# People and Systems in Information Technology

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## Premise

- *The 94% of the problems in business are system-driven and only 6% are people driven.*
- *Most of the performance of an individual has to do with the system that the are in.*
- *The prevailing style of management must undergo a transformation. A system cannot understand itself. The transformation requires a view from outside.*
- *It is not necessary to change. Survival is not mandatory.*
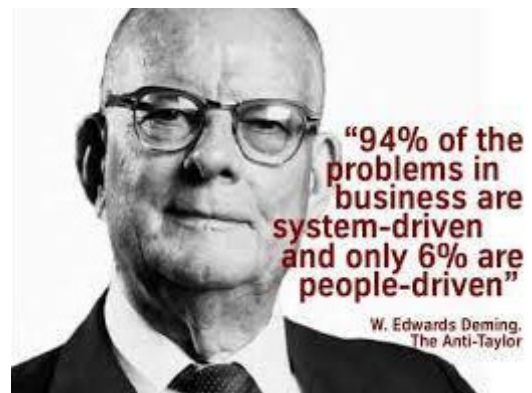


Quotation by <u>W. Edwards Deming</u> – <u>System of Profound Knowledge</u>

## P&S dynamics

From the system depends behaviours and habits and on the long terms, both becomes traditions. Behaviours takes small time to become habits and longer to became traditions. Because changing habits is difficult and very very hard changing traditions, the quick way to change a system is to change the people within.

Dumping the people in order to change the system will easily conduct to a loss of know-how. Instead, most of the times, it is enough to replace few people. Because at the begging nobody knows who - nobody would change the system either.

In such a way the system and the people behaviours are correlated.

## P&S changing risk

Every unmanaged risk will lead to a bigger risk, no doubts about that.

In such systems in which nobody would face the small risk to be the right people in the wrong place, everybody go under the bigger risk to drive the system in such conditions than many or all the people will be in the wrong place.

## P&S obsolescence

The *time being still* − which is the timefrom the *0-day,* in which a change may be useful and the day in which the change is starting− and the number of people *N* in a wrong place are statistically correlated in terms of probability. This implies the existence of an index (a probability) which

multiplied the number of all the people involved determines the minimum number of people to change or to change in role.

The index could be a metric of the system's obsolescence.

## P&S decay

If the 94% vs 6% is a "good" ratio, in average, between system and people responsibilities then it means that every system issue− large enough to be identified as a system issue− requires an average of 6% people changing or role relocation.

If the first stage the ratio is 94:6 then the second may easily be 80:20 (Pareto) and the third 50:50. A system decay is never linear, usually it is exponential. Here in five steps:

> 94:6→ 80:20→ 50:50→ 25:75→12:88→ 6:94

Exponential trends have in common a specific period of time in which a value double or halved. This time is called *emivita* orhalf-life time.

## P&S in IT market

In the Information Technology market, an *era* is estimated in 18 months and the decay half-life time may vary but we could assume to be 18 months, as well.

However, because a system decay is combined with the overall trend, the right *emivita* is 9 months. In fact, if the system decays by half in 18 months then the IT market doubles the performances in the same time. The overall gap is 4 times and not 2.

Then 9 months is the period of time in which the gap between the environment and the system doubles in terms of obsolescence (unsuitability).

In such scenario, a system performance may easily be halved in about 27 months without any corrective intervention (free fall) or 36 months with some corrections.

## Conclusion

Bad habits kill while good habits became traditions. A system transformation is usually an exponential process and it could not be driven by an inside view, as much as we are not able to look at yourselves in a third person point-of-view, without our bias.

Once we got that the evolution of a system is not going up then it is going to decay because nothing stills forever or for a relatively long time, this time is 9 months in IT.
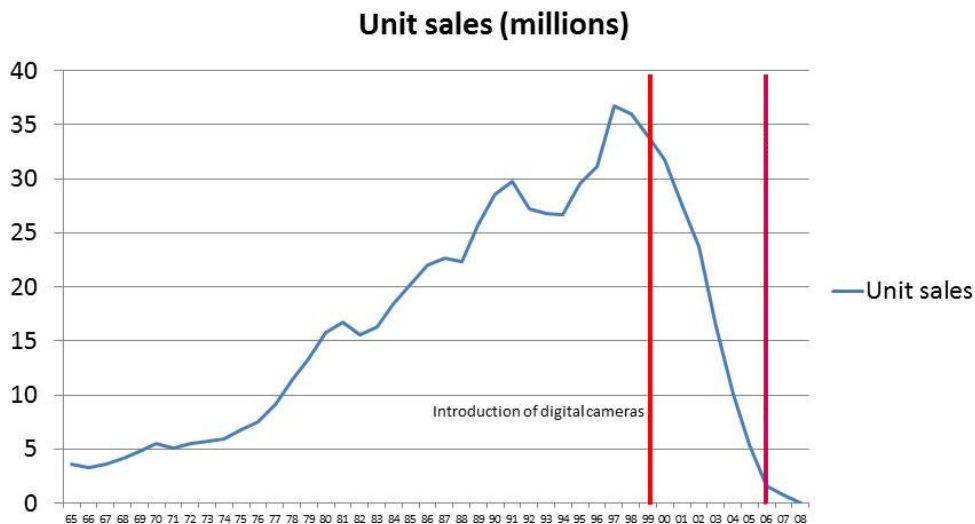
## An Example

In 2001 the analogue film vs digital cameras market shares (purple line) were 94:6 [1].

# Total camera sales 1965-2015

**Unit sales (millions)**



In 2006 the analogue film vs digital cameras market shares were 6:94, inverted [1].

# Film camera sales 1965-2008

**Unit sales (millions)**



The analogue film market got completely obsolete (a part 6% of specific applications, like medical or scientific devices) in 60 months while the model expected in 45 months, without any corrective intervention. We may assume that at certain point, they were taken and these stretched the fall time by 33% from 45 to 60 months.

The analogue film vs digital cameras shares market inverted in 2006 (purple line) which means the decline of the use of 35mm prints that directly contributed to the 2012 bankruptcy of motion picture film manufacturer Eastman Kodak Company. [2]

With a traditional management the emivita half-life time for losing the leadership was 12 months and from the market switch to the bankruptcy 14.4 months. The average between 9 and 18 is 13.5 and the average Kodak half-life time was 13.2 months.

## Note

[1] Source: *A few thoughts about the camera market* by photographylife.com

[2] Source: *Film industry* by en.wikipedia.org