

Ponder 10:

Productivity Model

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Part 1: Identify the Factors

Name	Variable
Development Tools	Dt
Training	Tr
Salary	M
Benefits	B
Work Environment	We
Correct Job Placement	P
Trust	T
Experience	E
Clarity of Requirements	Cr

Development Tools

The tools of the trade. There are large scale tools such as a development computer and servers, software tools such as Visual Studio, and ReSharper, as well as adequate monitors, chairs, etc.

Justification

Without the proper development tools, code can not be completed at all. Like a computer for example, even in the beginning days of software engineering there was still some type of compiler, or machine to run the code on. While basics are necessities, additional tools can also increase performance of developers

Measure

This would need to be measured in levels, and amount. For example, one level could be machines available. Does the developer have a tower, a laptop or both? Is there a server that mirrors production that it can be deployed to? Then the next level could be what IDE's are available.

Training

This indicator is for confidence that a person has in their ability to complete the given task. This is usually increased by training the person correctly.

Justification

Without confidence in the ability to complete the task, the employee will not be able to focus and believe that they can. They will have difficulty even starting the task

Measurement

This can be measured in the persons confidence. If they are completely confident, they will be able to complete the task, then the value should be a 1. If they aren't confident at all, then the value will be a 0

Salary

Monetary compensation, in line or more then the industry standard.

Justification

Money is a big motivational factor and can greatly decrease productivity. If an employee doesn't feel properly compensate their motivation factor and thus productivity will drop significantly. On the other hand, if they feel that they are being compensated very fairly they will be motivated to help the software, and the company succeed.

Measure

This should be measured in percentage of average salaries. So, if the average salary is 100,000 and a person is being paid 70,000 the factor would be .7, or 70%.

Benefits

The other compensation factors, outside of salary. These would include paid time off, paid vacations, paid sick days, insurance, 401k/investments, stock options, gym memberships, on premise amenities such as gyms, stipends, and bonuses.

Justification

When an employee feels like they are being taken care of, they are more motivated to work harder for the company and stay long term. The relationship between employee and employer becomes more of a mutual relationship.

Measure

The measure of this variable will be 1 for full benefits. Anything less will be reduced by a percentage, and anything more will be increased by a percentage.

Work Environment

The work environment includes all of the factors that measure up to a good place to work. Things such as lighting, desk space, cleanliness, etc.

Justification

Working conditions should not distract from getting the job done. If a workplace is overly dirty, or overly extravagant then it can be very distracting from getting work done.

Measure

This one can be tricky to measure since each individuals' needs are going to be different. But, if a person feels that their work environment needs are being met, then this should be 1. If they are not being met, it should be reduced by a percentage of how much they feel they are not being met.

Correct Job Placement

The job the person is placed in matches the skills, and desires of the employee.

Justification

Having the correct job is one of the most important motivational factors. If someone that really loves computers is put in a management position where they don't interact with their computer hardly at all and are instead in lots of meetings, then they will not be as productive. However, if someone that loves to be supervising, teaching, and taking care of others is put in a managerial role their productive will likely go up.

Measure

This can be measured through job satisfaction. If a person is happy at their job, it will be 1. If they love their job it can be increased by a percentage, if they do not like it will be decreased by a percentage.

Trust

Trust is the measurement of how autonomously a person can complete their given tasks.

Justification

The more a person feels trusted, the more they will be able to accomplish in their position given that trust is not misplaced.

Measure

This can be measured in the level of supervision needed. If someone is given a task and completes it on their own without any intervention or follow up, this will be 1. Otherwise, it will be decreased by a percentage in line with how much follow up and intervention is needed

Experience

The measure of how much the person has worked in the given field

Justification

The more experience a person has, the faster they should be able to complete a given task that meets the criteria of their experience.

Measure

This should be measured with a 5-year base. Meaning that at 5 year you're experience factor is 1. At 10 years your experience factor is 2, etc.

Clarity of Requirements

This is the measurement of how clear the requirements are for the given software.

Justification

The clearer the software, the easier it is to write that software

Measure

This would have to be measured after the project is completed. But it would be measured as 1 if there are no questions needed to be asked about any requirement, and the software meets the expectation of the stakeholders.

Part 2: Group the Factors

Physical

- Development Tools
- Work Environments
- Correct Job Placement

Mental

- Training
- Trust
- Experience
- Clarity of Requirements

Emotional

- Salary
- Benefits

Part 3: Model

$$\frac{Dt + Tr + M + B + We + P + T + E + Cr}{9} = \% \text{ of base productivity}$$