



# 2024

# FINAL REPORT

**Subject:** Experiments for Business  
Decision Making

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**Course code:** INS3088.01

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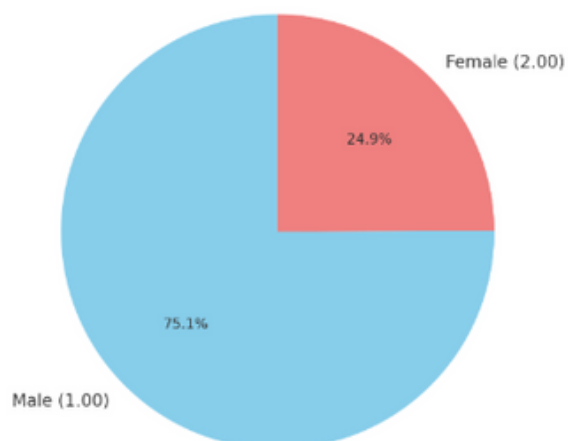
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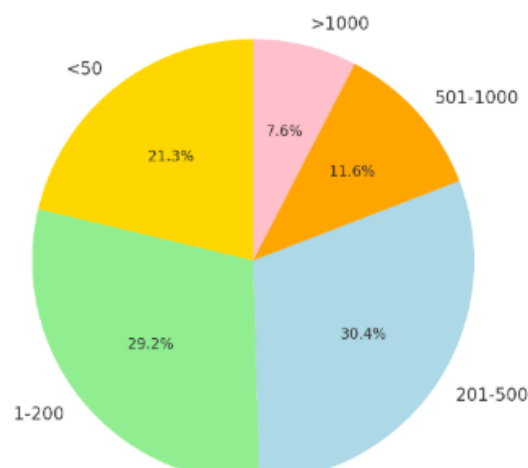
# Inforgraphic data analysis and result

