Homework 6

BAX 442: Advanced Statistics for Business Analytics

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Contents

1 Mediation

1.1 What is Mediation?

1.2 Estimation of Mediation Model

1.3 Calculation of 95% Confidence Interval
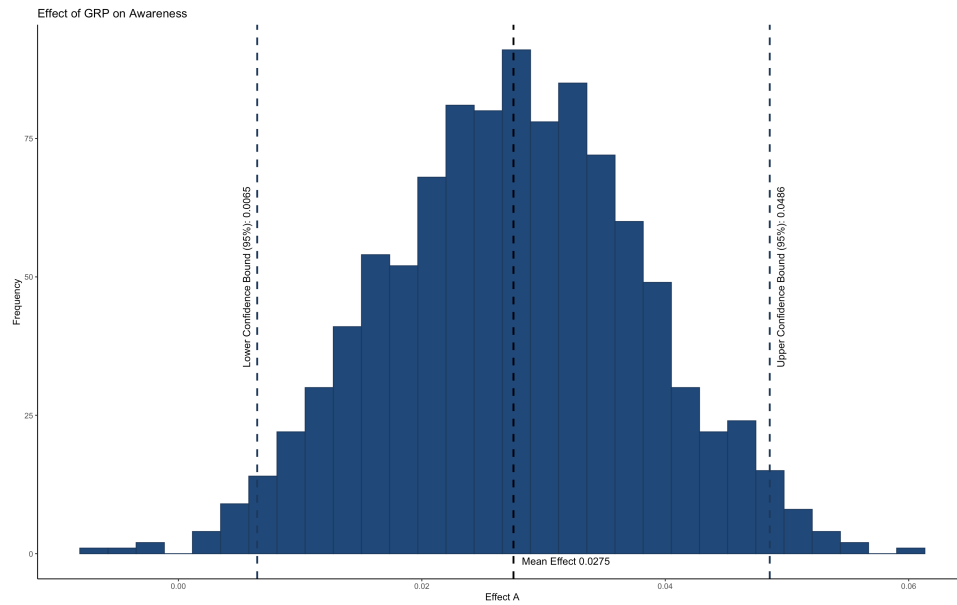
2 Histograms

2.1 Histogram of A

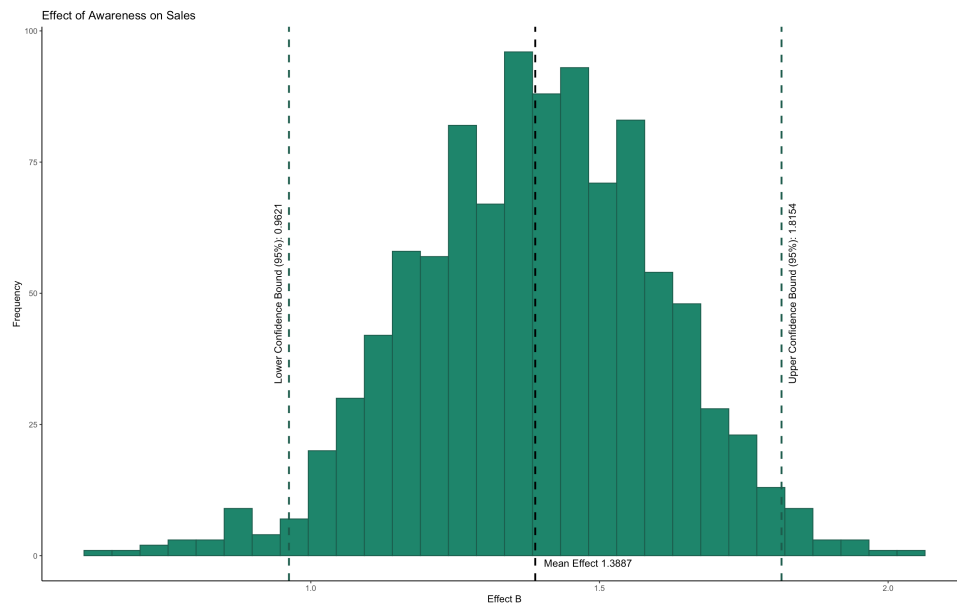Figure 1: Direct Effect of GRP on Awareness

2.2 Histogram of B

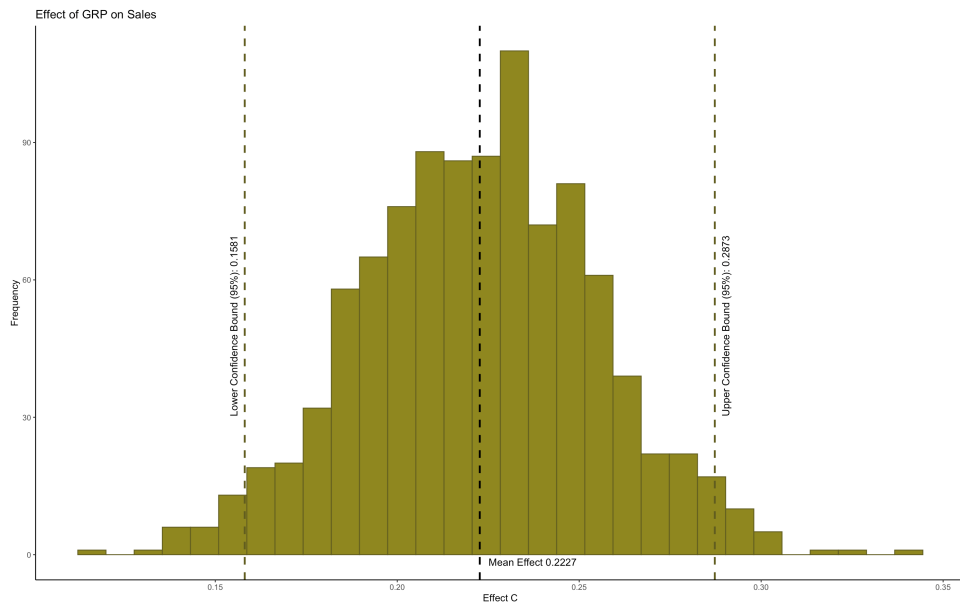Figure 2: Direct Effect of Awareness on Sales

