Proposta di un percorso didattico con la metodologia CLIL

in

Economia Aziendale

BREAK-EVEN ANALYSIS

Premessa

Si tratta di un argomento di Economia Aziendale inserito nel curricolo dell'ultimo anno degli Istituti Tecnici, Settore Economico, Articolazione Amministrazione, Finanza e Marketing. Esso rientra nella Pianificazione strategica e nel sistema di Programmazione e Controllo di gestione. La Break-even Analysis è affrontata dagli studenti anche in Matematica, di cui ne colgono soprattutto gli aspetti legati allo studio delle funzioni.

La presente proposta di percorso con la metodologia C.L.I.L. prevede una prima fase nella quale gli studenti si avvicinano ai contenuti attraverso:

- la visione di alcuni (brevi e comprensibili) video in Lingua Inglese

- lo svolgimento di specifiche attività (prevalentemente in gruppo)

con cui gli allievi comprendono i principali termini ed i concetti-chiave che saranno in seguito affrontati ed approfonditi con maggiore attenzione.

Le esercitazioni proposte nel presente percorso sono di vario genere ed offrono la possibilità agli allievi di approfondire e rinforzare contenuti disciplinari e linguistici, sviluppare abilità ed acquisire le competenze individuate e progettate dal docente.

Sono stati elaborati altresì un questionario di valutazione e di autovalutazione dello studente ed una griglia di valutazione finale.

Il timeline riportato nella parte finale del percorso dovrà essere integrato con le date di realizzazione delle attività che sono ancora in via di definizione.

DANIELA PAGNINI I.T.S. "T.ACERBO" – PESCARA A.s. 2014-'15



Video di supporto



http://www.youtube.com/watch?v=4f89dVC7CzE (tipi di costi)





<u>http://www.youtube.com/watch?v=cIXkoLvtEjY</u> (tipi di costi)

http://www.youtube.com/watch?v=9izg6KyV4HU





http://www.youtube.com/watch?v=eu5p46LLcXo

http://www.youtube.com/watch?v=ZihWEVWCJYk





http://www.youtube.com/watch?v=RAALn2rwQyU

http://www.youtube.com/watch?v=H-DhkEA-dks



Pre-task Break-even Analysis

Work in pairs. Instruction: find the hidden words in the puzzle in accordance with the list grid below.

L	G	Ν	Ι	S	A	E	R	С	N	Ι	Ν	Y	S	L	Р	V	L	0	A
L	Ι	A	Μ	0	U	Ν	Т	R	A	Н	С	Т	A	I	I	E	I	Р	L
В	A	Μ	A	Ν	A	L	Y	S	Ι	S	H	Ι	E	N	Н	R	N	Р	U
Т	U	Ν	Ι	Т	Z	N	0	Z	A	G	С	Т	U	K	S	Т	E	0	Μ
Ι	V	D	Ι	Т	U	N	0	L	N	Ν	Т	N	N	Ι	N	Ι	N	R	R
F	Н	G	G	G	A	Р	E	Ι	A	K	Ι	A	E	N	0	С	0	Т	0
0	Ι	Ν	K	Е	R	Т	Т	Ν	Т	Т	Ι	U	V	G	Ι	A	Ι	U	F
R	Ν	Ι	С	Μ	Т	A	Ι	U	S	С	L	Q	E	Y	Т	L	Т	Ν	S
Р	С	S	S	0	L	F	Μ	0	0	H	E	0	R	Н	A	Т	R	Ι	Ε
Ν	0	Ι	Т	U	B	Ι	R	Т	Ν	0	С	S	0	F	L	U	0	Т	С
V	Μ	R	С	A	Ν	X	Т	L	U	S	E	R	R	Т	E	Р	Р	Y	0
L	E	L	Ι	Ν	F	0	R	Μ	A	Т	Ι	0	Ν	E	R	Ν	0	Т	Ν
R	A	Y	B	Ν	D	A	Ι	G	S	Z	B	С	Р	Н	Т	Ι	R	S	S
С	0	Т	E	U	V	E	Ν	Т	0	Р	0	I	N	Т	С	Ν	Р	0	Т
Т	S	V	Ι	E	S	Ι	X	Ν	С	V	F	G	R	A	Р	H	Ι	С	Α
А	E	Ι	R	Р	С	I	Т	Ι	E	U	N	0	I	Т	A	U	Q	E	Ν
R	М	A	X	U	A	A	Ν	R	F	W	D	Т	E	K	С	A	R	B	Т
G	G	S	D	A	L	С	Ι	E	Y	E	S	0	Р	R	U	Р	Т	В	Μ
Е	R	E	G	Ι	0	Ν	R	Ι	S	K	V	A	R	Ι	A	В	L	E	S
Т	R	Ν	Ν	Ι	G	R	A	Μ	Т	S	S	U	Р	Р	L	Y	N	S	0

