churn among The Faithful, who may view the subscription as a further betrayal of original values.	Need more information on subscription model cashflow. The intent does not show high retention potential and the target group's contribution is extremely low. Might do more harm to the brand in the long term.
03	New Product Introduce a new type of class to provide long-term customers with a new experience that might renew their interest in the brand	Significant on The Faithful Mean Lifted Intent: 4.66 → 5.12	<ul style="list-style-type: none">Variety in classes significantly reduces churn in The Faithful. Long term customers appreciate the innovation from instructors and alignment with the brand's foundational values.Bargain Hunters also enjoy the offer May appeal to The Faithful if positioned as	Yes for mid-term strategy. New product with instructors might also amplify the ad campaign, as it reintroduce the focus on the brand's foundational value.



Thank you!

