Employee Wellbeing made Easy!

Wellness is an umbrella term. It consists of many factors and its measurement can go in intangible dimensions. Having said that, in this theme solution, we tried to dive into the deepest, and more often, the unexplored ends to collect and bring the metrics which affect wellness of an employee in the corporate sector.

We not only considered the Mental and Physical wellness, but after a heavy research, we came up with an almost exhaustive list of factor umbrella which affects employee wellness in a lot of ways.

Exploring all those metrics, we emphasized on two major factors :
1. Ease of Collection of Data
2. GDPR and other privacy laws.

Employees spend a lot of time in the workplace, and correlating wellness goals with work life balance is mission critical to driving business outcomes. Having a corporate wellness program is imperative to the foundation of businesses. Therefore we listed 6 major paradigms to calculate the wellness score.

1. Mental Health
2. Physical Health
3. Corporate Social Metrics, Diversity Equity and Inclusion
4. Demography of the region
5. Work Life and Work life balance
6. Finance and Benefits

All of these factors are well researched and their effects are well measured and openly available.

We then offered some solutions for corporates to overcome these barriers and and thus, creating a workspace like never before. This score calculation system goes into every aspect of the life of an employee and calculates scores of each aspect individually.

Employee Wellness Score

We tried to decouple all the 6 meta-features and separately calculated each of them individually.

Reason for separate calculation :
1. Makes system loosely coupled
2. Makes analysis studies easier.
3. Data collected from similar sources are clubbed together
4. Easier to study individual features and act upon it.
5. Decoupling will ensure privacy during the calculation stage.

Mental Health Screening Score	Physical Health Screening score	Social Metrics
A	B	C
Demography	**Work Status - Work Life Balance**	**Finance and Benefits**
D	E	F

$$EWS = \frac{m(A) + p(B) + s(c) + d(D) + w(E) + f(F)}{m + p + s + d + w + f}$$

Meta Features	Ease of Collection	Collected From	Percentage of features which are in compliance with GDPR and other Privacy and Legal laws
Mental HSC	Medium	Employee E/V/HR	100%
Physical HSC	Easy	Employee E/V/HR	100%
Corporate Social Metrics	Easy	Corporate Metrics	100%
Demography	Easy	Openly Available	100%
Work Life	Medium	HR Systems	100%
Finance and Benefits	Easy	HR System	100%

Mental Health Screening Factors (A)

Parameter	A
Coefficient	m
Description	Concerned with the Mental health of the employee.
Collected From	Employee : (Direct/Examination/Checkup)
Parameters	1. Age 2. Gender Identity 3. No.of hours of sleep 4. Stress level 5. Medications 6. Hours of Meditation 7. Life satisfaction 8. Relationship Status 9. Relationship Satisfaction 10. Job satisfaction 11. Achievements/Awards 12. Emotional Quotient

Parameter	Correlation with Report Score	Weight Standardised f(w)
Age	-0.065932	$-\ln(w)*1$
Gender Identity	*Not Considered*	*Non Considered*
No. of Hours of Sleep	-0.031705	$w*3.1$
Stress Level	-0.255038	$-w*2.1$
Medications	-0.020349	$-w*0.5$
Hours of Meditation	0.020686	$+w*1.2$
Life satisfaction	0.018759	$+w*0.7$
Relationship Status	*Not Considered*	*Non Considered*
Relationship Satisfaction	-0.00416	$+w*0.3$
Rewards	0.077664	$+w*0.3$
Emotional Quotient	0.939325	$+w*0.9$

Physical Health Screening factors (B)

Parameter	B
Coefficient	p
Description	Concerned with the Physical health of the employee.
Collected From	Employee : (Direct/Examination/Checkup)
Parameters	1. Age 2. Gender Identity 3. BMI 4. Blood Pressure 5. Body Composition Index 6. Water Intake per day 7. Daily Exercise Hrs 8. Healthy Eating Index 9. Alcohol Consumption intake Standardised 10. BRAC (Basic Rest Activity Cycle) (in mins)

Parameter	Correlation with Report Score	Weight Standardised f(w)
Age	-0.065932	$-\ln(w)*1$
Gender Identity	*Not Considered*	*Non Considered*
BMI	-0.427081	$-|w - 21.7| * 2.2$
Blood Pressure	-0.179245	$-|w-100|*0.8$
Body Composition Index	0.098724	$+w*0.5$
Water Intake Per day	0.066767	$+w*1$
Daily Exercise Hours	0.005042	$+w*1.3$
Healthy Eating Index	0.821278	$+w*1.7$
Alcohol Consumption Index	-0.059184	$-w*0.6$
BRAC	0.163455	$+w*0.9$