## 1.Descriptive Statistic

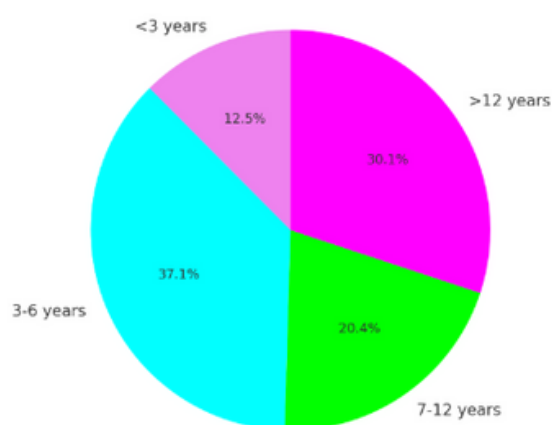
Gender Distribution



Firm Size Distribution



Firm Age Distribution

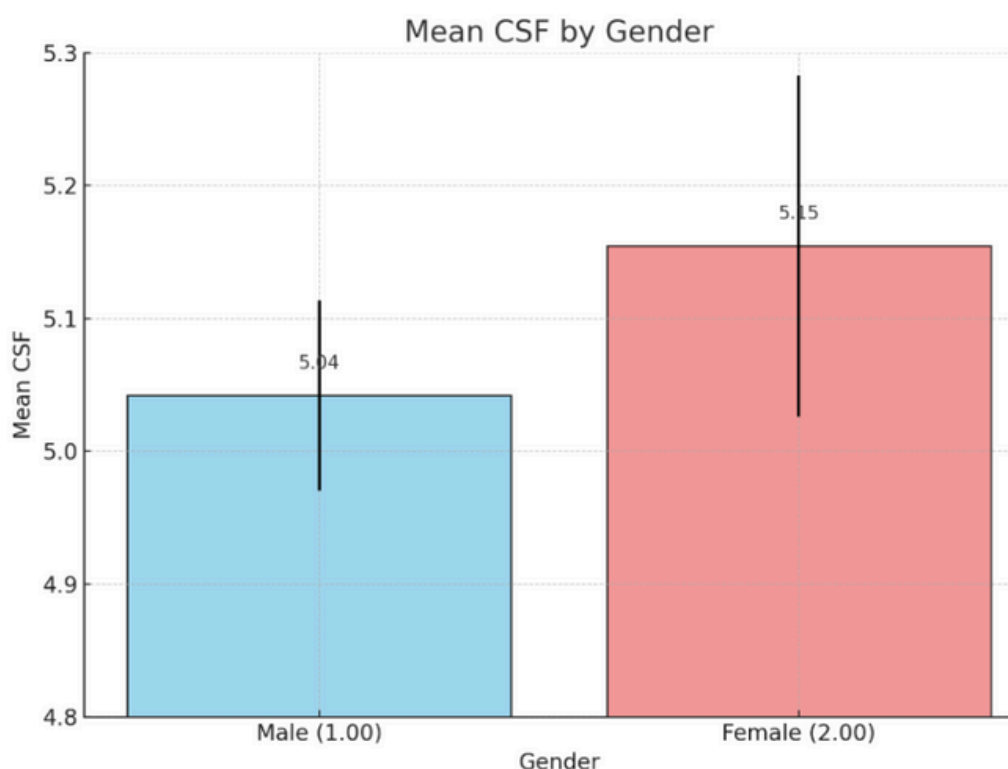


The results of the data analysis are presented through three pie charts reflecting the characteristics of the research sample. In terms of gender, men account for an overwhelming proportion of 75.1%, while women account for only 24.9%. In terms of enterprise size, the group of enterprises with 201-500 employees accounts for the highest proportion (30.4%), followed by the group of 51-200 employees (29.2%) and the group of less than 50 employees (21.3%). Larger enterprises, including the group of 501-1000 employees and the group of over 1000 employees, account for only 11.6% and 7.6%, respectively. In terms of enterprise age, the majority of enterprises in the sample have been operating for 3-6 years (37.1%), followed by the group of over 12 years (30.1%), the group of 7-12 years (20.4%), and the group of younger enterprises under 3 years accounts for only 12.5%.

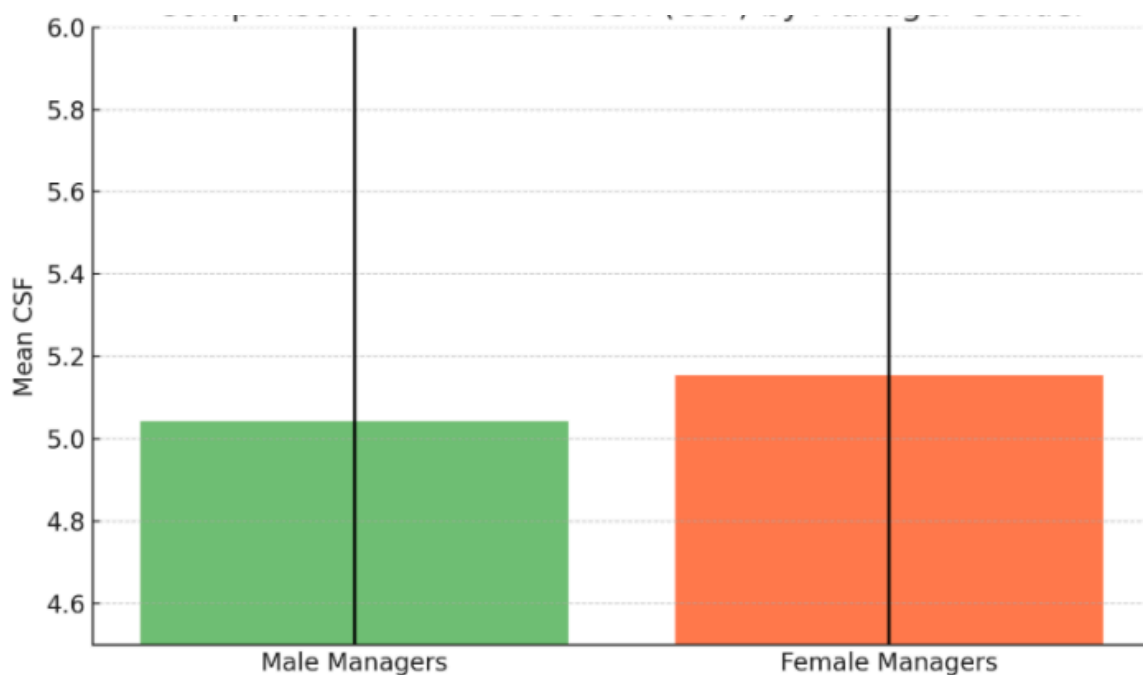
These results show that the survey sample is diverse but mainly focuses on small and medium-sized enterprises with 3 years or more of operating experience.

## 2. Independent t-test and ANOVA

- Gender



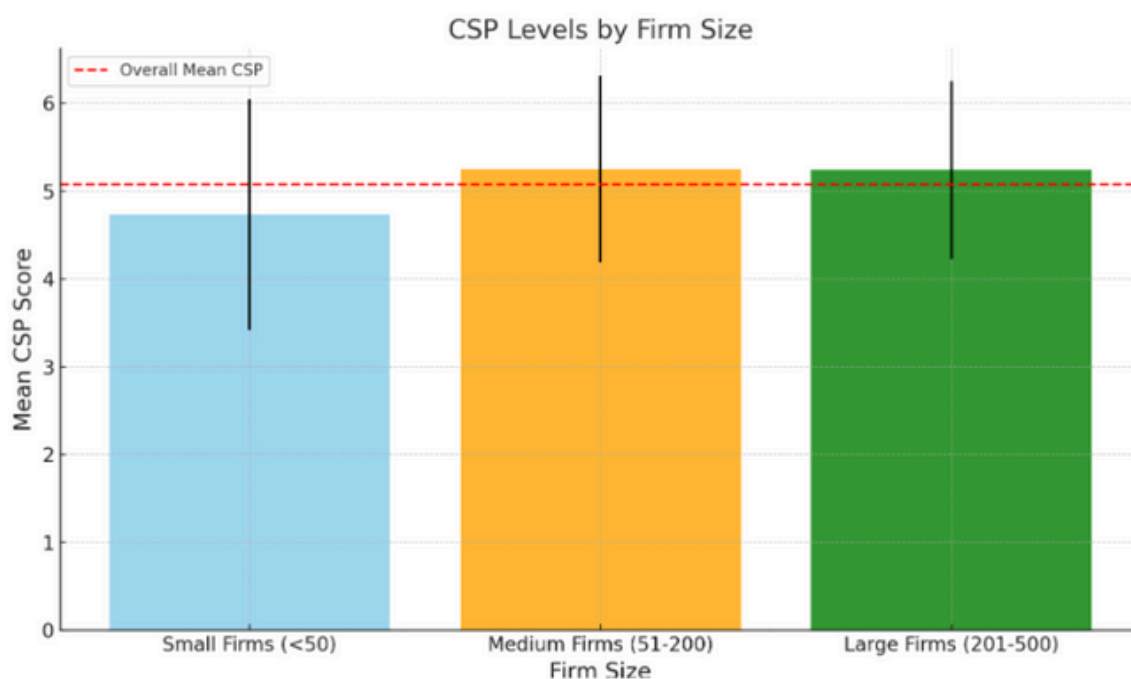
The bar chart showing the mean values of CSF by gender shows that males (Mean = 5.0418, Std. Error = 0.07154) and females (Mean = 5.1545, Std. Error = 0.12833) have a small difference in the level of CSR implementation at the corporate level. However, the t-test results show that this difference is not statistically significant (Sig. = 0.436), meaning that there is no evidence that the gender of the manager significantly affects CSF. This chart helps to visualize that despite the slight difference in means, the CSF values between males and females are quite similar in the study sample.