AMOUNT AXIS BUSINESS

ANALYSIS BRACKET CALCULATING CHART CONSTANT

AVERAGE BUDGET CAPITAL **CONTRIBUTION**

COST	COVERING	EQUATION
EVEN	FINANCIAL	FIXED
FORMULA	GRAPHIC	HORIZONTAL
INCOME	INCREASING	INFORMATION
INPUT	INTERSECTION	LIMITATIONS
LINE	LINKING	LOSS
MARGIN	MARGINAL	OPPORTUNITY
OUTPUT	POINT	PRODUCTION
PROFIT	PROPORTION	PURPOSE
QUANTITY	REDUCING	REGION
RELATIONSHIP	RESULT	REVENUE
RISING	RISK	SALE
SUPPLY	TARGET	TOOL
UNITS	VARIABLE	VERTICAL

VOCABULARY Guess the meaning



of each word in Italian:

AMOUNT	
ANALYSIS	
AVERAGE	
AXIS	
BRACKET	
BREAK EVEN	
BUDGET	
BUSINESS	
CALCULATING	
CAPITAL	
CHART	
CONSTANT	
CONTRIBUTION	
COST	
COVERING	
CURVE	
EQUAL	
EQUATION	
FINANCIAL	
FIXED	
FORMULA	
GOODS	
GRAPHIC	
HORIZONTAL	
INCOME	
INCREASING	
INFORMATION	
INPUT	
INTERSECTION	
LABEL	

LEVEL	
LIMITATIONS	
LINE	
LINKING	
LOSS	
MARGIN	
MARGINAL	
OPPORTUNITY	
OUTPUT	
POINT	
PRODUCTION	
PROFIT	
PROPORTION	
PURPOSE	
QYANTITY	
REDUCING	
REGION	
RELATIONSHIP	
RESULT	
REVENUE	
RISING	
RISK	
SALE	
SLOPE	
SUPPLY	
TARGET	
TOOL	
UNITS	
VARIABLE	
VARIABLE	
VERTICAL	
VIEW	
ZERO	

The Break-even analysis

The Break-Even Point

The Break-even level or Breakeven point (B.E.P.) represents the sales amount—in either unit or



revenue terms—that is required to cover total costs (both fixed and variable). Total profit at the break-even point is zero.

Break-even is only possible if a firm' s prices are higher than its variable costs per unit. If so, then each unit of the product sold will generate some "contribution" toward covering fixed costs.

In economics and business, specifically cost accounting, the **break**even point (BEP) is the point at which total cost and total revenue are



equal: there is no loss or gain, and one has "broken even." A profit or a loss has not been made, although opportunity costs have been "paid," and capital has received the risk-adjusted, expected return. In short, all costs that needs to be paid are paid by

the firm but the profit is equal to 0.

For example, if a company sells quantities of goods under the B.E.P. in a certain time, it will make a loss; if it sells more, it will make a

profit, but if it sells quantities of goods equal the B.E.P. there will be neither loss nor profit.

