## How to Retain Employees during the Great Resignation (A mathematical view #TMT, #BIS-11)

Companies need to Redefine "Value" in the workplace; higher pay is not a sustainable action in the longer term.

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The Great Resignation, also known as the Big Quit, is an ongoing economic trend in which employees have voluntarily resigned from their jobs, beginning in early 2021. Most experts have attributed the causes to the rising cost of living, job dissatisfaction or the desire to work for companies with remote working policies or offer better work-life balance.

The following paper aims to ascertain the causes from a mathematical point of view, combing the works of Temporal motivational theory (TMT) & Barratt's impulsiveness scale to suggest actions for organisations to improve retention.

#### UNDERSTANDING TMT

In 2006, Piers Steel, an assistant professor at the University of Calgary's Haskayne School of Business and Cornelius J. Konig, a faculty member at Psychologisches Institute, University Zurich, Switzerland, published a meta-theory of motivation that integrates hyperbolic discounting (picoeconomics), expectancy theory, cumulative prospect theory and need theory. It was named the Temporal motivation theory (TMT) because of its emphasis on time as a motivational factor, which other theories skipped or neglected.

Now TMT suggests that we are more likely to pursue goals or tasks that are pleasurable and that we are likely to attain. We not only like large rewards but also like them to be immediate. The longer the delay, the less motivated we feel about acting on it.

It suggests that the reasons why people make any decision can be represented mainly by the following equation:

Utility = 
$$\sum_{i=1}^{k} \frac{E_{\text{CPT}}^{+} \times V_{\text{CPT}}^{+}}{Z + \Gamma^{+}(T - t)} + \sum_{i=k+1}^{n} \frac{E_{\text{CPT}}^{-} \times V_{\text{CPT}}^{-}}{Z + \Gamma^{-}(T - t)}$$

A more simplified version of the formula is below.

# $Motivation = \frac{\text{Expectancy x Value}}{1 + \text{Impulsiveness X Delay}}$

Where...

- Motivation: It indicates the drive or preference for a course of action, what economists call utility.
- Expectancy (E): An individual's probability of a desired reward or outcome. It ranges from 0 to 1.
- Value (V): It refers to how rewarding the outcome is.
- Impulsiveness ([): An individual's sensitivity to delay, the more impulsive an individual, the less likely the same individual to delay gratification.
- Delay (T-t): It represents the nearness of time required to realize an outcome or the time you must wait to receive the payout.
- Z: Constant =1; it prevents utility from becoming infinite when 'delay' is zero. Losses and Gains must be collected separately, two parts to the original equation.

Expectancy and Value are the key factors that drive motivation, and delay has the opposite effect; impulsiveness typically has low variability within a country or a culture.

**'REGULAR MOTIVATED EMPLOYEES' (PRE-COVID PATTERNS):** In a normal year, motivated employees (ideal state) are expected to follow the pattern (mentioned below) year on year because constant goal settings are implemented to maximize motivation. The figure below maps the changes in expected motivation (utility) over the year regarding two choices, working hard or hardly working.



The theory suggests that an individual will behave in a certain way based upon the belief (expectation) that the desired reward will follow a specific action once the act has been completed. Perceived value has a curvilinear relationship to a more objective assessment.

### 'EMPLOYEES' BEFORE RESIGNATION' (PRE-COVID PATTERNS)

Now, employees that plan to resign understandably exhibit a drop in motivation; it may occur within a few minutes or days or months before actual resignation; here is a graph of a typical employee displaying pre-quitting behaviours over time.



An employee that plans to quit/resign typically faces a significant drop in the perceived value or size of the prize and its expectancy. This would be expected behaviour, which has not changed since the industrial revolution. The other variables of delay and impulsiveness have always been somewhat constant, with very low variability over time.

The pre-quitting behaviours are thus typically decreased productivity, acting less like a team player, doing the minimum amount of work more frequently than usual, less interested in pleasing their manager than usual, exhibiting an adverse change in attitude, or leaving early from work more often than usual and many others not listed here.

However, the "Great Resignation" cannot be explained by the movement in perceived value or expectancy variables alone.

A large driver of the great resignation is a significant shift in the *Impulsiveness variable*, which typically stays constant for a country or a culture.

### A SHIFT IN IMPULSIVENESS HAS CAUSED INCREASED RESIGNATIONS (POST-COVID PATTERNS)

The data below shows the shift in impulsiveness using Barrett's impulsiveness scale (BIS-11) pre-COVID and post-COVID. The magnitude of the change is high within certain age bands, this shift is significant for a highly stable index.

