Systems Approach in Project Management

Yoko Kimura* Yasunobu Kino**

The purpose of this study is to: 1. Identify the current issue of IT Project, 2. Find out the countermeasures, 3. Propose the solutions. Mental disorder has become serious social issues and number of the patients has been increasing every year. Due to the complexity of the work environments, IT projects get more people who suffered from depression than other industries. It is also said the significant increase can be found in younger employee. Project needs to consider that as a critical risk and to find out the solutions.

In this research, I would approach depression from the viewpoint of psychology, and then describe the finding from the interviews.

Key Words : Mental Disorder, Psychology, Depression of Avoidant type, 5 Factor Model, Egogram,

1. Introduction

Recently, the number of the patient who suffers from mental disorder has been increasing dramatically. [1] [2] Though in 1996 the number of patients was only 0.2 million, in 2002 it reached 0.44 million and in 2008 it went up to 0.7 million, which is 3.4 times more than what it was in 1996. In 2007, 60% of listed 200 companies reported that depression has increased in the last three years and often those employee ends up taking long sick leaves. [3] Not only surprising by the increase, it is said we find the issue lies across the industries and among younger generation, e.g. 17.3% in thirties and 18% in forties in overall mental disorder. In IT project, the core project member is around 30 years old. After years of early career, they have built enough technical skills and are now highly motivated to step up to the next level like a “manager”. However, the condition of IT project has gotten tougher than 10 years ago. More competitors are in the market; clients demand higher performance in shorter project timeline, yet skilled resources are not always available in the firm. Additionally, the introduce of multi communication channel, e.g. e-mail and online chat in stead of one on one interaction, teleconference instead of face to face meeting, more people are feeling difficulties with interpersonal relationship. In fact, one the top reason of depression is from relationship with co-workers; therefore, we need to understand why can it be the stressor and who feels the most. Although “depression” begins with a personal issue, it will become the project and firm’s risk, because once one takes sick leave, other members need to take additional workload. Then if the task gets overflow, especially under such a situation, it is easy to get de-motivated and lower the quality of performance and deliverables, which has the extreme impact to the project go-live.

![Fig. 1 Negative cycle](image)

In order to prevent, this article aim to understand the cause and symptom of the recent depression, find out the current approach and the countermeasures to propose the systems approach in the project management.

2. Type of depression

When we say “depression”, there are various kinds with different symptoms in fig.2.

“Melancholic”, known as “burn out” used to be the major depression in the consulting firm. Those who have strong sense of responsibilities to meet required goal on time and within budget suffer once project starts losing control. They feel guilty or as if they are failures. “Disthymia” and “Avoidant” are the relatively new type of depression. Since 1990, the number of patients who appears to be some sort of
depression but clearly different from melancholic are increased, and they are so called “atypical depression”. Disthymic is a chronic, mild form of depression. For many people, disthymia begins in childhood or early adulthood; therefore, it is difficult to be recognized as ill, but they think that is just who they are. This belief creates a negative view of the situation and of life that is difficult to change. That is why it is not easy to determine if the treatment is working or not. Although the symptoms seem to be slightly lighter than melancholic, it lasts years. “Avoidant” was found by Dr. Hirose, and he states the following that it is found in more male than female who is highly educated and has high pride. In most cases, it occurs certain years after at the first employment, because they get stressed out from interpersonal relationship and also role and responsibilities.

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Melancholic</th>
<th>Disthymia</th>
<th>Avoidant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nature before Diagnosis</td>
<td>Over 40s</td>
<td>&lt; 30s</td>
<td>30s</td>
</tr>
<tr>
<td>Distinctive Symptom</td>
<td>Perfectionism, well-organized, Obsessive, Obedient &amp; positive reaction to Social Disciples</td>
<td>Self-oriented, Non-obedient &amp; Negative reaction to Social Disciples</td>
<td>Narcissism, obedient &amp; positive reaction to Social Disciples</td>
</tr>
<tr>
<td>Response to Med.</td>
<td></td>
<td></td>
<td>Partially responded</td>
</tr>
<tr>
<td>Prognosis &amp; effect change</td>
<td>Relief with med. &amp; enough rest, different response to emot change</td>
<td>Become Chronic with med. &amp; rest, immediate recover depends on emot change</td>
<td>Overall med. &amp; rest may not work, possible to recover if BSS is supportive</td>
</tr>
</tbody>
</table>