With this information, the business managers can understand if they are able to make and sell goods under, over or on B.E.P..

If they think they cannot sell as many products as possible to gain profits, they could:

- try to reduce the fixed costs (by keeping better control of fixed assets (e.g.: management of *Tangible assets* – Land and Buildings, Plant and Machinery, Industrial equipment, Motor vehicles or of *Intangible assets* - Research & development costs , Patents..)
- 2. <u>try to reduce variable costs</u> (the price it pays for the Raw materials, Wages and salaries, Services, Bank commissions and interests...)
- 3. <u>Increase the selling price</u> of their products (if it is made possible by the market place).

Any of these would reduce the Break-even point and bring forward the profit area.

Purpose

The main purpose of Break-even analysis is to determine the minimum output that must be exceeded in order to make profit.



It also is a rough indicator of the earnings impact of a marketing activity.

The break-even point is one of the simplest used analytical tools in

management. It helps to provide a dynamic view of the relationships between sales, costs, and profits.

For example, expressing break-even sales as a percentage of actual sales



can give managers a chance to understand when to expect to break even (by linking the percent to when - during the time observed this percent of sales might occur).

The break-even point is very important for financial analysis.

Graph construction and formula

The break-even quantity at each selling price can be read off the horizontal axis and the break-even price at each selling price can be read off the vertical axis.



FC = TOTAL FIXED COSTSp = price of a unit of goodx = units of goodscv = unit variable costsVC = TOTAL VARIABLE COSTS $\Rightarrow (cv * x)$ TR = TOTAL REVENUES (= p * x)TC = FC + VC $\Rightarrow FC + (cv * x)$

In the linear Cost-Volume-Profit Analysis model the Break-even point (BEP) is when Total Revenues (TR) and Total Costs (TC) are equal:

TC = TR in other terms: FC + (cv * x) = p * x(p * x) - (cv * x) = FC (p - cv) * x = FC

$$X = FC / p - cv$$

where p - c is called *Unit contribution margin (= marginal profit per unit*) or alternatively the portion of each sale that contributes to Fixed Costs.

/ = divided by



The Break-Even Point can alternatively be computed <u>as the point</u> <u>where Contribution equals Fixed Costs</u>



Margin of safety: content and formula

Margin of safety represents the strength of the business. It enables a

firm to know what is the exact amount it has gained or lost and whether they are over or below the Break-even point.

In break-even analysis, margin of safety is the measure by which actual



or projected sales exceed the break-even point.

Formula:

Margin of safety = current point - breakeven point

Margin of safety % = (current point - breakeven point)/ current point × 100



If the price of goods in the market place changes (without changing firm's fixed costs), it modifies the Total revenues and the B.E.P. as shown in the graph below:



By observing different lines (R1, R2, R3), in case of rising sell prices, companies join their point of break in advance.

Limitations

 Break-even analysis doesn' t explain how Total revenues (TR) line may change in case of various prices of sales: in fact the <u>unit price is</u> assumed constant



 Also Fixed costs (FC) are assumed constant. Although this is true in the short run, an increase in the scale of production is likely to cause fixed costs to rise.



- Average variable costs <u>are</u> <u>considered constant</u> per unit of output (<u>in real conditions it is not</u> <u>always possible</u>)
- It assumes that the quantity of goods produced is equal to the quantity of goods sold (there are no



goods in stocks and it could possible only in *Just in time* strategy, not possible actually)

• The break even analysis considers only <u>one type</u> of product: in multi-product companies this analysis is unreliable.

Uses of a Break even analysis

Even though Break even analysis has these advantages or limited uses, it enables a business organization to:

- 1. **Measure** approximated profit and losses at different levels of production and sales.
- 2. **Predict** the effect of costs and revenues change.
- 3. **Analysis** the relationship between fixed cost and variable cost.