Corporate Social Metrics (C)

Parameter	C
Coefficient	s
Description	Concerned with Corporate wellness
Collected From	Agencies with keeps corporate metrics
Parameters	1. Diversity and Inclusion Index 2. Workplace Equality Index 3. Accessibility for differently abled 4. Is Effective Code of conduct implemented? 5. Hygiene and Work Environment Metrics 6. No of Workshops on mental Health in office in year 7. No. of Workshops on Awareness, Equity and Inclusion in year (DEI) 8. Time given for Recreational Activities per day (in mins)

Parameter	Correlation with Report Score	Weight Standardised
Diversity and Inclusion Index	0.237785	+w*2.5
Workplace Equality Index	0.169801	+w*2
Accessibility for differently-abled	0.04048	+w*1
COC	0.006528	+w*0.5
Hygiene and Work Environment Metrics	0.029794	+w*1.1
Health Workshops	0.117402	+w*0.9
DEI Workshops	-0.010786	+w*0.5
Recreational Activities	0.942814	+w*1.5

Demographics of Region (D)

Parameter	D
Coefficient	d
Description	Concerned with Demographics of the region employee is living
Collected From	Web
Parameters	1. Country 2. Degree of Universal Health Care 3. Life Expectancy Rate 4. Racial and Ethinic Equality 5. Happiness Index of the country 6. Pollution Index 7. GDP per capita (in $) 8. Population density Normalised

Parameter	Correlation with Report Score	Weight Standardised f(w)
Country	*Not Considered*	*Non Considered*
Degree of Universal Health Care	0.020836	+w*4.5
Life Expectancy Rate	-0.004998	+w*1.6
Racial and Ethinic Equality	0.013174	+w*0.7
Happiness Index of the country	0.026393	+w*0.5
Pollution Index	0.657865	+w*1.2
GDP per capita	0.617029	+w*0.9
Population density Normalised	0.003584	-w*0.6

Work life in company and Work Life Balance (E)

Parameter	E
Coefficient	w
Description	Work Life Balance Metrics of the Employee
Collected From	HR Systems
Parameters	1. Job level 2. Working hours 3. Performance rating 4. Work Experience 5. Experience - Same 6. Last Promotion 7. Percent salary hike 8. Overtime 9. Daily travelling time 10. Paid Leaves 11. Sick Leaves 12. Paternity Leave Index 13. Maternity Leave Index 14. Equal Pay Index

Parameter	Correlation with Report Score	Weight Standardised
Job Level	0.059243	+w*0.3
Working Hours	-0.117485	-|w-8| * 1.5
Performance Ratings	0.063513	+w*1
Work Experience	*Not Considered*	*Non Considered*
Experience in same Company	Not Considered	Non Considered
Last promotion	-0.080899	-w*0.5
Percent salary Hire	0.964006	+w*0.8
Overtime	-0.0722	-w*1.1
Daily Travelling time	-0.0649	-w*1.5
Paid Leaves	0.102624	+w*0.6

Sick Leaves	0.096068	+w*0.8
Paternity Leave index	0.079954	+w*0.6
Maternity Leave Index	0.036403	+w*0.6
Equal Pay Index	0.086879	+w*0.7

Finance and Benefits (F)

Parameter	F
Coefficient	f
Description	Employe Finance Analysis
Collected From	HR Systems
Parameters	1. EmpID 2. CTC 3. Salary 4. Health Insurance 5. Life Insurance 6. Pension plan 7. Vacation and Paid Time off 8. Childcare 9. Performance Bonus 10. Stock option or equity (EquityShare)

Parameter	Correlation with Report Score	Weight Standardised f(w)
CTC	*Not Considered*	*Not Considered*
Salary (in Hand)	1.0	+w*0.7
Health Insurance	1.0	+w*1.5
Life Insurance	1.0	+w*1.1
Pension Plans	1.0	+w*1.2
Vacation and Paid Time off	-0.003938	+|12 - w|*2
Childcare	1.0	+w*1.1
Performance Bonus	1.0	+w*2
Stock option or equity	-0.042124	+w*0.4

Now we will calculate the

Employee Mental Health Wellness Score

$$A = \sum_{1}^{n} f_i(w_i)$$

Similarly we can find the values of B, C, D, E, F

Eg.

$$D = \sum_{1}^{n} f_i(w_i)$$

We took some samples from the given dataset to calculate the value of A, B, C, D, E

Performing Calculations on employee with ID = 619-51-3328
We will create a **Digital twin** of the employee, with the same parameters as the employee with this employee ID.