Fig. 2: Comparison of type of depression

From Fig. 2, we notice that younger generation: around 30 years old become atypical depression, such as “avoidant” type. [4]

3. Current Approach

3.1 Employment Medical Advisor: EMA
Currently if the company has more than 50 employees, it is required to have at least one employment medical advisor to secure both physical and mental conditions. The guidance is based on the prevention medicine program that mental depression has to be found in early stage and to send them to external healthcare facilities. However, this makes the situation become more complicated form, because the patient only talks to EMA who does not aware of the real situation of the project and advices would be point to point, e.g. EMA and patient. As patient is only an “identifier” of the problem, “project” also has to be considered as a problem.

3.2 Medication
Various kind of medicine has been introduced to the market. In 2008, the number of patients becomes three times more than 1966, in 2004 he worldwide profit has reached 13 billion yen in Selective Serotonin Reuptake Inhibitors, SSRI market that is six times more than 1977. However, the recent study discovered the atypical depression like avoidant has higher possibility that SSRI may not work. (Nakayama) The first week of taking SSRI, one develops the side effects and after 4 weeks, the effects start to work. Nevertheless, it is also said once the patient discontinues medication before completing one year, the side effects commonly recur and result in reduced therapeutic response. In general, the project takes one to two years; therefore, even if taking SSRI helps, it may be difficult to fully recover during critical phase.

Fig. 3 Side effect and Effect of SSRI

Although EMA and medication are reachable, depression in the project still increases; moreover, there are studies that these may not be the complete cure. It is indispensable to understand where the root cause of the patient is and what the project and firm need to change. [5]

4 Earlier Literature

4.1 Sigmund Freud and Carl Gustav Jung’s psychological theory
Freud categorized personality into three groups: Id, Ego, and Super-ego and personality can be determined which is more stronger than others. He described the id is the part of the mind that is pleasure seeking and instinctive while the ego is element of the mind that strives to keep the id realistically and intelligently under control and the Id itself is not capable of being
rational.

Jung divided personality into extrovert and introvert, and determined the differences as the direction of their activities. Introvert is more focused with the inner world of the mind, subjective world. They tend to avoid social situations because they get tired of being around of the people, even if they have good social skills. From his psychiatrist experience, he analyzed that most people who suffered from mental disorder were categorized as introverts. They fight an inner struggle and use their energy inward. It was also considered that those differences are not from acquired environmental factors, but innate nature, which have a strong basis in genetics. Because of their significant attributes, such as discreetness, judgment and ability to concentrate, it is said that the adequate occupation is more like a specialist where s/he does not have to pay as much attention to social situations or evaluations. They typically feel more energy and can work more productively when they are alone. [6][7][8]

4.2 Gordon Allport and Lewis R. Goldberg's personality psychology

Allport spent most of his career developing his theory, and examining social issues as preconception and advancing personality tests. He believed that our behavior is shaped by our traits more than habits and that we are made up of all different kinds. In 1936, he selected 17,953 after going 40,000 words, then categorized in to 4 groups, 1: traits which describes the real personalities, offensive, introvert, sociable, etc. 2: traits which express current behavior, temporary feeling, and any words describe the feelings, happy, confused, frantic, etc. 3: traits which evaluate the personalities, adequate, boring, etc. 4: any other words that describe personalities, any metaphorical word. He proposed the concept of "trait" which consists to the characteristic and that does not impacted by conditions or situations.