The bar chart illustrates the average firm-level CSR (CSF) scores for male and female managers. Male managers have a mean CSF of 5.0418 (standard deviation: 1.12440), while female managers have a slightly higher mean of 5.1545 (standard deviation: 1.16204).

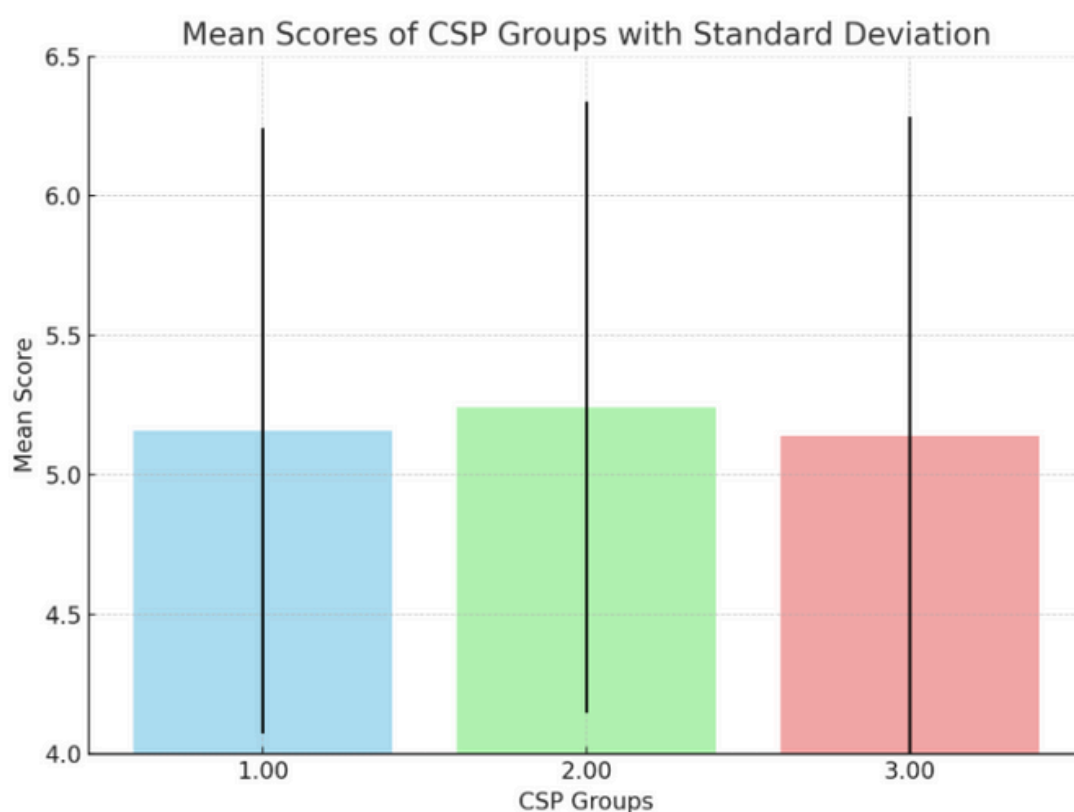
A t-test was conducted to assess the statistical significance of this difference. The results showed no significant difference between the two groups, with  $t = -0.779$ ,  $p = 0.436 > 0.05$ . Additionally, the 95% confidence interval of the mean difference (-0.39692 to 0.17165) includes 0, confirming that the difference is not statistically significant. This indicates that manager gender does not significantly influence the CSF level.