4. **Predict** the effect on profitability if changes in cost and efficiency.

GLO\$\$ARY

Break even point = punto di rottura

In either... or = sia sia

Firm = azienda

Unit = unità

Sold = vendute (to sell sold sold)

Cost accounting = contabilità analitica (dei costi di produzione)

Equal = uguale

Either= entrambi

To cover = coprire

Although= sebbene

Opportunity costs = costi opportunità (indicano i benefici che possono provenire da un uso alternativo della stessa risorsa)

Risk-adjusted= remunerazione del capitale di rischio in base alle scelte aziendali operate

Return = remunerazione

Neither... nor = né...né

Business managers = amministratori aziendali

Tangible assets = Immobilizzazioni materiali

Intangible assets = Immobilizzazioni immateriali

Plant and Machinery= Impianti e macchinario

Industrial equipment = Attezzature industriali

Research & development costs = Costi di ricerca & sviluppo

Patents = Brevetti

Raw materials = Materie prime

Wages and salaries = Stipendi e salari

Increase = accrescere

Any of these = tutti quest

Bring forward= anticipano

Purpose = scopo/finalità

Output= vendita

Must be exceeded in order to = deve superare allo scopo di

Rough = approssimato

Earning impact = approccio al guadagno

Actual = reale

Chance = occasione

Might occur = possa accadere/realizzarsi

Computed = calcolato

Graph = diagramma

To read off the = letto sul/ sullo

Margin of safety = margine di sicurezza

Content = contenuto

Strength = forza

Whether = se

Measure = misura

Modifies = modifica

Short run = breve period

Likely to cause = probabilmente causa

Goods in stock = merci/materie prime/ prodotti finiti in magazzino

Unreliable = inattendibile

Approximated = approssimati

Even though = sebbene

1) Work in pairs. Write simple sentences by using one or more words of the VOCABULARY



2) Then classify sentences in **topic** (T) and **general** (G) by writing the capital letters near each phrase.

SENTENCES	T/G

3) Finally compare with other two students each other's work and discuss about contents and decisions assumed.

N°	Extracts
	Keep better control of the price paid for the Raw materials, Wages and
. 1	salaries, Services, Bank commissions and interests)
2	If a company sells quantities of goods under the B.E.P., in a certain time, it will
Ζ	make a loss
3	Total profit at the break-even point is zero
1	The main purpose of Break-even analysis is to determine the minimum
4	output that must be exceeded in order to make profit
E	With this information, the business managers can understand if they are able
5	to make and sell goods under, over or on B.E.P.
6	keep better control of fixed assets
7	Increase the selling price of their products (if it is made possible by the
/	market place)
	The Break-even level or Break-even point (B.E.P.) represents the sales
8	amount—in either unit or revenue terms—that is required to cover total costs
	(both fixed and variable).

Step 1 - Work in pairs. Read the following extracts:

Step 2 – Match the extracts with the ideas below:

- a) The B.E.P. shows how many sales cover all costs
- b) No profits no losses
- c) Loss area
- d) Break-even analysis
- e) Try to reduce the fixed costs
- f) Try to reduce variable costs
- g) Try to increase revenues
- h) The main intent of the Break-even analysis studying

Step 3 – Write the correct combination in the grid^{*} below

1	2	3	4	5	6	7	8

* griglia



Write the following words on the graphic below:

UNITS OF GOODS

BREAK-EVEN POINT

LOSS AREA

PROFITAREA

TOTAL FIXED COSTS

TOTAL VARIABLE COSTS

TOTAL REVENUES

PRICE OF A UNIT OF GOOD

UNIT VARIABLE COSTS

BREAK-EVEN ANALYSIS

B.E.P. formula = _____

(title)



WORK IN FOUR. ANSWER THE QUESTIONS.

1) What are the main purposes of Break-even studies?



2) What are the advantages of Break-even analysis?

