**Nome:**

Advanced program • MBA • Pós-graduação • Graduação

Educação executiva • Educação a distância • Business games

**Disciplina: Modelos Supervisionados**

**Professor: Daniel Reed Bergmann**

**Responda as Questões abaixo conforme os relatórios de regressão que foram gerados.**

**Boa Prova a todo(a)s!**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Relatório de Regressão #1  Uma empresa deseja estudar como seu faturamento (y) é impactado por: despesas com propaganda (x), pela taxa de desemprego (x), pelo risco país (x) e pela taxa de câmbio (x):   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  |  |  |  |  |  |  | | Estatística de regressão |  |  |  |  |  |  | | R múltiplo | 0,916617804 |  |  |  |  |  | | R Quadrado | 0,640188199 |  |  |  |  |  | | R Quadrado Ajustado | 0,611748375 |  |  |  |  |  | | Erro-padrão | 7,149431479 |  |  |  |  |  | | Observações | 60 |  |  |  |  |  | |  |  |  |  |  |  |  | | ANOVA |  |  |  |  |  |  | |  | gl | SQ | MQ | F | F de significância |  | | Regressão | 4 | 6986,893034 | 2328,964345 | 45,5637881 | 1,71265E-10 |  | | Residual | 55 | 1328,973632 | 51,11437047 |  |  |  | | Total | 59 | 8315,866667 |  |  |  |  | |  |  |  |  |  |  |  | |  | Coeficientes | Erro-padrão | Stat t | valor P | 95% inferior | 95% superior | | Intercepto | 9,371233868 | 3,817941793 | 2,454525076 | 2,1115% | 7,523342117 | 12,2191 | | Desp. Com Propaganda | 2,239786776 | 0,179583346 | 6,34684008 | 0,0001% | 1,370647922 | 3,103089 | | Taxa de Desemprego | -1,970495383 | 0,298705131 | 3,249008075 | 0,1185% | -1,35649819 | 2,611449 | | Risco país | -4,349905291 | 0,304679234 | 3,313988237 | 7,4213% | -1,383628 | -5,69618 | | Taxa de câmbio | -0,417178075 | 0,155226307 | 1,399106112 | 18,3333% | -0,536250 | -0,101894 | |  |  |  |  |  |  |  |  1. (1,0) Pode-se dizer que a taxa de câmbio país neste modelo de regressão múltipla influencia o faturamento?   Não, pois o Valor-P é maior do que 5%   1. (1,0) Pode-se dizer que quanto maior o risco país, maior tende a ser o faturamento?   Não, pois Valor-P > 5%   1. (1,0) Quais foram as variáveis que devemos retirar do modelo por falta de significância?   Risco páis e Câmbio  **Novo relatório de Regressão sem as variáveis: Taxa de Câmbio e Risco País**   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | SUMÁRIO |  |  |  |  |  |  | |  |  |  |  |  |  |  | | Estatística de regressão |  |  |  |  |  |  | | R múltiplo | 0,916617804 |  |  |  |  |  | | R Quadrado | 0,660188199 |  |  |  |  |  | | R Quadrado Ajustado | 0,631748375 |  |  |  |  |  | | Erro-padrão | 7,149431479 |  |  |  |  |  | | Observações | 60 |  |  |  |  |  | |  |  |  |  |  |  |  | | ANOVA |  |  |  |  |  |  | |  | gl | SQ | MQ | F | F de significância |  | | Regressão | 3 | 6986,893034 | 2328,964345 | 45,5637881 | 1,71265E-10 |  | | Residual | 56 | 1328,973632 | 51,11437047 |  |  |  | | Total | 59 | 8315,866667 |  |  |  |  | |  |  |  |  |  |  |  | |  | Coeficientes | Erro-padrão | Stat t | valor P | 95% inferior | 95% superior | | Intercepto | 9,2712 | 3,817941793 | 2,454525076 | 2,1115% | 1,553342117 | 12,91912562 | | Desp Propaganda | 2,2797 | 0,179583346 | 6,34684008 | 0,0201% | 1,3730647922 | 3,116892563 | | Taxa de Desemprego | -1,9804 | 0,298705131 | 3,249008075 | 0,1485% | -1,3464981 | 2,624492573 | |  |  |  |  |  |  |  |  1. (1,0) Escreva o modelo de regressão resultante do modelo acima   Faturamento = 9,27 + 2,27\*Propaganda – 1,98\*Desemprego   1. (2,0) Interprete os sinais dos coeficientes do modelo de regressão acima para as variáveis Despesas com Propaganda e Taxa de Desemprego.   Propaganda influencia positivamente o Faturamento  O Desemprego influencia negativamente o Faturamento   1. (2,0) Interprete o significado o R ao quadrado no modelo de regressão múltipla acima? Se você necessitasse descobrir somente como as Despesas com Propaganda influenciam o Faturamento, qual seria o procedimento estatístico adequado?   66% do Faturamento é explicado pela Propaganda e Desemprego  Efeito da Propaganda => Rodar uma única regressão com X Propaganda e Y Faturamento   1. (2,0) Suponha que nos meses 3, 4 e 5 tivemos o efeito do Covid-19 (pandemia) no mercado (evento sistêmico). Pergunta: É possível colocar uma variável qualitativa no modelo de regressão? Qual seria o procedimento que você faria na tabela abaixo?  |  |  |  |  |  | | --- | --- | --- | --- | --- | | Período | Vendas (Y) | Preço do Produto (X1) | Preço do Concorrente (X2) | Covid-19 (X3) | | 1 | 10 | 4 | 5 | 0 | | 2 | 12 | 3,8 | 5,2 | 0 | | 3 | 9 | 5 | 4 | 1 | | 4 | 8 | 7 | 3 | 1 | | 5 | 7 | 8 | 3,5 | 1 | | 6 | 14 | 4 | 5 | 0 | | 7 | 17 | 3,9 | 5,7 | 0 | |
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