

Optimum Strategies for Creativity and Longevity

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1. Most Creative Years in the Life

The Nobel Laureate, Dr. Leo Esaki, delivered the distinguished lecture entitled "Innovation and Evolution: Reflections on a Life in Research" in the University of Texas at Dallas in the afternoon of Feb. 23, 2002 during the 2002 US National Engineering Week. In this lecture, Dr. Esaki indicated that most of the great discoveries and innovations by the Nobel Laureates occurred at the average age of 32 even though the Nobel prizes were awarded 10 or 20 years afterwards. Furthermore, Dr. Esaki indicated that the peak creativity of most scientists occurred around the age range of 20 to 30 years. As one gets older, the experience increases but the creativity decreases steadily with the age.

It is, therefore, very important to stimulate, encourage and cultivate many young people to get interested in science and engineering at their young age and to provide the optimal R&D environment for these very powerful young scientists and engineers to unleash their very strong creativities during their most precious and creative years around the age of 32.

2. Longevity Vs. Retirement Age

The pension funds in many large corporations (e.g., Boeing, Lockheed Martin, AT&T, Lucent Technologies, etc.) have been "Over Funded" because many "late retirees" who keep-on working into their old age and retire late after the age of 65 tend to die within two years after their retirements. In other words, many of these late retirees do not live long enough to collect all their fair shares of pension money such that they leave a lot of extra-unused money in the pension funds resulting in the over-funded pension funds.

Dr. Ephrem (Siao Chung) Cheng provided the important results in the following Table 1 and the associated chart from an actuarial study of life span vs. age at retirement. The study was based on the number of pension checks sent to retirees of Boeing Aerospace.

Table 1 – Actuarial Study of life span vs. age at retirement.

Age at Retirement	Average Age At Death
49.9	86
51.2	85.3
52.5	84.6
53.8	83.9
55.1	83.2
56.4	82.5
57.2	81.4
58.3	80.0
59.2	78.5
60.1	76.8
61.0	74.5
62.1	71.8
63.1	69.3
64.1	67.9
65.2	66.8

**Actuarial Study Of Age At Retirement
Vs. Life Span**

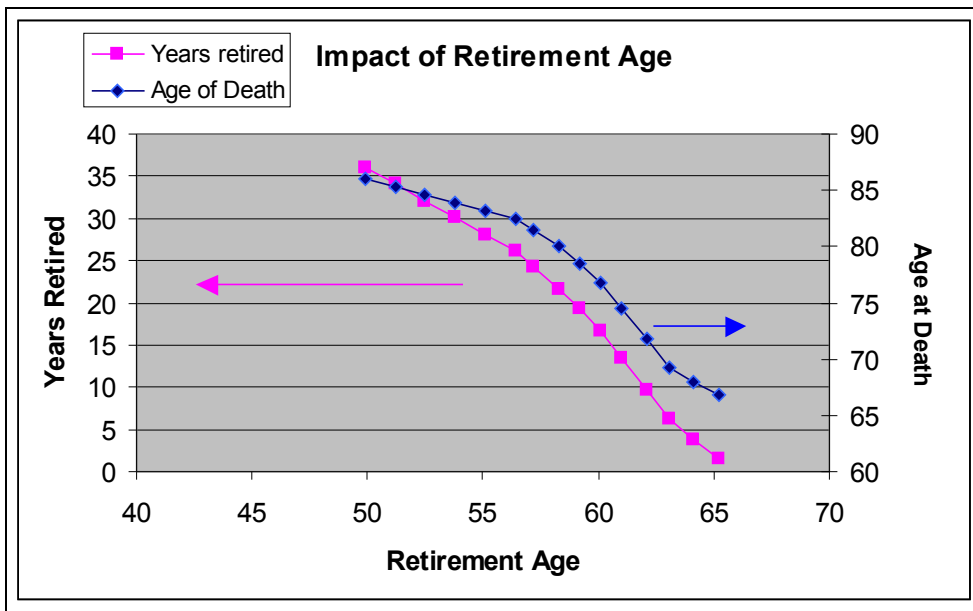


Table 1 and the chart indicate that for people retired at the age of 50, their average life span is 86; whereas for people retired at the age of 65, their average life span is only 66.8. An important conclusion from this study is that for every year one works beyond age 55, one loses 2 years of life span on average.

