

The 9th International Conference on Cognitive Science

Antecedent and consequences of flow: Lessons for developing human resources

Mark Kasa*, Zaiton Hassan

Faculty of Cognitive Sciences and Human Development, Universiti Malaysia Sarawak, Kota Samarahan, 94300, Malaysia

Abstract

Not much is known about flow, a positive psychology experience in non Western countries particularly in human resource development field. Although flow is a universal experience, flow can be expected to be culture specific and culture dependent. There are reasons to believe that emotions at work, and how people express their positive emotions reflects and originated from their cultural characteristics (i.e. Asian are not encouraged to show their negative emotions). The objective of this paper is to examine the antecedents and consequences of flow from literature review. The literature review was conducted within the accessibility limits provided to Universiti Malaysia Sarawak and INTI International University by online databases in Emerald, Sage, JSTOR, ScienceDirect, Elsevier, and EBSCOhost. Twenty one (21) journal articles published between 2000-2012 were reviewed. Fifteen (15) of the articles were studies carried out in Western countries while five (6) of the articles were studies in non-Western countries. The analysis showed that most of the studies were in quantitative method. It was found that antecedents of flow include job characteristics (combination of challenges and resources), work environment and negative organizational outcomes. On the other hand, consequences of flow include intrinsic motivation, engagement and positive mood which lead to higher performance. From this limited literature, no clear distinction between antecedents and consequences of flow between Western and non-Western can be found. Human resource practitioners could design work and environment that can cultivate flow experience in order to increase employees' performance.

© 2013 The Authors. Published by Elsevier Ltd. Open access under [CC BY-NC-ND license](https://creativecommons.org/licenses/by-nc-nd/4.0/).
Selection and/or peer-review under responsibility of the Universiti Malaysia Sarawak.

Keywords: Flow, antecedents, consequences

1. Introduction

Too many research have concentrated on negative aspects (e.g. stress, burnout, fatigue, anger, bullying) and their implication on organizations (for instance turnover, intention to quit, accidents). Currently there is a positive psychology movement which focuses on investigating using scientific method how to make normal life more fulfilling and to understand how things go right [1]. Flow is an example of positive psychology.

Flow is defined as a state in which people are so intensely involved in an activity that nothing else seems to matter [2]. Flow will occur if an optimal experience from the consequences of a situation of which challenges and skills are high and in equilibrium [3].

* Corresponding author. Tel.: +06-082-581539; fax: +60-082-581567
E-mail address: markyek@yahoo.com

Literature revealed that all flow definition seem to have three elements in common. The first refers to a sense of deep involvement and concentration [4], [5], [6], second common element involves the feeling of ultimate enjoyment while doing the task [7], [8]. Third, refer to the person with high intrinsic interest and consider as doing the task for its own sake and not because of external demands or pressure [9]. In sum, flow is experienced when there is a balance between challenge of the tasks and skills of the performers.

2. Flow Evolution

The study of flow started in 1960s, after Mihaly Csikszentmihalyi, the founder of flow became obsess by artist especially the painter. These painters were intensely involved into their work until they disregard their need for food, drink and even rest to sleep. The research on flow originated when Csikszentmihalyi tried to unleash this phenomenon experienced by these painters. Then, research on flow became prevalent in the 1980s and 1990s while Csikszentmihalyi and his fellow researchers in Italy were the pioneer on theory of flow.

Based on discovery by Csikszentmihalyi, artist and athletes are usually experiencing flow. For example, a tennis player experiences a balance when the player is confronted with approximate equally skilful opponent competing in a competition. Therefore, theoretically there will be a higher probability of boredom if the opponent has lesser or low skills and this would create low competitiveness in the competition. On the contrary, a high probability of pressure if the opponent is much better and have higher skills thus the player will experiencing intensely involved in the game. Since then, researchers keen in total concentration in work related activities and emphasizing positive experiences, especially in area of business and education [10].

3. Method

The literature review was conducted within the accessibility limits provided to Universiti Malaysia Sarawak and INTI International University by online databases in Emerald, Sage, JSTOR, ScienceDirect, Elsevier, and EBSCOhost. Twenty one (21) journal articles published between 2000 - 2012 were reviewed. Fifteen (15) of the articles were studies carried out in Western countries (such as USA, Netherlands, Germany, Spain) while six (6) of the articles were studies in non-Western countries (such as China, Taiwan, Indonesia and Malaysia). Key words used include flow, organizational resources, personal resources, positive psychology and optimal challenge. Date of search on the February until March 2013.

4. Antecedents of flow

Besides painter, sportsman and musician, flow experiences also exist in the work related activities. [e.g. 11]. Factors contributing to flow include job characteristics and work environment and negative organizational outcomes such as burnout and exhaustion.

Demerouti [12] revealed that job characteristics was found correlated with flow in their study among 113 employees from various occupation. Similarly, Makikangas, Bakker, Aunola and Demerouti [13] conducted a study among consultants working at an employment agency found out that the levels of job resources (e.g. social support, opportunities for professional development, and supervisor coaching) and flow at work were positively correlated. Antecedents such as core job dimension, subjective well being, job resources, personal and organizational resources, blogging intrinsic motivation, environment resources proven to be correlated with flow [14].

Almost all resources are only discussed around positive aspect but what about the negative antecedents? Prominent negative antecedent such as burnout [15] and exhaustion were tested to be negatively related to flow of which based on the research that had been conducted among all 831 employees of an employment agency in Netherlands [16]. In other words, those peoples with a low level of exhaustion were more likely to be in the trajectory of high flow experience.