- Firmsize

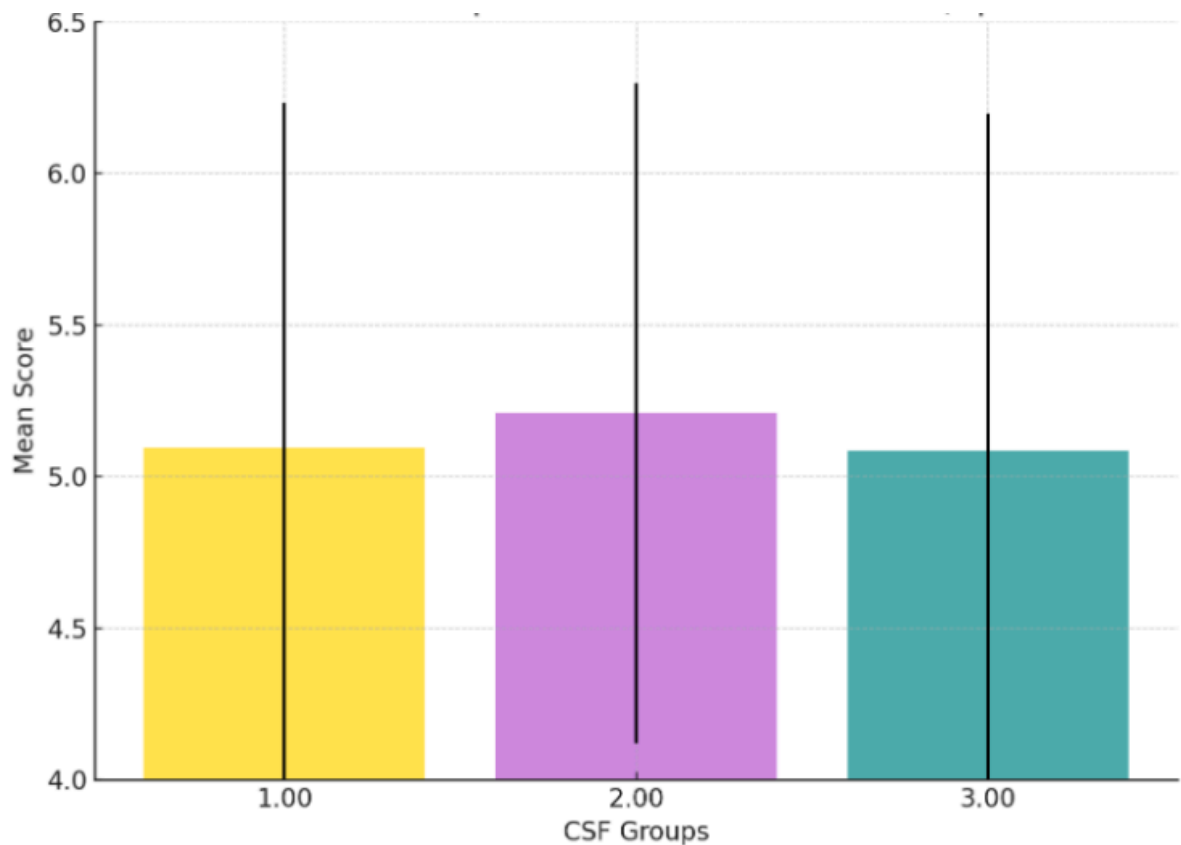


Note: Levene's result ( $p = 0.497$ ) confirmed homogeneity of variance between groups, allowing ANOVA analysis to be performed.

The results of the ANOVA analysis and the graph show significant differences in the level of corporate social responsibility (CSP) implementation among different sized business groups. Small businesses (<50 employees) had the lowest mean CSP score (4.73) and the highest variability ( $SD = 1.32$ ), indicating limited focus or ability to implement social responsibility in this group. In contrast, medium-sized businesses (51-200 employees) achieved the highest mean CSP score (5.25) with lower variability ( $SD = 1.06$ ), reflecting greater resource allocation and emphasis on social responsibility. Large businesses (201-500 employees) achieved a similar mean CSP score (5.24) and had the lowest variability ( $SD = 1.01$ ), indicating greater stability in implementing CSP. Levene's result ( $p = 0.076$ ) confirmed homogeneity of variance between groups, and ANOVA result ( $F = 5.480$ ,  $p = 0.005$ ) confirmed that enterprise size has a significant effect on CSP. The graph clearly visualizes this trend, in which large and medium-sized enterprises have a higher level of CSP than the average (5.11), while small enterprises have a lower level.



The graph illustrates the mean values of the three CSP groups (1.00, 2.00, and 3.00) showing that the groups have almost similar mean values, 5.16, 5.24, and 5.14, respectively. The standard errors represented by the vertical bars indicate that the variation within each group is relatively small and uniform. The difference in mean values between the groups is not significant, which is consistent with the ANOVA test results where the p (Sig.) value = 0.827, indicating that there is no statistically significant difference between the CSP groups. This can be understood that the groups do not have significant differences in the measured factor.

