

BAN 602

Homework Assignment 3

Group 2

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Problem 1 c)

When the sample size increases the probability of the mean score of the given random sample being around the overall mean value increases.

So when the sample size is increased from 50 to 150 , the probability of the sample mean score around the mean value increases (i.e., the sample mean scores will be crowded around the overall mean value 80) and so the probability of the mean scores being less than 75 decreases.

Problem 2 d)

As per question we need to find out if Young Professional can be a good advertising outlet for online brokers. For online brokers the target audience can be young people with broadband connection. Let's consider the following cases from the sample data of 410 people . we have 256 people who has broadband connection

Case1 :

In provided sample data we can find the information about people who have a plan to buy a house in the next 2 years from the **column Real Estate Purchases** having value as Yes. Online broker can target young professional who has a broadband connection at home and have a plan to buy a house in the next 2 years .We found out that 115 people out of 256 people with broadband size i.e **44.92%** professionals with broadband connection have plan for real estate investment in the near future.if we consider the whole sample size of 410, 181 people i.e **44.14** percent people little less than 44.92% are planning for real estate investment in 2 years .So online real estate broker can consider magazine as good advertising outlet for target audience.

Case 2 :

Now let's consider young professional with a broadband connection and have no plans of real estate investment.

There are 141 people with broadband connection have no plans of real estate investment for 2 years.Let's further find out some more details about the above 141 people . Out of 141 people there are around 25 people are there who has income more than 77900 and investment less than 28538.they represent around 17% .They might not have a plan for real estate investment in next 2 years ,they can still be considered as **target audience for online real estate broker**.

Case 3:

Out of 256 subscribers of magazine with a broadband connection , there are **128 people i.e 50%** who has done 6 or more transactions related to stock/mutual fund in the past year .So for online stock broker the magazine **can be a good place to put advertisement** .

Problem 2 e)

Statistics shows that 219 out of 410 i.e 53% of the magazine subscribers are having children . Again out of 219 people ,77% of people (around 140) are having broadband at home .The mean age of readers with children is also 30. So, for the companies selling educational software and computer games for young children, YoungProfessional magazine **can be a better place** to advertise their products.

Problem 2 f) Types of articles the young professional readers would be interested in

- **Career and Tech Related Articles** - As this magazine is targeting young professionals, the following types of career and tech related articles like the below would be of interest
 - **Ranking based articles** - Fastest-Growing Jobs, Top fastest-growing skills in an industry , Top Fastest-Growing Companies
 - **Career advice** - Tips for interviews, being an effective leader, motivational bio articles on popular business leaders etc.
 - **Tech devices review articles** - Reviews of the latest google pixel phone or comparison articles comparing bose and sony headphones
- **Money management and Investment** - out of 410 people ,there are 136 people who are having more salary 77900 which is considered to be more than the 95% confidence intervals for household income of subscribers.Out of 136 people 77 people i.e around 56% people are having less investment lesser than the mean investment amount of 28538. They might be interested in articles related to investment and money management.
- **Lifestyle and Entertainment** -
 - **Parenting** - The statistics of the sample data shows that there is more than 50% of readers who have children. So it is believed, at least half of the population of the magazine subscribers might be interested in articles related to parenting.
 - **Fitness and healthy lifestyle** - the mean and median age of young professional is around 30 years .People around this age might be interested in articles related to

healthy lifestyle ,and fitness.As working professional, they may have also interest in healthy cooking which can be done quickly .

- **Sports** - The gender proportion shows that there are 55% of male subscribers for the magazine. So Young professional readers will be interested in articles related to sports

Problem 3 c)

Following specific statistics help the real estate agent understand the condominium market

- **Days to Sell**

If it is a Gulf View type Condominium, it takes a minimum of 28 days to sell, whereas the non gulf view type condominium takes a minimum of 48 days. It clearly indicates that the **Gulf View condominium market has more demand** than the non gulf view condominium

- **Sale Price**

On average people buy the Gulf View condominiums for \$454.2K. But the average amount they pay for Non Gulf View Condominium is \$203.2K. This shows the **Gulf View condominiums are sold for more than twice the price** of the Non Gulf View Condominium .

- **Listing price Vs Sale Price**

For GulfView condominiums Mean listing price is 474.0 K and Mean Selling price is 454.2K .So there is 4.17% decrease from asking price .

For NonGulf condominiums Mean listing price is 212.8 k while Mean selling price is 203.2K .So there is 4.51 percent decrease from asking price for no gulfview condominiums .


This also shows both GulfView condominiums and NonGulf condominiums are sold for less than list price indicating that this is a **buyer friendly market**.

Problem 3 d)

95% confidence interval estimate of the

population mean sales price for Gulf View condominiums is 401.8605 - 506.5845

population mean number of days to sell for Gulf View condominiums is 90 - 123 .



Looking at the summary: sample mean sales : 454.2 and sample mean number of days to sell :106 , which indicates that sample mean values are well within the 95% confidence interval of the population mean values.

Problem 3 e)

95% confidence interval estimate of the

population mean sales price for No Gulf View condominiums is 181.3620 - 225.0157

population mean number of days to sell for No Gulf View condominiums is 98 - 173

Looking at the summary: sample mean sales : 203.2 and sample mean number of days to sell : 135, which indicates that sample mean values are well within the 95% confidence interval of the population mean values.