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# CELL PHONE DEMAND & REVENUE WITH OR WITHOUT A CREDIT

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study



JANUARY 3, 2020

EPA USA INC  
Rowland Heights

## Cell phone demand and supply

Let's consider any cell phone you might have in mind. Depending on the specification, how fashionable it is, what utility it brings to the user, how durable it is, what kind of guarantee it brings with it, what kind of security it has we might find an demand for such a cell phone depending on the price of the cell phone.

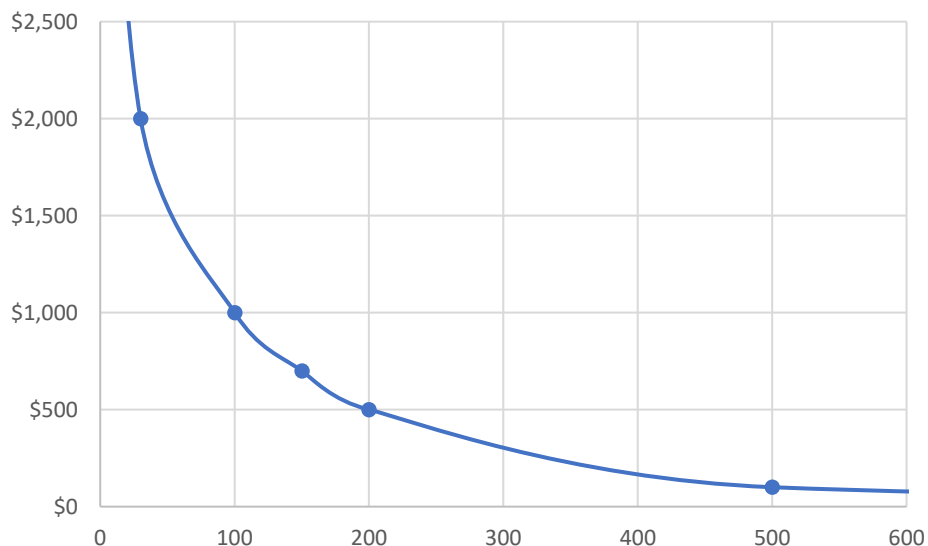
Lets say, that the demand looks like this:

Figure 1: Table of demand for different price

Price	\$5,000	\$2,000	\$1,000	\$700	\$500	\$100	\$0
Demand	0	30	100	150	200	500	2000

On a graph it will look like this:

Figure 2: Demand for cell phone / price



Source: Own calculation

Figure 2 shows a basic correlation between a price of the cell phone and demand for such a cell phone. Figure 1 also shows one more interesting point -> the moment the demand for the phone will be 0 (price \$5000 and the maximum sale of units by price of \$0 – 2000 units). Both of numbers are critical, as they define where the curve touches the axes thus minimum price with no units sale and the maximum amount of cell phones to be sold on the market.

## REVENUE

Cell phone producing company is interested in the revenue it generates on such an market, as it allows the company to position itself, to calculate costs it can spend and brings return to investors and shareholders.

Revenue table from Figure 1 would look like this:

Figure 3: Table with revenue

Price	\$5,000	\$2,000	\$1,000	\$700	\$500	\$100	\$0
Demand	0	30	100	150	200	500	2000
Revenue	\$0	\$60,000	\$100,000	\$105,000	\$100,000	\$50,000	\$0

On Figure 3 can be seen, that maximum revenue of the company is achieved at price of \$700 -> revenue of \$105.000 where company sells 150 units.

Sidenote: I would like to mention, that all the numbers in Figure 1 are randomly generated and could not be blindly implemented to any market. Empirically this data have to be every time observed since beginning and approximated. Once market curve looks critically different or uneven to what had been put forward market brings a new opportunity for the cell phone producing company and it has to researched in deep and fully understood.

The shape of the curve of Figure 2 Graph is critical. Its slope, its maximum and minimum points, its behavior between this points and additional factors, that can influence the curve.

## Influence of credit to sales

### Length of financing

Credit has a big influence on the sales of the company, as it splits the price of the cell phone and the customers understanding of the price (or any other item). There is a limit to such a split and that is set by an length of utility time of the purchased cell phone to the user of the phone (as a absolute maximum) and the lengths of utility time of resale minus all the costs of resale for the financing party (as absolute minimum).