Meta Features	Notation	Value	Constant
Mental HSC	A	52.29	10
Physical HSC	B	37.3	10
Corporate Social Metrics	C	85.9	10
Demography	D	182745	1000
Work Life	E	38.6	1
Finance and Benefits	F	105250	1000

Constants	Value
m	3.3
p	3.3
s	2.4
d	0.0012
w	1.2
f	0.0006

$$EWS = \frac{m(A) + p(B) + s(c) + d(D) + w(E) + f(F)}{m + p + s + d + w + f}$$

EWS = [m (52.29) + p (37.3) + s (85.9) + d (182745) + w (38.6) + f (105250)] / (m + p + s + d + w + f)

Putting the values of Constants

EWS = [3.3 (52.29) + 3.3 (37.3) + 2.4 (85.9) + 0.0012 (182745) + 1.2 (38.6) + 0.0006 (105250)] / 12

(m + p + s + d + w + f) = 12

EWS = 69.21

Digital Twin

Jane Sloan a 26 years old beautiful and short girl lives in Sweden. She lives alone, far away from her family but has 2 friends which are more than anything to her. They are her support system on whom she can rely on whenever in need. She is physically active, wakes up 5 in the morning, runs 5miles daily and also works on her spirituality by practicing regular mediation and yoga. She only eats healthy food and drinks "x" liters of water per day and stays away from drinks and late-night parties. She takes care of her health and goes for regular check-ups once a month. During her regular checkup she came to know that she has been detected as a probable candidate to have average risk of developing breast cancer. Now she has to undergo screening twice a week but with the help of her friends and her strong will-power and the will to live long despite her medical conditions, she is more motivated each day and gets up and fights daily. Her boyfriend is also very loving and supporting. He takes care of her very well. She is currently working as a project lead at AAA Company. With her hard work she has received this position at such an early age of her career.

She is enthusiastic and very determined towards her goals thus giving her best at the workplace. The management was supportive and she should only focus on her health and rest. But due to sudden changes in the management of the company, new people were getting recruited and people with less inputs were taken down. She told about her medical conditions and requested for more leave or work-from-home for some days. But the management rejected her request and wanted outputs. She is pushing herself more for work but due to her health, she is unable to focus on the work. Knowing she is capable but unable to do anything, she is annoyed with herself resulting in her performance degradation as well as loss of trust in the eyes of her seniors.

Based on the employees conditions, the scores of her wellness can be considered such as -

Mental Health Screening Factors (A)

Parameter	Correlation with Report Score
Age	26
Gender Identity	*Not Considered*
No. of Hours of Sleep	10
Stress Level	2.5
Medications	TRUE
Hours of Meditation	2
Life satisfaction	4

Relationship Status	*Not Considered*
Relationship Satisfaction	4
Rewards	2
Emotional Quotient	105.5

Physical Health Screening factors (B)

Parameter	Correlation with Report Score
Age	26
Gender Identity	*Not Considered*
BMI	17.5
Blood Pressure	114
Body Composition Index	37.9
Water Intake Per day	5
Daily Exercise Hours	2
Healthy Eating Index	99
Alcohol Consumption Index	6
BRAC	96

Corporate Social Metrics (C)

Parameter	Correlation with Report Score
Diversity and Inclusion Index	11
Workplace Equality Index	13
Accessibility for differently-abled	1
COC	FALSE

Hygiene and Work Environment Metrics	1
Health Workshops	2
DEI Workshops	9
Recreational Activities	50

Demographics of Region (D)

Parameter	Correlation with Report Score
Country	*Not Considered*
Degree of Universal Health Care	4
Life Expectancy Rate	78
Racial and Ethinic Equality	74
Happiness Index of the country	10
Pollution Index	139
GDP per capita	5064.59
Population density Normalised	82

Work life in company and Work Life Balance (E)