3) How the Break-even analysis can change future business plans?

4) How business manager can operate in order to bring forward the profit area?

5) Break-even analysis and its formula have some limitations: why they are still used in business management?

Put in order the following sentences:

1) zero at profit break-even is total the point

1)

2) total is equal the point the total (BEP) cost and are break-even point at which revenue

2)

3) B.E.P. a dynamic of the relationships helps sales and profits view the to provide between costs

3)

4) important break-even is very analysis for point financial the.

4)

.5) Margin of safety represents the strength of the business

5)

What if...?

Work in pairs. Observe the graphs (A and B) and complete them. Then answer the question: "What happens if the levelline of the fixed costs changes?"



After discussing in your group, explain your written opinion. Then analyze, in terms of pros and cons^{*}, what could be the best in general business management.



FIND THE RIGHT WORD

Rewrite the words correctly:





MIND MAP



T-Chart

item

+ item + item

Work in pairs. Draw a mind map of the Breakeven analysis in order to summarize the test.

T-CHART

Work in pairs. Write the advantages and the disadvantages of the Break-even analysis and divide the facts and the opinions.



ODD ONE OUT*



Work in four Read the words of each group and decide which of them is the odd one out Explain the reason of your choice with a short sentence.

1)	🗆 profit	□ loss	□ point

2)	□ break	□ develop	□ even

3)	□ cost	🗆 revenue	□ place

4)	□ reduce	□ marketing	□ increase

5)	□ fixed costs	variable costs	□ gain

6)	□ formula	□ grow	□ graph

7)	total cost	□ contribution margin	marginal profit

*l'intruso

WORK IN PAIRS. READ THE FOLLOWING SENTENCES AND FILL IN THE BLANKS* THE WORDS IN CURSIVE

FILIN TEBANK a loss – equal – profit - neither loss nor profit – cover - between sales, costs, - of the simplest - to make profit - a profit – horizontal – vertical - margin of safety

1. At the Break-even point (B.E.P.) the total cost the total revenue.

2. The break-even point (B.E.P.) is the point at which total cost and total revenue are

3. If a company sells more than the B.E.P. it will make

4. If a company sells quantities of goods equal the B.E.P. there will be.....

5. The B.E.P. is one of used analytical tools in management.

6. The B.E. analysis helps to provide a view of the relationships and profits.

7. In break-even analysisis the measure by which actual or projected sales exceed the break-even point.

8. Total at the break-even point is zero.

9. If a company sells quantities of goods under the B.E.P. in a certain time, it will make

10. The main purpose of Break-even analysis is to determine the minimum output in order

11. The break-even quantity at each selling price can be read off the..... axis and the break-even price at each selling price can be read off theaxis.

*fill in the blanks = inserisci negli spazi vuoti

Work in pairs. Indicate if, according to the Break-even Analysis, these statements are True or False:



Total Cost = Fixed Cost – Variable Cost		🗆 F
Total Variable Costs = unit variable costs x units of goods	🗆 T	🗆 F
At the Break-even point total cost and total revenue are equal	🗆 T	🗆 F
Fixed costs B.E.P = price of a unit of good - unit variable costs	□ T	D F
Margin of safety = current point – b.e.p.	🗆 T	🗆 F
Margin of safety % = current point – b.e.p./current point / 100	🗆 T	🗆 F
In Break-even Analysis the unit price of good is assumed variable	🗆 T	🗆 F
In Break- even Analysis Fixed costs are always constant	🗆 T	🗆 F
B.e.p measures approximated profit and losses at different levels of production and sales	🗆 T	🗆 F
If total costs are uncovered the firm registers profits	🗆 T	🗆 F
Break- even Analysis deepens the relationship between fixed cost and variable cost	🗆 T	🗆 F
If a company sells quantities of goods equal the B.E.P. it will make profit	□ T	□ F
Total profit at the break-even point is zero	🗆 T	🗆 F
If a company sells quantities of goods under the B.E.P. it will make a profit	🗆 T	🗆 F
The Break-even Analysis helps business managers to understand		
if their companies are able to make and sell goods under, over or on B.E.P.	□ T	□ F
By increasing fixed costs, Break-even point brings forward the profit area	□ T	□ F

Stage 1

Write an essay or **short sentences** referring to the following business starting point:



' Cost, revenue, profit, loss and market studies always benefit the companies who plan their activities in advance'.