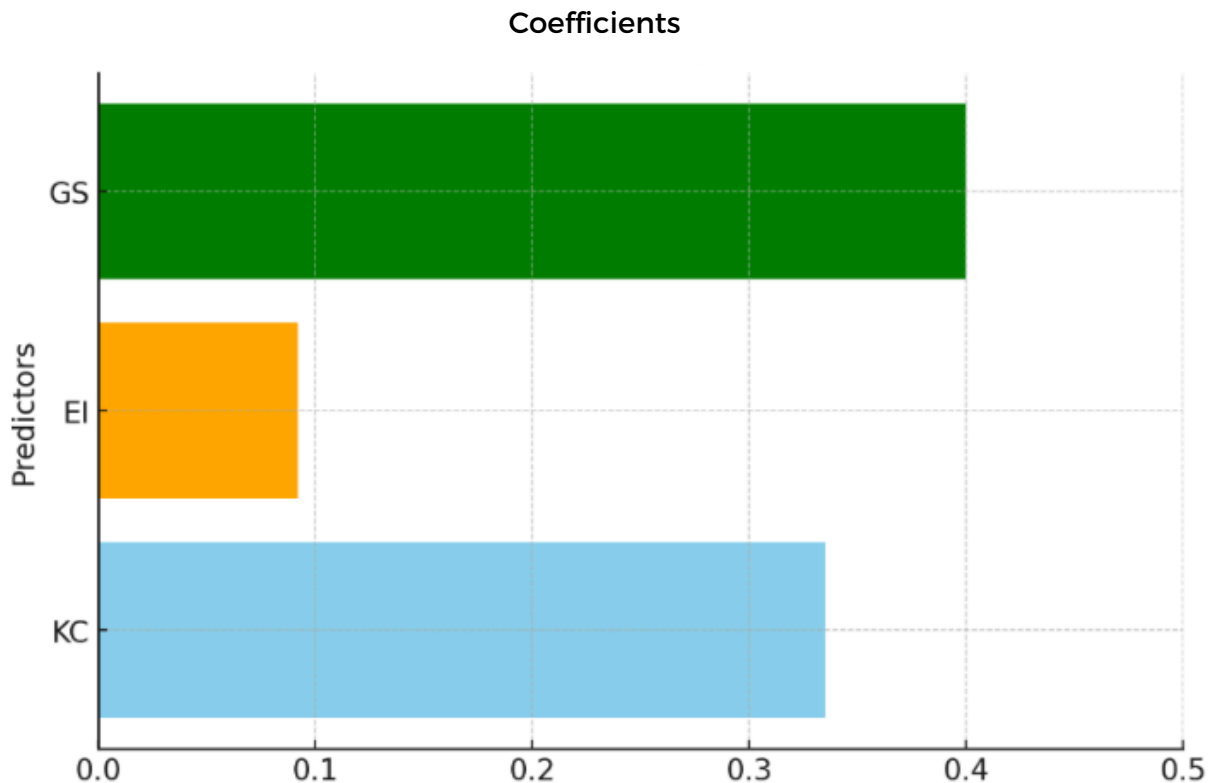


The comparison chart of the mean values of the three CSF groups (1.00, 2.00, and 3.00) shows that the mean values are 5.10, 5.21, and 5.08, respectively. The standard errors shown by the vertical bars indicate that the variation within each group is small and relatively uniform. There is no significant difference between the groups, which is consistent with the ANOVA test results, as the p (Sig.) value = 0.747 ( $> 0.05$ ). This indicates that the difference in mean between the groups is not statistically significant.



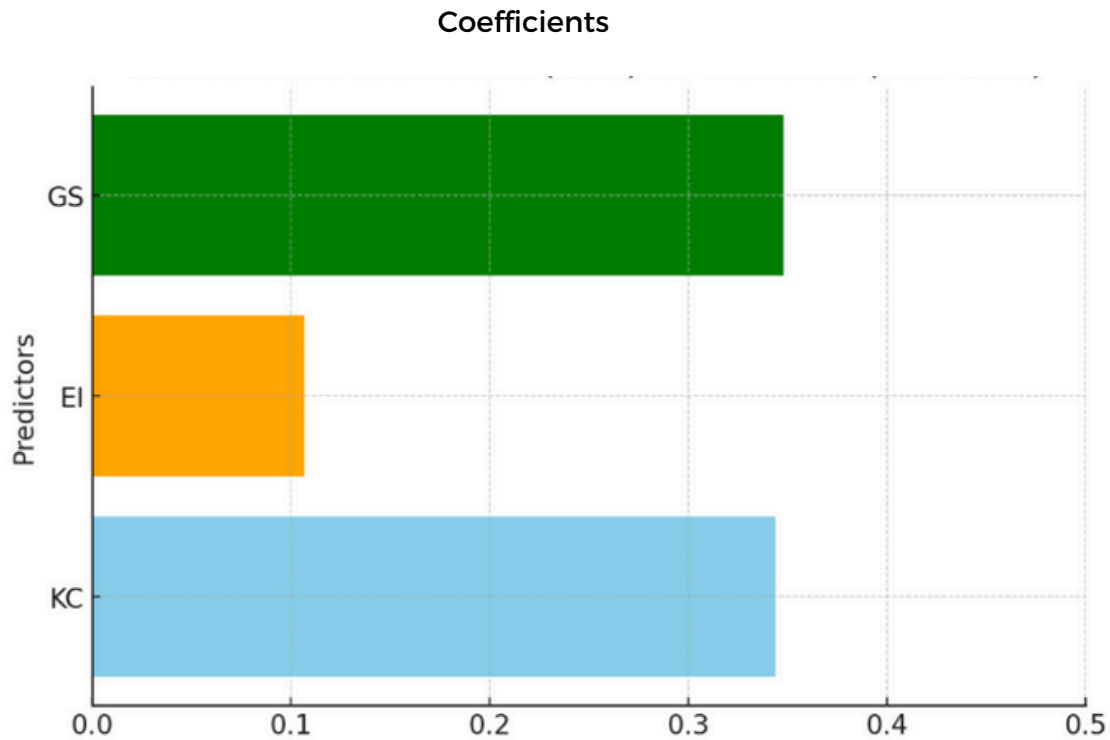
### 3. Research Objective

- Research 1:



The analysis shows that the variable Knowledge Creation (KC) has a Beta coefficient of 0.335, indicating a moderate impact on the dependent variable CSF. Meanwhile, EI has the lowest Beta coefficient (0.092), reflecting the weakest impact on CSF. In contrast, GS has the highest Beta coefficient (0.400), indicating that it is the factor that has the strongest impact on CSF. This result emphasizes that GS goal setting plays the most important role in predicting CSF, EI has the least impact. In addition, the relationships are confirmed to be statistically significant with Sig. values less than 0.05.

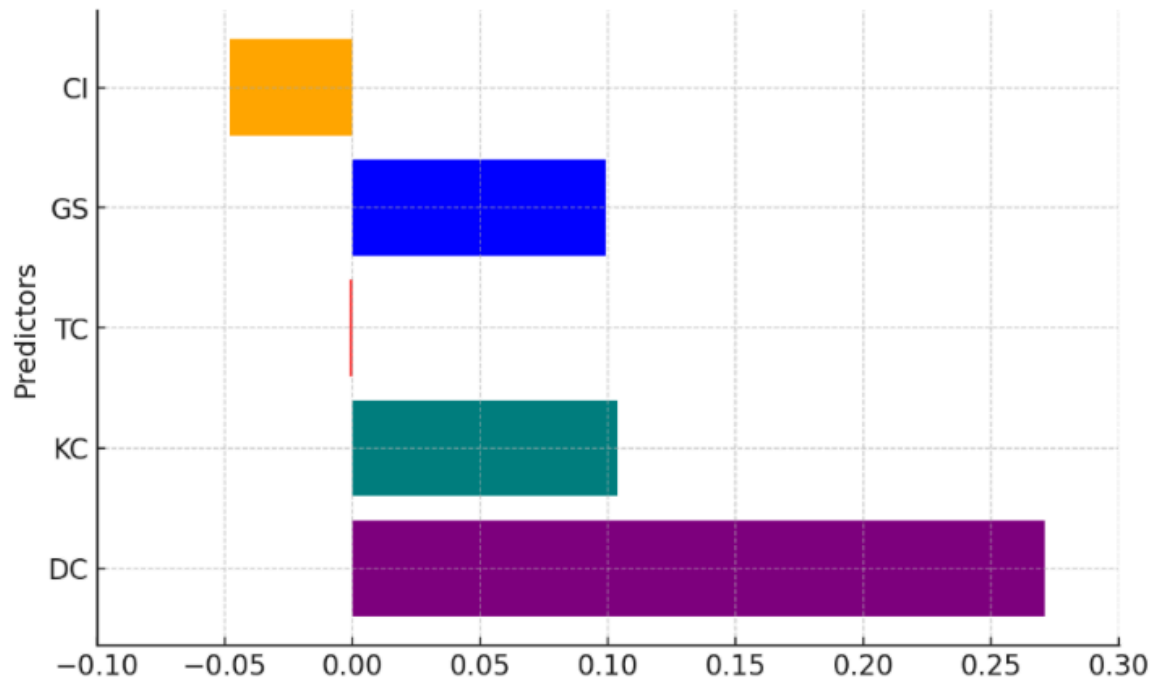




The analysis of the results shows that the variable GS has a Beta coefficient of 0.348, showing the strongest impact on the dependent variable CSP. The variable KC has a Beta coefficient of 0.344, very close to GS, indicating that it is the factor with the second strongest impact. In contrast, EI has the lowest Beta coefficient of 0.107, reflecting the weakest impact on CSP. All relationships are statistically significant with Sig. values less than 0.05, confirming that all three variables significantly affect CSP.