Parameter	Correlation with Report Score
Job Level	1
Working Hours	10
Performance Ratings	2
Work Experience	*Not Considered*
Experience in same Company	*Not Considered*

Last promotion	2
Percent salary Hire	55
Overtime	2
Daily Travelling time	2
Paid Leaves	4
Sick Leaves	2
Paternity Leave index	1
Maternity Leave Index	2
Equal Pay Index	3

Finance and Benefits (F)

Parameter	Correlation with Report Score
CTC	*Not Considered*
Salary (in Hand)	1.0
Health Insurance	1.0
Life Insurance	1.0
Pension Plans	1.0
Vacation and Paid Time off	12
Childcare	1.0
Performance Bonus	1.0
Stock option or equity	3

Meta Features	Notation	Value
Mental HSC	A	131.90
Physical HSC	B	273.01
Corporate Social Metrics	C	137.4
Demography	D	4875.33
Work Life	E	45.75
Finance and Benefits	F	33573.77

EWS = 98.00

User Case - II

Alex Crawford is a married 30-year-old man who lives in East-Africa and works in XYZ company since 2017 and holds a position of senior software developer.

Alex is very lazy and avoids to take care of his physical health, He wakes up at 10am in the morning, and exercise isn't much often, Due to this he is often late to his work and avoids breakfast and eats junk food every day in his brunch, He has to often go out at dinner or in the evening for client meetings, due to all this his health is compromised and has gained much weight.

Alex loves his job, highly motivated and is very happy with his job and enjoys the work that he does, he is an active participant in the society and contributes towards wellbeing of the society, he also has many friends and loves to spend time with them, he also has a good connection with all the colleagues in his office.

Alex's wife Sutton is 8 month pregnant and as she is alone at the home so he has to reach early and spend time with his wife, He is extremely happy for the baby but he is a bit worried about health of his wife as doctor describes the critical situation of his wife and in the meantime is he's thinking whether he can afford all the expenses of his hospital and childcare, he's also worried about who would look after his wife after the delivery as they are only two of them in the family

Following is Alex's Information.

Mental Health Screening Factors (A)

Parameter	Correlation with Report Score
Age	30
Gender Identity	Male
No. of Hours of Sleep	8
Stress Level	7
Medications	FALSE
Hours of Meditation	0
Life satisfaction	5
Relationship Status	Married
Relationship Satisfaction	5

Rewards	15
Emotional Quotient	100

Physical Health Screening factors (B)

Parameter	Correlation with Report Score
Age	30
Gender Identity	Male
BMI	35.9
Blood Pressure	110
Body Composition Index	30
Water Intake Per day	5
Daily Exercise Hours	0.2
Healthy Eating Index	20
Alcohol Consumption Index	4
BRAC	111

Corporate Social Metrics (C)

Parameter	Correlation with Report Score
Diversity and Inclusion Index	19
Workplace Equality Index	19
Accessibility for differently-abled	5
COC	FALSE
Hygiene and Work Environment Metrics	5

Health Workshops	13
DEI Workshops	9
Recreational Activities	100

Demographics of Region (D)

Parameter	Correlation with Report Score
Country	Africa
Degree of Universal Health Care	5
Life Expectancy Rate	70
Racial and Ethinic Equality	70
Happiness Index of the country	15.9
Pollution Index	30
GDP per capita	$ 7300
Population density Normalised	62

Work life in company and Work Life Balance (E)

Parameter	Correlation with Report Score
Job Level	3
Working Hours	8
Performance Ratings	4
Work Experience	7
Experience in same Company	4
Last promotion	1
Percent salary Hire	40
Overtime	2

Daily Travelling time	1
Paid Leaves	12
Sick Leaves	8
Paternity Leave index	3
Maternity Leave Index	0
Equal Pay Index	4

Finance and Benefits (F)

Parameter	Correlation with Report Score
CTC	57886.01
Salary (in Hand)	40520.207
Health Insurance	2894.30
Life Insurance	2315.44
Pension Plans	6367.46
Vacation and Paid Time off	12
Childcare	2315.44
Performance Bonus	1157.72
Stock option or equity	4

Meta Features	Notation	Value
Mental HSC	A	114.50
Physical HSC	B	117.42
Corporate Social Metrics	C	262.7
Demography	D	6773.05
Work Life	E	50.89
Finance and Benefits	F	47001.10

EWS = 124.4