The Boeing experience is that employees retiring at age of 65 receive pension checks for only 18 months, on average, prior to death. Similarly, the Lockheed experience is that employees retiring at age of 65 receive pension checks for only 17 months, on average, prior to death. Dr. David T. Chai indicated that the Bell Labs experience is similar to those of Boeing and Lockheed based on the casual observation from the Newsletters of Bell Lab retirees. A retiree from Ford Motor told Dr. Paul Tien-Lin Ho that the experience from Ford Motor is also similar to those in Boeing and Lockheed.

The statistics shown in the Pre-Retirement Seminar in Telcordia (Bellcore) indicates that the average age that Telcordia (Bellcore) employees start retirement is 57. Therefore, people who retire at the age of 65 or older are minority as compared to the number of early retirees.

The hard-working late retirees probably put too much stress on their aging body-and-mind such that they are so stressed out to develop various serious health problems that forced them to quit and retire. With such long-term stress-induced serious health problems, they die within two years after they quit and retire.

On the other hand, people who take early retirements at the age of 55 tend to live long and well into their 80s and beyond. These earlier retirees probably are either wealthier or more able to plan and manage their various aspects of their life, health and career well such that they can afford to retire early and comfortably.

These early retirees are not really idling after their early retirements to get old. They still continue doing some work. But they do the work on the part-time basis at a more leisure pace so that they do not get too stressed out. Furthermore, they have the luxury to pick and chose the types of part-time work of real interest to them so that they can enjoy and love doing that "fun" work at a more leisure pace.

The late retirees are small in number, tend to die quickly after retirement and disappear from the population of old people beyond the age of 70. Late retirees, therefore, have very little weight on the statistical average life expectancy of the population of "old people" dominated by the early retirees.

Several years ago, a Japanese friend of mine told me that most Japanese people retire at the age of 60 or earlier. This may be one of the factors contributing to the long average life span of Japanese people.

3. Changing Trend of US Pension Plans

The traditional pension plans of many major US companies used to place a lot of value on the experience of long-term older employees by increasing the pension money rapidly and nonlinearly for long-term employees as their age + service year increases beyond the threshold of the rule of 75. Most long-term employees cross this critical threshold at about the age of 55. On the other hand, the early retirees incur very heavy penalty in pension and in other associated retiree benefits (e.g., employer paid medical insurance, employer paid life insurance, death benefits for family, etc.) when they retire before they meet the rule of 75.

However, in recent few years, many large US corporations are switching from their traditional retirement pension plans to the new portable Cash Balance Plans. The new portable cash balance plans are much more favorable to the younger employees but are very unfavorable to the long-term older employees. Some older long-term employees found that when their employers switched from the traditional pension plans to the cash balance plan, their pensions were reduced by 30% to 50%.

One of the implications of this trend towards the new cash balance plan is that the US corporations are now placing more value on the higher creativity and adaptability of younger employees and less value on the experience of the older employees. This is consistent with the accelerating pace of innovations and technology advances. The creative and dynamic younger employees are better positioned, than the older employees do, to keep up with the faster pace of technology advances.

4. Conclusion and Recommendations

The most precious, creative and innovative period in your life is the 10-year period around the age of 32. Plan your career path to use this precious 10-year period wisely and effectively to produce your greatest achievements in your life.

The pace of innovations and technology advances is getting faster and faster and is forcing everybody to compete fiercely at the Internet speed on the information super-highways. The highly productive and highly efficient workplace in USA is a pressure-cooker and a high-speed battleground for highly creative and dynamic young people to compete and to flourish.

However, when you get older, you should plan your career path and financial matter so that you can retire comfortably at the age of 55 or earlier to enjoy your long, happy and leisure retirement life into your golden age of 80s and beyond. In retirement, you can still enjoy some fun work of great interest to you and of great values to the society and the community, but at a part-time leisure pace on your own term.

On the other hand, if you are not able to get out of the pressure-cooker or the high-speed battleground at the age of 55 and "have" to keep on working very hard until the age of 65 or older before your retirement, then you probably will die within 18 months of retirement. By working very hard in the pressure cooker for 10 more years beyond the age of 55, you give up at least 20 years of your life span on average.