Stable = The scores are within 3 standard deviations of the median (56) Increase/Decrease post COVID = Outside 3 standard deviations of the median

	DECREASE		INCREASE	NETT
% Cases	POST COVID	STABLE	POST COVID	POST COVID
Less than 30 years	16%	61%	24%	8%
31-40 years	11%	67%	22%	11%
41 years +	13%	74%	13%	0%
Total Sample	14%	66%	20%	6%

Base: Internal survey among Ipsos employees (102)

A BIS-11 total score of 71 and above is considered highly impulsive, and between 52 and 71 should be regarded as within normal limits for impulsiveness. Individuals scoring 71 and above are twice as likely to have shoplifted an item over \$10 (2.54 odds ratio, 95% CI 1.33–4.86). This result suggests that the scale has good concurrent validity.

The current median BIS-Total score of 56 is within the norm; however, the data suggest an increasing trend among younger age bands and more falling outside the norm, i.e., suffering from mental health problems.



### (Chart above)

BIS-11 explains that it is essentially "Motor Items" items and "Attention items" undergoing a significant upward shift in the younger working population. With continual peer pressure, the younger working population is becoming more impulsive with such tasks. This generation-defining traumatic event made the younger workforce take a long, hard, honest look at how they constructed their life or how their life was constructed for them; new perspectives have been developed. Critical actions are not as planned as they were before.

Therefore, motivation (Utility) is down to lower levels without change in perceived value or expectancy. Companies have had to act to keep the overall motivation to a pre-covid level with existing levers. The Great Resignation has therefore fueled higher pay (Value function), even regular pay cycles (reduced delay and higher expectancy), even for those who didn't switch jobs.

BIS-11 FACTORS : [In 1995, Ernest Barratt developed the Barratt Impulsiveness Scale Test to measure a person's level of impulsiveness. BIS-11 has a total of 30 statements; individuals are asked to rate it on a 4-point scale (Rarely/Never, Occasionally, Often, Almost Always) Motor Items are I do things without thinking, I make up my mind quickly, I am happy-go-lucky, I act on impulse, I act on the spur of the moment, I buy things on impulse, and I spend more than I earn. Attention items are \*I don't pay attention, \*I concentrate easily, I squirm at plays or lectures, \*I am a steady thinker, I am restless at lectures or talks. (\*scoring reversed)] Here are some actions organisations need to do to balance the rise in Impulsiveness and moderate motivation/utility.

- A) Redefine Value: Companies are getting it wrong when they pursue 'higher pay' to mean 'higher value'; this action is not sustainable. The concept of 'Value' does not have to be only monetary. Value today is a function of greater flexibility, greater career reassurances and a greater purpose in overall life. Encourage job rotation, transfers, and shorter promotion cycles at the workplace. Organisations also need to make employees self-aware of their purpose and contribution to the greater good. Purpose-driven individuals are highly motivated and create better results than those individuals that purely focus on monetary benefits
- B) Reduce Impulsiveness via social interaction & time-off: Companies need to work out strategies to bring employees back to the office, either the Elon Mush way or gradually via a hybrid approach. The pushback that most employees have is that if work can be done remotely, why the need to work from the office? When you leave out social interaction, travelling or offsite, employees are left with the "core", which gets mundane and boring and affects impulsiveness. Socializing is the best way for corporates to solve impulsiveness.

Taking time out to care for yourself is also crucial in preventing burnout. Engaging in stimulating activities at home can offset the feeling of burnout. Whether travelling, learning a new hobby or trying new recipes, corporates must encourage time off to enjoy pleasant activities.

- **C)** Make the quotient of "Delay" unpredictable: The higher individual assumptions of the delay coefficient, the more significant the social impact of peer pressure. Companies will do well to announce sudden promotions, bonuses, and increments during the year; this will impact fixed perceptions of 'delay'.
- D) Decision speed: Impulsive individuals typically make risky choices, motivated more by immediate reward than potential long-term negative consequences. Leaders need, therefore, to always present the facts and take quicker decisions. Impulsiveness can be charming, but deliberation has an appeal, as well.

This paper throws light from a mathematical standpoint on 'The Great Resignation'; it uses data from an internal survey floated among Ipsos employees. An in-depth study with a larger sample size would provide more significant insights into this trend.

References: Barratt, E.S. (1994). Impulsiveness and Aggression Steel\_&\_Konig\_2006\_Integrating\_theories\_of\_motivation

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