Goldberg continued Allport's research and studied personality traits, attributes and values that describe each individual's unique combination of characteristics. In 1992, he establish the five-factor structure of personality, know as the Big Five approach, openness, conscientiousness, extraversion, agreeableness, and neuroticism. His Big Five approach provided the framework for theory in personality psychology and has been transformed into different five factor theories. “Five factor theory” is different from deductive process which is led by psychopathology or physiological sciences, but is closely related to statistics, social science, and psychology. [9][10]

4.3 Eric Berne’s Transactional Analysis and J.M.Dusay’s Egogram

Berne observed that people need strokes, the units of interpersonal recognition, to survive and succeed. Understanding how people give and receive positive and negative strokes, and changing unhealthy patterns of stroking is powerful aspect of work in transactional analysis. Berne developed complex interpersonal transactions and presented that the human personality is made up of three "ego states". Each ego state is an entire system of thoughts, feelings and behaviors from which we interact with each other. The Parent, Adult and Child ego states and the interaction between them form the foundation of transactional analysis theory.

- Parent: a state in which people behave, feel and think in response to an unconscious mimicking of how their parents acted, or how they interpreted their parent’s actions.
- Adult: a state of the ego which is most like a computer processing information and making predictions absent of major emotions that cloud its operation.
- Child: a state in which people behave feel and respond by looking at the floor, and crying or pouting, as they used to when scolded as a child.

Transactional analysis are used to determine which ego states people are transacting from and how the transactional sequences change so that it can be utilized to improve the quality and effectiveness of communication.

Dusay developed Egogram, one of the methods of transactional analysis, which describe character and/or personality of human by 5 categories and their profiles.

- NP: Nurturing Parent is sympathetic, protective, loving, helpful, very giving, and uses words like good, nice, love and of course is very nurturing.
- A: Adult is rational, logical, objective, practical, precise, and uses words like what why how and when.
- FC: Free child, has fun, plays and is carefree, uninhabited, energetic, spontaneous, curious, changeable, and use the words like want or won't.
• AC: Adapted child, is adaptable, cooperate, complies, pleasing, placating, whiny, ashamed, innocent, grateful, and uses words like try, wish and would do anything to get along.
• CP: Critical parent is critical, responsible, and users words such as bad, should ought, must, always, ridiculous, bossy, demanding, and of course very critical and controlling.

Many researchers utilized this egogram and applied to understand the personality. Additionally, there is a research that use egogram to describe depression. By conducting thirty-six depressive patients with egogram questionnaires twice: 1: at the severely stage and 2: at much improved stage. (Fujiwara and Takeuchi), they found in the depressive stage, the egogram revealed the extremely low level at the “free child” ego state, and the highest level at the “adapted child” and it tends to form “N” shape. The “free child” showed statistically significant differences from the other four ego states. In the improved stage, the following significant changes became clear: the level of the “adult” and “free child” increased and the “adapted child” decreased, while the “critical parent” showed a tendency to increase. [11][12][13]

4.4 Hans Selye and Keichi Kobayashi’s Five Factors & Stress Theory

Selye found the stress can be perceived differently depends on how a person takes it, unlike physical responses. For example, if a person breaks her or his arms, it is perceived as pain. However, if a person lost a camera, the perception is different from one another. If the camera is very important, one might get very depressed or very angry. On the other hand, if the camera is just one of the cameras, one might not be depressed as much. He also states that there are positive stress “eustress” and negative stress “distress”.

Kobayashi conducted the study of “stress and personal traits” and “artificial brain”. In order to optimize and maximize the personal and organizational productivities, he researched the impact with stress on the mechanism of nature of the ability, differences in productivity in the way of structuring of group and organization, and cooperation if the goal or objective are shared, then developed “Five Factor and Stress Theory”, the principal of productivities of a person and an organization. FFS theory quantifies personal traits and impact from the stress. It is said that each factor exists in all humans though it can be either strong or weak, and the combination of the factors shape our characteristics. The strongest factor forms distinctive characteristics and expresses as personality. The five factors are A: condensable, B: receptive, C: discriminative, D: diffusible, and E: preservative. It is said that A and B can be changed by the education, C can be changed by the environment, and D and E cannot be changed as it is heredity. According to the theory, E is known as “Preservative”, cooperative but resentful. With positive situation, the person is adaptive, tenacious, well organized, and accommodative; therefore, s/he is better at scheduling, administrative work and supporting functions. Conversely, with negative situation, s/he turns to be compromising and subordinating. [14][15]

4.5 Findings

From the earlier literature, I find certain group of people tends to suffer from depression.

