Company Recommendations Report

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Python Findings

No. of claims handled: Broker A 344, Broker B 344, Broker C 325, Broker D 319.

It is recommended that we focus on increasing the number of claims handled by Broker C and D. This can be achieved by allocating more claims to these brokers, provided they have the capacity to handle more without compromising the quality of service. Doing so would help to even out the distribution of claims handling among the four brokers.

Moreover, this could potentially increase overall productivity and provide the company with more flexibility. For instance, if Broker A or B are unable to handle their usual number of claims due to unforeseen circumstances (e.g., staff shortage, system issues), Brokers C and D would be more accustomed to handling a larger volume of claims, minimizing disruption to operations.

Age: The average age of the individuals is about 39 years, and the ages range from 18 to 64 years. The ages are fairly distributed since the mean and median are close.

Tailoring to specific age groups: The company should consider developing or tailoring products, services, or marketing strategies to cater to the diverse age demographics within our customer or client base. Given the fairly even distribution of ages and the proximity of the mean and median, we can infer that we don't have an overly concentrated age segment, allowing us to cater to a wide range of age groups.

For the younger age group (approximately 18-30), we could focus on products or services that are particularly relevant to their life stage, such as first-time insurance policies, educational or training services, or tech-forward solutions.

For the middle age group (approximately 31-50), we could consider products or services that cater to individuals with established families or careers, like home insurance, health packages, or investment options.

For the older age group (approximately 51-64), products or services could be tailored towards retirement planning, health-related services, or estate planning.

BMI: The average BMI is around 30.6 which is considered obese according to medical standards. The minimum recorded BMI is around 16 and the maximum is around 49. This indicates that there are extremes of both overweight and underweight individuals.

Risk Assessment and Premium Calculation: Since a high BMI is often associated with higher health risks, it might be necessary to adjust your risk assessment models and premium calculations. Individuals with a higher BMI may have a higher risk of certain health conditions, which could lead to increased insurance claims.

Tailored Insurance Products: Develop insurance products tailored to individuals with high BMI values. These could include policies with built-in wellness incentives, or products that provide cover for weight-related health conditions.

Partnerships with Healthcare Providers: Consider partnering with healthcare providers to offer check-ups or other preventative health services at discounted rates for your policyholders. This could help to identify and manage potential health issues earlier, potentially reducing claim costs.

Children: On average, individuals have one child. However, the highest recorded number of children for an individual is 5.

Child-specific Coverage: You could also consider offering coverage options specifically geared towards children, such as policies covering child-specific health concerns or educational policies that help parents save for their children's future education.

Claims Incurred: The average claim incurred is roughly £13262.31. However, there's a high standard deviation (£12049.47), indicating a wide spread in the claim amounts.

Risk Assessment and Pricing: High variability in claim amounts suggests that there might be factors influencing the cost of claims that aren't adequately accounted for in your current risk assessment and pricing models. It could be beneficial to perform more detailed analyses to understand what these factors are, and consider adjusting your risk assessment models and pricing structures accordingly.

Policy Terms and Conditions: Review your policy terms and conditions. It could be that the high variability in claim amounts is due to policies with high limits or broad coverage. If this is the case, you might want to consider adjusting these to limit your financial risk.

Reinsurance: If your company doesn't already have it, consider purchasing reinsurance, which is insurance for insurers. Reinsurance can help manage risk and protect your company from unusually high claim costs.

Correlation: There's a positive correlation coefficient of 0.3 between 'age' and 'claims incurred' indicating that as the age of individuals increases, the claim amounts also increase. However, this is a weak correlation, as 0.3 is close to 0. The correlations between other variables are even weaker.

Age-based Risk Assessment: Though the correlation is weak, it might still be worthwhile to consider age in your risk assessment models. Since older individuals might, on average, have slightly higher claim amounts, it might be necessary to adjust premiums or coverage amounts for older policyholders to balance this risk.

Health and Wellness Programs: As people age, they may be more likely to face health issues, leading to higher claim amounts. Implementing health and wellness programs targeted at older policyholders could potentially help to manage their health better and thus reduce claim costs.

Data Gathering: It may be that your current dataset does not include enough variables or the right variables to accurately predict claim amounts. If it's possible and within privacy regulations, consider collecting additional data that could help to improve your risk assessment and pricing models.

Power BI Findings

There is a strong positive correlation between age and average claim incurred.

