Unit Economics vs Marginal Analysis – are there any subjects to discussion?

The term «Unit Economics» has been gaining more and more popularity in the recent publications of internet marketers and practitioners from the venture capital industry.

As a rule, in the majority of such publications concerning the Unit Economics, terminology and methods, which are well known in generally accepted applied economic models, are not mentioned directly, sometimes reference to them is given in an implicit form. More often the term "Unit Economics" is mentioned in applications to the SaaS business model, Internet services, Internet business, and the assessment of the startup's perspectives.

I deliberately do not define the term "Unit Economics" and do not try to focus on the details of the definition that is offered by marketers and venture capitalists. The reason will become clear below.

Do we need to reinvent the wheel?

Why not to use solutions already known in applied economics?

According to the principle of Occam's razor, one should not invent new entities to describe the objects of the study (in our case economics of a company) if this can be done within the framework of already known concepts, methods, metrics and units of measurement.

Otherwise, it is necessary to explain why the models and methods well known in applied and managerial economics do not allow solving the problems that marketers, Internet entrepreneurs and venture capitalists are trying to solve, using an approach under the general title "Unit Economics".

Statement of a question

Is it possible to describe the economics of a company not only in terms of Product Units as it is done, for example, within the framework of traditional marginal or CVP analysis, but also in the metrics of another Units, for example, in the metrics of the

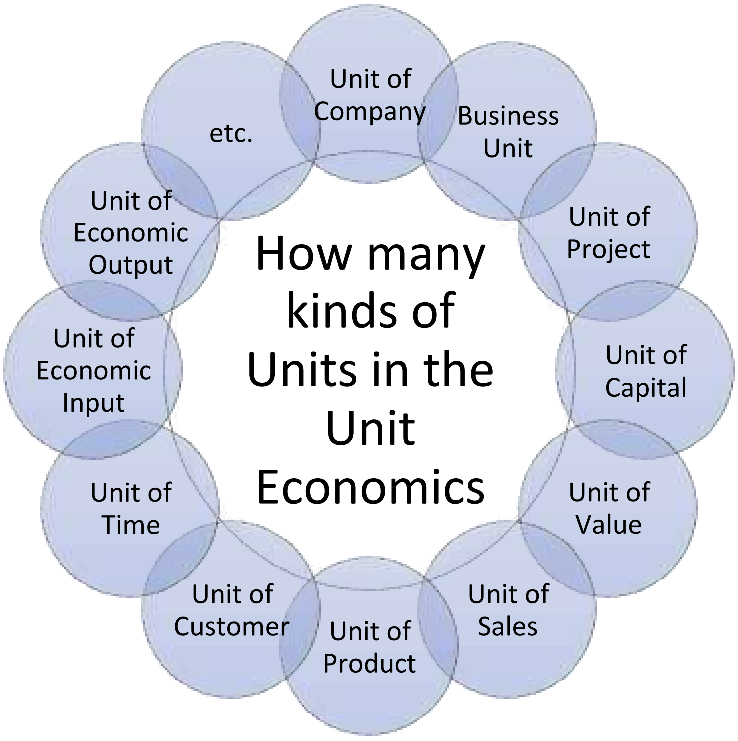
Customer (or Client) Units?

Is it possible to use a marginal approach to describe the company's economics using not the Product Unit, but the Client Unit?

Unit Economics

My view is that applied managerial economics has always been Unit Economics (and still remains it). It means that the economics of any company can be viewed through the prism of certain Units for measuring the processes and results of the company's activities.

How many types of Units are applied today to describe a company’s economics? Well, quite a lot. Let's recap some of them:



Thus, to describe the economics of a company or a project, different types of measurement Units are used in practice, depending on which management problem is being solved and which model of the economics of the company or the project is chosen.

CVP analysis as a basis

To illustrate the suggested approach, I propose to take the CVP analysis model as a basis in order to specify the stated position with an example.

The most important feature of this well-known model is that it explicitly uses Measurement Units to describe the company's economy, such as a Product Unit. For those, who are familiar with the CVP-analysis model, the logic of the diagram below should be fairly transparent.