*maximum length of financing*<sub>absolute maximum</sub> = *maximum time of utility for user*

*maximum length of financing*<sub>absolute minimum</sub> =  
*(value of resale – costs of resale for financing party) > 0*

Financing party has to mitigate it's risk and therefore it is always maximum length of financing<sub>absolute minimum</sub> used as a maximum time for which the loan could be provided.

### Demand & Revenue with credit

Demand table will change due to credit option (from Figure 3). In extreme we might be seeing it like this:

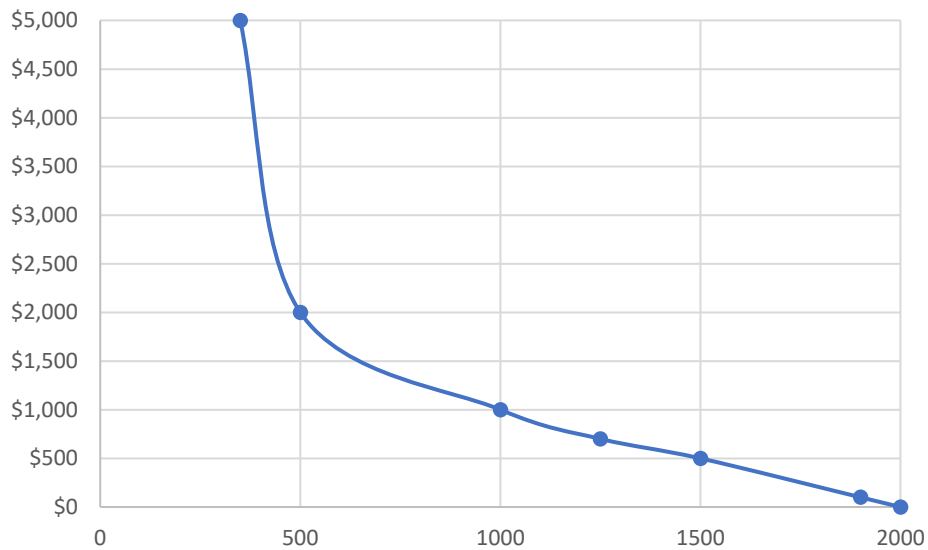
Figure 4: Table of demand and revenue with credit

	interest	10% p.a.	length	2 years				
Price		\$5,000	\$2,000	\$1,000	\$700	\$500	\$100	\$0
Price credit		\$250	\$100	\$50	\$35	\$25	\$5	\$0
Demand		350	500	1000	1250	1500	1900	2000
Revenue		\$1,750,000	\$1,000,000	\$1,000,000	\$875,000	\$750,000	\$190,000	\$0

Where interest of 10% p.a. is set as reasonable interest rate and length of 2 years is the maximum length of financing<sub>absolute minimum</sub> – as mentioned above.

Then a graph showing the changed demand will be shown as this:

Figure 5: Demand on cell phone with credit



It is shown that the revenue of company can reach \$1.75 million USD with credit and sale of 350 units. Without the credit was the maximum revenue of \$105.000 USD with sale of 150 units. This is 16,67times more revenue and 2,3times more units sold.

Sidenote: The point of this example is not to presume, that this is a full model and that consumer with the ability to pay one time \$250 would have capacity to pay \$250 every month for next 24 months. It is only to illustrate what is happening with the market once we introduce credit and to what extent it can influence the behavior on a side of revenue and customer's demand.

The real outcome on a side of the revenue and demand will be somewhere between the both. People with ability to pay \$5000 will prefer financing option, as it allows them to align the utility (in terms of money the new cell phone brings) to their obligation to pay. People with no ability to pay \$5000 one time might be able to benefit from the value the cell phone will bring in future and able to purchase it and add sales to the product. Of course, that utility of \$5000 cell phone, or \$250 a month for 2 years is a thing to be focused on.

## Utility

The cash value of monthly utility<sup>1</sup> of the purchased product influences decision on the length of financing and later the revenue the cell phone company might receive. Identifying that monthly utility might be sometimes difficult and could be replaced by ability to repay. Ability might or might not be a derivative of utility and therefore any financing is divided to project financing or consumer purchase financing (where it is easier to set a current ability before and after the loan had been provided).

Identifying the above-mentioned ability to repay is used as one of the factors in loan approval process. In terms of cell phone is that utility different for example to businessperson, to student, to self-standing parent or to older generation.

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<sup>1</sup> I use monthly utility due to the salary and monthly repayment of the loan usual setup. I do not see any challenge in using by-monthly utility for some states with salary paid twice a month or any other approach.