Stage 2

Discuss in group (of four).

Stage 3

What do you know about business analysis now that you didn't know at the beginning of C.L.I.L. activities?

Share your **reflection** with your classmates.

Stage 4

Work in pairs.

Write down as many examples as you know of different business strategies related to modern industries that you have recently studied at school.

Share your ideas with another pair.

Research and **map** the main content of one of the business strategies you prefer the most.

FINAL QUESTIONNAIRE



Name_

At the end of your C.L.I.L. experience, please answer the following questions:

1) Which of these situations have you used the foreign language and how often?	always	often	sometimes	seldom/ never
discussion				
oral interchange with classmates				
oral interchange with teacher				
work group				

2) How safe/comfortable did you feel in the following situations?	always	often	sometimes	seldom/ never
discussion				
oral interchange with classmates				
oral interchange with teacher				
work group				

3) Which strategies did you find more useful to accomplish the tasks?	useful	quite useful	not so useful	not so useful
listen teacher/classmates explain/examples				
answer teacher/classmates explain/questions				
repeating				
express orally				

4) Which tools used by the teacher have been more helpful?	useful	quite useful	not so useful	not so useful
audio/visual aids				
practical examples				
web links				
written texts				

5) What did you consider important when speaking in a foreign language in this subject	not important	partially important	important	very important
Correct pronunciation				
improvisation				
vocabulary knoledga				
content knowledge				
grammar correctness				
clear exposition				
check others understand				

6) What problems did you have during le C.L.I.L. experience?	always	often	sometimes	seldom/ never
language of material too difficult				
teacher's explain too difficult				
don't like the topic				
working in group ineffective				

7) Did this module help you improve your ability to express yourself in the foreign language?	a lot	enough	a little	no
language of material too difficult				
teacher's explain too difficult				
don't like the topic				
working in group ineffective				

8) How do you evaluate your learning of the subject studied in the foreign language?	very important	important	partially important	not important
language of material too difficult				
teacher's explain too difficult				
don't like the topic				
working in group ineffective				

9) Did you like the overall experience?	Yes	a little	no

All your suggestions are welcome:

Thank you

ASSESSMENT GRID

Name:			
Learning oucomes	Often	Sometimes	Not often
Cooperates with others			
Introduces new ideas			
Personalizes subject content			
Makes decisions			
Thinks creatively in subject area			
Works systematically			
Respects other's opinion			
Works independently			
Communication skills	Often	Sometimes	Not often
Asks questions about specific contents			
Selects and combines information to produce structured			
answers			
Gives feedback			
Identifies points of similarity and differences			
Summarizes the key points			
Expresses and interacts with a good degree of fluency			
Cognitive skills	Often	Sometimes	Not often
Asks for help when necessary			
Breaks the task down into smaller steps			
Understands the meaning of concepts			
Matches word labels to objects			
Compares objects and ideas			
Sequences actions chronologically			
Makes connections between objects and ideas			
Gives reasons			
Uses information in other situations			
Makes deductions			
Predicts conclusions			
Defines a problem			
Tries the best to complete the task			
Final work	properly	partial properly	not properly
Gives an oral/written presentation with accurate			
grammatical control, appropriate use of vocabulary and			
effective tools			
Evaluates own work using given criteria			
Evaluates work of a peer using given criteria			

excellent	good	satisfactory	almost satisfactory	unsatisfactory