Age-based Pricing: One of the most direct ways to address this trend is to consider age as a significant factor in premium calculation. Since older policyholders tend to have higher average claim amounts, they represent a higher risk to the company. Adjusting premiums to reflect this risk can help balance the company's financial exposure.

Proportion of claims incurred by each broker: Broker A 24.94%, Broker B 26.87%, Broker C 24.06%, Broker D 24.13%

Performance Evaluation: Though the distribution of claims is fairly even, it could be useful to conduct a detailed performance evaluation of each broker. This would help to identify any specific strengths or areas for improvement for each broker. This evaluation could consider various factors, not only the amount of claims incurred, such as the number of policies sold, customer satisfaction, and policy renewal rates.

The average claim incurred by no. of children increases gradually from 0 to 3 children, then quickly plummets between 3 and 5 children.

Risk Assessment and Pricing: If policyholders with 0-3 children have higher average claims than those with more than 3 children, you might consider adjusting your risk assessment and pricing models accordingly. Those with more children might be offered lower premiums given their lower average claim.

Further Investigation: Conduct further analysis to understand why there is such a drop in the average claim incurred after having 3 children. There may be a range of socio-economic, lifestyle, or other factors at play. The results could potentially help you refine your risk assessment models, pricing structures, or marketing strategies.

The Southeast Region (£5315586) has a significantly higher number of claims incurred than the other regions, which have approximately the same number of claims incurred (approximately £4000000).

Detailed Investigation: First, it's crucial to understand why the Southeast region has a higher number of claims. This could be due to various factors such as population density, socio-economic factors, local health conditions, lifestyle habits, or environmental risks. Conducting a detailed investigation will help you identify these factors.

Regional Pricing: If the trend persists and the reasons behind the higher claims in the Southeast are structural and unlikely to change, you may want to consider adjusting your pricing model in this region to reflect the higher risk.

Policy Adjustments: Based on the findings of your investigation, you may need to adjust the policy terms and conditions specifically for this region.

Males (£9381909) have a slightly higher total claims incurred than females (£8305846).

Further Investigation: Understand why males have higher claims. Are there specific types of claims that are more common among males? Do these patterns hold across different age groups, regions, or other demographic factors? This detailed understanding can help refine your risk assessment and mitigation strategies.

Targeted Services and Programs: If the reasons for the higher claims among males are related to preventable factors (such as lifestyle habits), consider creating targeted services or programs. For example, wellness or preventative care programs targeting men could potentially help reduce the number of claims.

The total claims incurred by smokers and non-smokers are roughly equal (approximately £8800000.

Risk Assessment and Pricing: If smoking status does not significantly affect the total claims incurred, you may want to review how much weight it carries in your risk assessment and pricing models. However, smoking is widely recognized as a risk factor for many health conditions, so it might be important to consider other data or consult with medical professionals before making any changes.

Health and Wellness Programs: Even if the total claims incurred by smokers and non-smokers are currently equal, it's widely accepted that smoking increases the risk of many serious health conditions. So, encouraging smoking cessation through health and wellness programs could still be beneficial for your policyholders and could potentially reduce claims in the long run.

Continuous Monitoring: Keep monitoring the data. The fact that the total claims incurred by smokers and non-smokers are roughly equal now does not mean this will always be the case. If this trend changes, your approach may need to change as well.

BMIs above 30 tend to have a significantly higher average claim incurred than BMIs under 30.

Risk Assessment and Pricing: Consider factoring BMI more heavily into your risk assessment and pricing models. Individuals with a BMI over 30 could potentially be charged higher premiums to reflect their higher average claim. However, you must ensure that these pricing adjustments are made in accordance with anti-discrimination laws and regulations in your jurisdiction.

Preventative Care Initiatives: If higher BMI is associated with higher claims, it may be beneficial to invest in preventative care initiatives aimed at helping policyholders maintain or achieve a healthy BMI. This could involve sponsoring fitness programs, providing discounts on gym memberships, or offering nutrition counselling services.

Education and Awareness: Launch an education and awareness campaign to inform policyholders about the health risks associated with having a high BMI and the potential impact on their insurance premiums. This could motivate individuals to adopt healthier lifestyles, which could in turn reduce claim costs in the long run.

Policy Adjustments: Consider offering incentives for policyholders to reduce their BMI if it's over 30. For example, you could offer premium discounts to policyholders who show consistent improvement in maintaining or reducing their BMI.