• Jung: Introvert
• Goldberg: Neuroticism
• Dusay: High adapted child and Low free child
• Kobayashi: E, Preservative

The reason why it happens to the “certain” people is because it is from their traits and nature, which they cannot change. However, if it is from traits and nature, it also means we can learn the characteristics and understand the cause to find countermeasures.

5 Method

In order to understand the problem, semi-structured ethnographic analysis was taken by interviewing six consultants who suffered from depression. Their background, behavior, and traits were examined and observed. Then, the findings were compared with the diagnosis of depression of avoidant type.

6 Interview and findings

6.1 Background

They joined the consulting firm after completing undergraduates. They are highly educated and very self-confident. When the tasks were more IT related in early career, they were well evaluated. However depression hit them when they were around 30 years old, and that is when the role and responsibilities are changed. As they have repeating depression, the
current approach, Medication, EMA and/or changing environment may not work.

Consulting firm has very unique career path where the requirements changes as you develop the skills. During earlier career, what required is IT skills, like writing the program and functional specifications. After 4 years, once they become senior consultant, their focus is developing the knowledge of process and people skills. As some starts managing the sub-team, more interpersonal skills are required. It is usually another 4 years to move to the next level, manager, whose role requires developing more industry skills and managing the project as a lead.

Fig.7 Career path in consulting firm

7.2 Findings from the interviews
From the interview and observation, they are not incapable of providing consulting service, as they did not have issues during earlier career. However, it can be true that their strength is in IT area, and weakness is in people management. They get stressed out by comparing themselves to others and lose self-confidence, because the evaluation for them is highly important. That is true that all of us would like to get well evaluated, promoted and payment increase; however, for some people, work is not only just getting good evaluation because they see other important factors. As we are different people, what we put the values from is different from one another. By understanding them and their traits more, it is possible for those who suffered from depression perform their best if the right role and responsibilities are assigned. This is eventually maximizing the value of the project.

7.3 Proposed solution
When we think of the solution for those who suffered from avoidant type of depression in IT project/consulting firm, there are three factors that must be considered.
1. Strength and Weakness: they have strong IT skills but weak people skills.
2. Trait: They are very sensitive on evaluation and how they look to others.
3. Respect self-esteem: As their pride is very high, it is very difficult for them to get hurt or even look bad in front of people.

Firm: Redesign job level. First of all, divide consultant and specialist, but set the job level to be equal and differentiate with salary. As long as the job level is same, their self-esteem can be protected. Firm can always set the duration for each job level but closed information.

Project: Redesign assignment. For example, divide manager's role and responsibility and assign the right individuals with right responsibility. In order to become a manager, various skills are required, such as issue management, resource management, objective management, vendor relations, client relations, team relations, risk management, and quality assurance. However, not everyone is capable of fulfilling all the requirements, therefore; we can separate one for introvert and the other for extrovert.

Individuals: Redesign Career Plan. It is recommended to revisit own traits, strength and weakness by utilizing the checklist like egogram and FFS analysis. Then redesign career plan based on the results, own goal, and the role and responsibility. They need to ask themselves if they want to be "idea-driven consultant" or "particular area in-depth consultants" and if it matches to their traits.

The solution can be useful only if all: firm, project and individuals take it together.

Literature Cited

[1] 男女年齢別総患者数（2008年10月）厚生労働省「患者調査」
[3] 脳・心臓疾患及び精神障害等に係る労災補償 状況（平成18年度）について
[4] 広瀬徹也：逃避型抑うつとディスチミア親和型うつ病
[8] C.G.Jung 1921: Psychological Types, Godwyn Baynes
[13] 藤原二郎・竹内信子：うつ病の治療経過とエゴグラムの変化（日本心身医学学会）