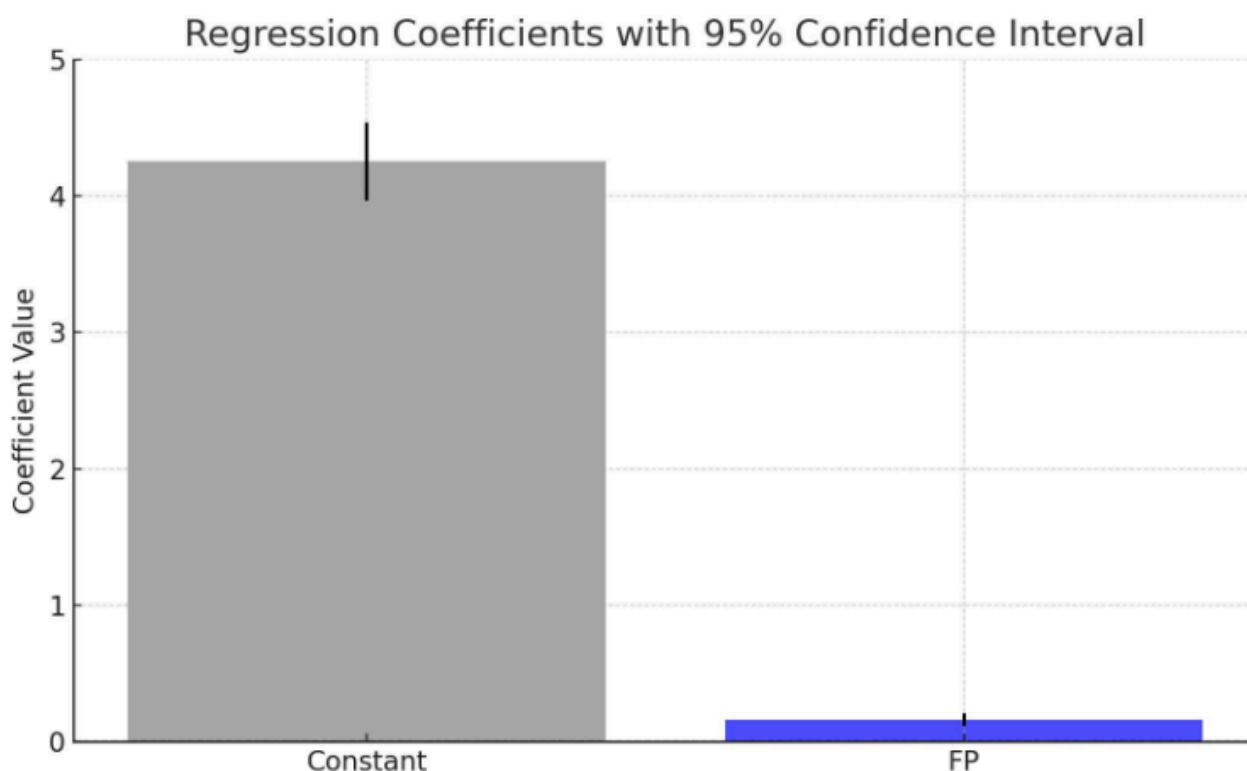
- Research 2:

### Coefficients

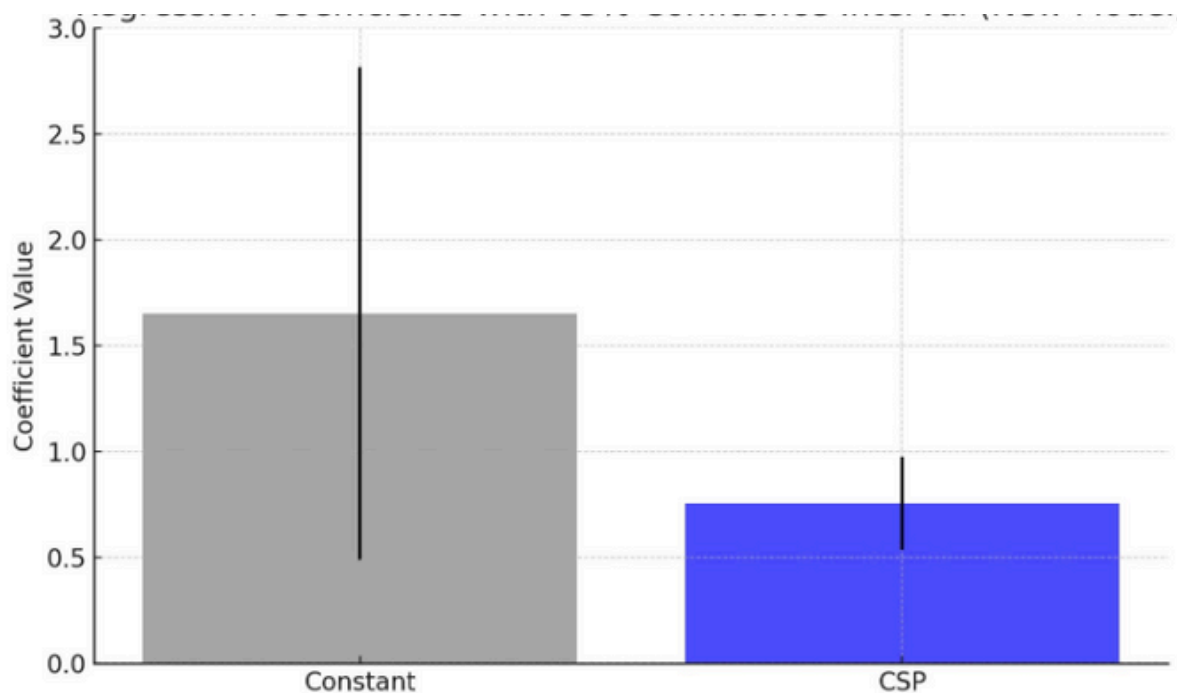


The diagram shows that variable (DC) has the highest Beta coefficient (0.271), showing the strongest impact on the dependent variable FP, and this relationship is statistically significant with a Sig. value of 0.000. Variable (KC) has a Beta coefficient of 0.104, but the impact is weaker and not statistically significant (Sig. = 0.172). Similarly, GS with a Beta coefficient of 0.099 (Sig. = 0.203) is also not statistically significant. Variables CI and TC have negative Beta coefficients (-0.048 and -0.001), respectively, showing not only a very weak but also insignificant impact, with Sig. values of 0.548 and 0.988, respectively. Overall, only DC shows a significant and statistically significant impact on FP.

