Elasticity of the the Marketing Investment

Ted Mitchell

The Definition of Elasticity

- Elasticity is an index
- A value free number that measures the sensitivity of a dependent variable to an independent variable
- Classic is price elasticity
  the sensitivity of demand to changes in the price tag.
- %Δ in demand, ΔQ/Q,
  for a %Δ in the price tag, %ΔP/P
- Price Elasticity = %ΔQ/%ΔP

The Definition of Investment Elasticity

- Marketing Investment Elasticity is the sensitivity of Average Rate of Return on the Investment to changes in the size of the investment, ΔI
- %Δ in AROR for a %Δ in the amount of the marketing investment
- Elasticity of Investment, E = %ΔAROR/%ΔI

Elasticity is easy to measure

- %Δ(AROR) / %ΔI
- %Δ(AROR) = $(AROR_2\text{-}AROR_1)/AROR_1$
- %ΔI = $(I_2\text{-}I_1)/I_1$
- It is a practical metric

Elasticity of Marketing Investment

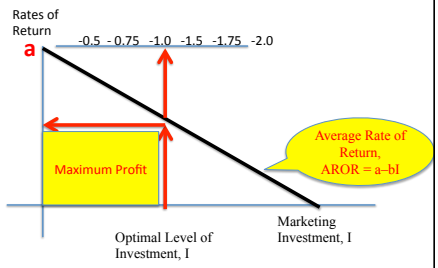
	Observation of Performance #1	Observation of Performance #2	$\Delta P = P_2 - P_1$
The amount of Investment, I	I_1	I_2	$\Delta I = I_2 - I_1$
The average rate of Return, AROR	$AROR_1$	$AROR_2$	$\Delta AROR = (AROR_2 - AROR_1)$
Marketing Profit, Z = AROR x I			

Elasticity is the ratio of the % change in AROR over the % change in investment,
Investment Elasticity, E = % ΔAROR / %ΔI

Elasticity of Marketing Investment

- Is a negative number between 0 and ∞
- The key point of Investment Elasticity is that when the elasticity index, E, is equal to -1 then the firm has the optimal level of Marketing investment which will maximize profit

Elasticity of Marketing Investment

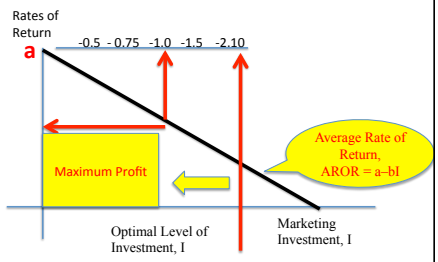


Elasticity of Marketing Investment

	Observation of Performance #1	Observation of Performance #2	$\Delta P = P_2 - P_1$
The amount of Investment, I	I_1 = \$1,500	I_2 = \$1,600	$\Delta I = I_2 - I_1$ ΔI = \$100
The average rate of Return, AROR	$AROR_1$ = 30%	$AROR_2$ = 29%	$\Delta AROR = (AROR_2 - AROR_1)$ $\Delta AROR = -1\%$
Marketing Profit, Z = AROR x I	\$450	\$512	

Elasticity is the ratio of the % change in AROR over the % change in investment,
Investment Elasticity, E = % ΔAROR / %ΔI
%ΔAROR = \$100/\$1500 = .07
%ΔI = –0.01/0.3 = –0.03
E = 0.07/–0.03 = **-2.10**

Elasticity of Marketing Investment



To reach maximum profit it is necessary to reduce the current level of investment from \$1,600

The sensitivity of AROR to changes in the level of Marketing Investment is

- The Elasticity of Marketing Investment
- It provides the metric for the increase or decrease in investment to improve profits!
- When elasticity is a smaller negative number than –1.0 then an increase in investment increases profit
- When elasticity is a larger negative number than –1.0 then a decrease in investment increases profit