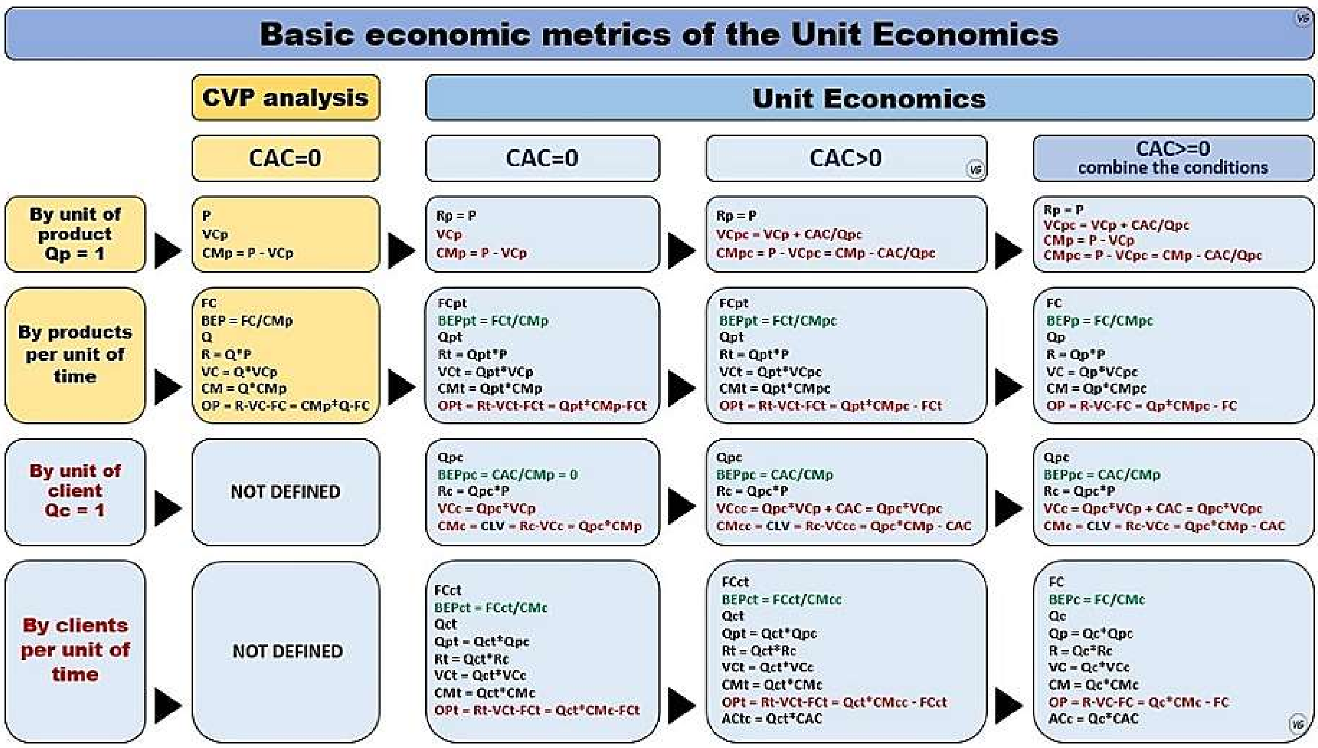
The main idea of the scheme is that the same operating profit of a company can be expressed both through the Product Unit and through the Customer Unit, even in case when the CAC metric - the cost of attracting a customer, is also included in the model.

The diagram below shows a more general case of marginal analysis, in which it is supposed to use, among other things, such client metrics as CAC and LTV (or CLV):

CAC - customer acquisition costs

LTV (or CLV) - customer lifetime value

At the same time the CLV metric concept here is based on the problem being solved, as the contribution margin for the client in nominal terms (without taking on account churn and discounting factors), as it can be seen in the diagram below:



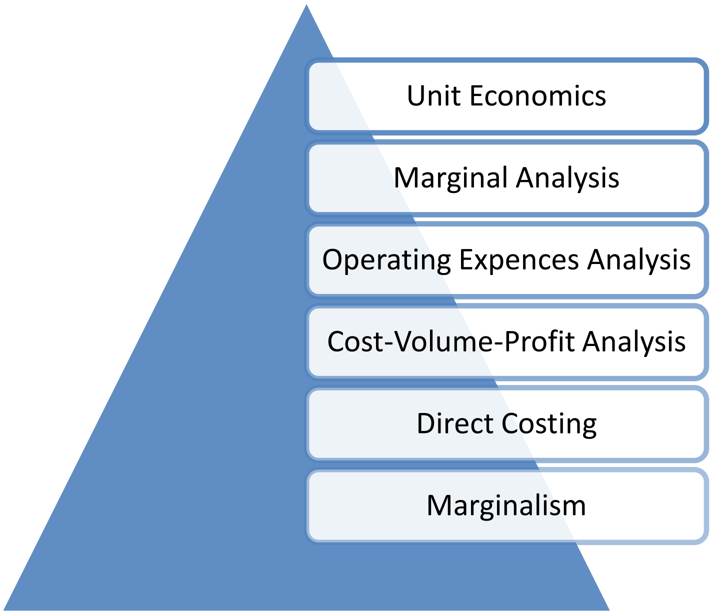
To avoid misperception in the diagram above, I suggest using a short list of terms and abbreviations:

Basic economic metrics of the Unit-Economics

U	**Units**
Up	Unit of Product
Uc	Unit of Client
Ucm	Unit of contribution margin
Ut	Unit of Time
Q	**Quantity**
Qp	Quantity of products
Qc	Quantity of clients
Qpc	Quantity of products per unit of client
Qpt	Quantity of products per time unit
Qct	Quantity of clients per time unit
R	**Revenue**
Rp=P	Revenue per unit of product
Rc	Revenue per unit of client
Rcm	Revenue per unit of contribution margin
Rt	Revenue per time unit
VC	**Variable costs**
VCp	Variable costs per unit of product
VCpc	Variable costs per unit of product in case of CAC>0
VCpt=VCt	Variable costs per products per time unit
VCc	Variable costs per unit of client
VCcc	Variable costs per unit of client in case of CAC>0
VCct=VCt	Variable costs per clients per time unit
CM	**Contribution margin**
CMp	Contribution margin per unit of product
CMpc	Contribution margin per unit of product in case of CAC>0
CMpt=CMt	Contribution margin per products per time unit
CMc	Contribution margin per unit of client
CMcc	Contribution margin per unit of client in case of CAC>0
CMct=CMt	Clients Contribution margin per time unit
FC	**Fixed costs**
FCpt=FCct=FCt	Fixed cost per time unit
BEP	**Break-even point**
BEPpt	Break-even point for products per time unit
BEPpc	Break-even point for products per unit of client
BEPct	Break-even point for clients per time unit
TC	**Total costs**
TCp	Total costs per unit of product
TCpt	Total costs per products per per time unit
TCc	Total costs per unit of client
TCct	Total costs per clients per time unit
OP	**Operating profit**
OPp	Operating profit per unit of product
OPpt=OPt	Operating profit per products per time unit
OPc	Operating profit per unit of client
OPct=OPt	Operating profit per clients per time unit
	User
Upu	Unit of Potential User
Uu	Unit of User
Conv	Conversion
CR	Conversion rate
ACt	Costs to acquire clients per time unit
CAC	Costs to acquire a Client
CLTV	Customer Lifetime Value

Unit Economics in the Logic of Marginal Analysis

I took the liberty of formulating another hypothesis about the relationship between the Unit Economics in the proposed approach and system of metrics with previously known applied economic models. A generalized chronological sequence of the development of applied and managerial economic models (concepts) based on the marginal approach is presented on the diagram below:



In this sense, Unit Economics can be considered as a logical development of previously known applied economic models, starting with marginalism. Now it is possible to apply not only the Unit of the product, but also the Unit of the client and other Units of marginal profit as Units in the model.

The scheme proposed above shows the functional dependence of a company's operating profit not only on the quantity and marginal profit of Product Units, but also on the quantity and marginal profit of Customer Units.

I suppose that the problem of profit maximization, solved in the framework of the marginal analysis for the unit of product, by analogy and common sense, remains relevant for the units of client.

To sum it up:

1. The proposed approach to system of Unit Economics metrics is based on the model of marginal and CVP analysis and is a natural development of the well-known applied economic model.

2. The proposed approach to system of Unit Economics metrics, using the methods of marginal analysis, allows not only to analyze the marginality of products, but also to analyze the marginality of clients or client segments.

3. The proposed approach and system of metrics makes it possible to analyze marginality both by product and by customer, including application to business models with paid customer acquisition, i.e., in case CAC> 0.

4. Generally, when the problem of maximizing company's Value is being solved, it is necessary to pay attention to the fact that the majority of valuation models (EVA, EP, CVA, etc.) includes the metric of operating profit (EBIT, NOPAT) in one form or another. In this sense, solving the problem of managing and maximizing the company's Value, the proposed approach remains applicable in practice, since it shows the relationship between the quantity of product Units, the quantity of customer Units, their metrics and operating profit which is also a part of the definition of a company's Value.

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