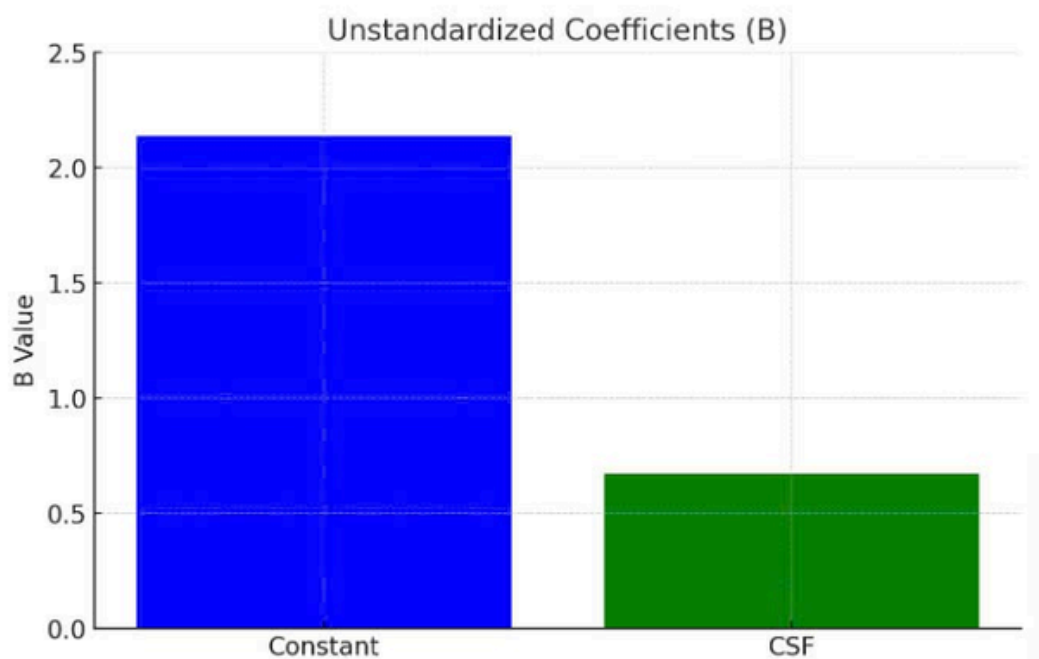
- Research 3:



The above graph illustrates the regression coefficients (Constant and CSP) along with the 95% confidence interval from the new model. The results show that the Constant coefficient has a value of 1.653, representing the value of the dependent variable (FP) when the independent variable (CSP) is 0. The confidence interval [0.491, 2.814] of this coefficient is wide but does not contain the value 0, indicating that the coefficient is statistically significant. The CSP coefficient has a value of 0.755, indicating that when CSP increases by 1 unit, FP increases by an average of 0.755. The confidence interval [0.535, 0.976] is narrow and does not contain the value 0, confirming that CSP has a significant effect on FP.



The above graph illustrates the regression coefficients (Constant and FP) along with the 95% confidence interval from the new model. The Constant coefficient has a value of 4.255, representing the value of the dependent variable (CSF) when FP is 0. The confidence interval [3.963, 4.548] is very narrow and does not contain the value 0, indicating that the coefficient is statistically significant. For the FP coefficient, the value 0.147 indicates that when FP increases by 1 unit, CSF increases by an average of 0.147. The confidence interval [0.099, 0.195] is also narrow and does not contain the value 0, confirming that FP has a significant impact on CSF.



The bar chart illustrating the unstandardized coefficient (B) values from the regression table shows that the constant has a value of  $B = 2.136$ , which means that when the independent variables (CSF) are equal to 0, the predicted value of the dependent variable (FP) is 2.136, showing the basic effect on FP without the impact of CSF. The coefficient  $B = 0.671$  of CSF shows that each unit increase of CSF will increase FP by an average of 0.671, holding other variables constant, which confirms the positive and significant effect of CSF on FP with high statistical significance (Sig. = 0.000). This result emphasizes that improving critical success factors (CSF) can significantly increase the effectiveness of FP.

# CONCLUSION

The study's descriptive and regression analyses revealed key insights into the characteristics and relationships between variables. The research sample was diverse, predominantly comprising small and medium-sized enterprises with over three years of experience. T-test results indicated no significant impact of manager gender on firm-level CSR (CSF). ANOVA analysis showed significant differences in product-level CSR (CSP) across enterprise sizes, with medium and large enterprises performing better than smaller ones.

Regression results identified innovation capabilities (KC) and government support (GS) as the strongest drivers of CSR, while international market exposure (EI) had a weaker influence. Unfair competition (DC) emerged as the most significant factor affecting export performance (FP), with technological turbulence (TC) and competitive intensity (CI) showing no statistical significance. A bidirectional relationship between CSR and firm performance was also confirmed, highlighting how strong performance fosters CSR investment and, in turn, CSR enhances business outcomes. These findings underscore the critical role of innovation, institutional pressures, and CSR in driving sustainable development.