2.3 Histogram of C

Figure 3: Direct Effect of GRP on Sales
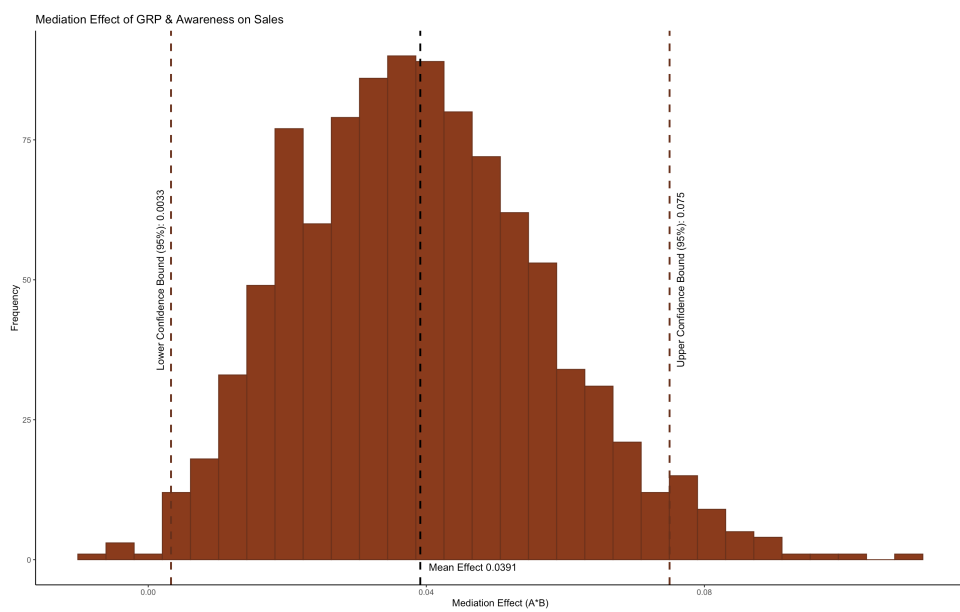
2.4 Mediation Effect

Mediation Effect = A*B

Figure 4: Mediation Effect of GRP & Awareness on Sales
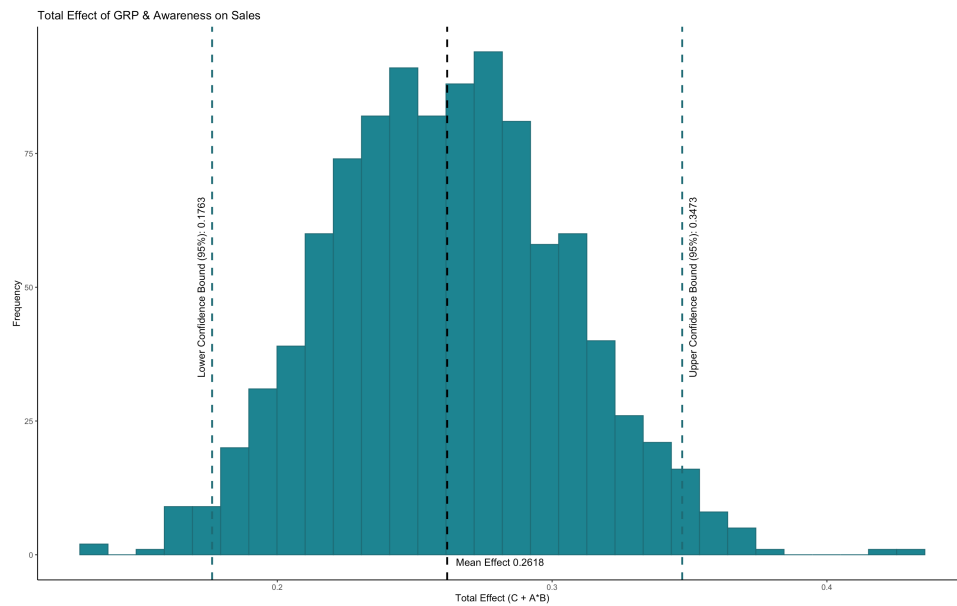
2.5 Total Effect

Total Effect = C + A*B

Figure 5: Total Effect of GRP & Awareness on Sales

3 Estimates and Confidence Interval

		Estimate	Mean	Lower Bound	Upper Bound
	A	0.0275	0.0275	0.0065	0.0486
Direct Effect	B	1.4112	1.3887	0.9621	1.8154
	C	0.2225	0.2227	0.1581	0.2873
Mediation Effect	A*B	0.0388	0.0391	0.0033	0.0750
Total Effect	C + A*B	0.2614	0.2618	0.1763	0.3473

Table 1: Parameter Estimates and the Confidence Intervals for Direct, Mediation and Total effects of GRP and Awareness on Sales