In non-Western context, a study conducted among the Chinese undergraduate student in Hong Kong, China revealed that Chinese are most likely to reach flow experience when they are in the condition that was labelled boredom/relaxation and seeking optimal challenges is indeed required. This is paradoxical as Hong Kong Chinese are well known for their hardworking nature [17].

Another study in Malaysia was conducted among adolescents and young adults with mild to moderate intellectual disability using a music intervention program. The study revealed that optimal challenge is a determining factor toward flow experience [18]. A proposal by Paulus Insap Santosa [19] from Indonesia is using flow as the central theory in designing e-learning material for university students. Two important antecedents of flow are conceptualized by challenges (i.e. web navigation and lecture material) and skills (prior knowledge in IT and experience in web).

In short, the concept of flow has been applied in many settings with different target groups. Based on 21 articles reviewed no distinct differences for antecedents of flow in Western and non Western countries were found.

5. Consequences of flow

Consequences of flow include improve subjective well-being happiness, life satisfaction and positive affect. Flow is found to be correlated with increase performance, higher motivation and engagement and positive mood in organization context. Flow is associated with loyalty. A study conducted in the US revealed that flow experience positively influence an individual's subjective well-being and improve happiness, life satisfaction and positive affect [20].

Through flow, organization can actually develop and increase employees' productivity [21]. Few research proven that by developing enriching and challenging working environment that promote the experience of flow may encourage employee productivity while boosting organization productivity level as a whole. This is because employees seek constant optimal experience that trigger the active investment of time and effort in a task and this lead to increase in skills and competencies [22].

A study conducted by Demerouti, Bakker and Fried [23] revealed that employees job resources effectively allocated could contribute to higher employees motivation and engagement at work during the time of global recession and high competition. The most important issue revealed by this research, even employees work to earn money and not obtain psychological fulfilment may also experience flow provided with effective job resources toward high motivational aspect at work and better well being in the organization. This study was consistent with a study revealed by Engeser and Rheinberg [24] that flow correlated with better performance for two main reasons. First, flow is highly functional state that promotes performance by itself. Secondly, a person experiencing flow are more motivated to carry out further task and to keep on experiencing flow the individual will set their own challenging task.

Positive mood is another important outcome that not only promotes creativity and positive thinking but also encourage employees to think about favourable characteristic of co-workers leading to helping others [25]. This study conducted in Western context was consistent with Eisenberger et al., [26] revealed that positive mood enhanced several extra role activities such as helping co-workers and contribute to creative idea and suggestion within the organization. A study conducted among the sale employees in large discount electronics and appliance retailer in north eastern USA revealed that those achievement oriented employees have high skill and challenge was related to a greater positive mood, task interest, and organizational spontaneity (perform extra role voluntarily in aid of organization) [27]. Combination of high skill and challenge should increase employees' task interest and elevate the employee mood. Therefore, flow would nurtures the psychological needs of work competencies and job autonomy which are associated with significant increases in the outcomes of mood, enjoyment, esteem and intrinsic motivation [28].

Meanwhile, in the education context, research revealed that flow engages students in an enjoyable, intrinsically satisfying manner that many other learning styles were fail to accomplished [29].

In non Western context, a study conducted in Taiwan revealed that flow experience was correlated with life satisfaction [30]. Another study in China on the effect of flow experience on mobile Social Networking Services (SNS) revealed that flow experience was correlated with loyalty [31].

Chen [32] disclosed that online gaming is good at creating the environment of flow experience, through continuous scoring, promotion, immediate feedback and achievement for self satisfaction in each game level. In addition, Chin-Seng and Wen-Bing [33] mentioned that motivation was found in online gaming addiction among adolescent and proven that flow negatively associated with addiction inclination.

In sum, flow can be applied in many aspects of life; working, education and personal life. So far, findings from Western and non Western studies found there are similarities in flow outcomes.

6. Implication for Organization and Conclusion

Flow is one of effective approaches in promoting a continual force of positive and motivation in the organization. In order to enhance employee experience of flow, organization should design job and tasks that incorporate skills enriching (job resources) and considerable amount of challenging problems. In addition, creating flow evoking experience should be promoted in organizational learning or approaches such as job enrichment or job redesign. Bakker [34], [35] proposed that redesigning work to be more conducive to flow could increase vigor and decrease exhaustion in employees.

In sum, flow contributes to positive consequences and to be very beneficial for any organization in any field. As Nakamura and Csikszentmihalyi [36] noted a good life is one that is characterized by complete absorption in what one does (p. 89).

References

- [1] Seligman, M., & Csikszentmihalyi M. *Positive psychology: An introduction American Psychologist* 2001; 56: 89-90.
- [2] Csikszentmihalyi, M. *Flow: The Psychology of optimal experience*. New York: Harper and Row; 1990.
- [3] Ellis, G.D., Voelkl, J. E., & Morris, C. Measurement and analyses issues with explanation of variance in daily experience using the flow model. *Journal of Leisure Research* 1994; 26: 256-337.
- [4] Chen, H. Flow on the net-detecting Web Users' positive effect affects and their flow states. *Computers in Human Behaviour*, 2006; 22: 221-233.
- [5] Moneta, G.B., & Csikszentmihalyi, M. The effect of perceived challenges and skills on the quality of subjective experience. *Journal of Personality* 1996; 64: 275-310.
- [6] Ghani, J. A., & Deshpande, S. P. Task characteristics and the appearance of Optimal flow in human computer interaction. *The Journal of Psychology* 1994; 128: 381-391.
- [7] Moneta, G.B., & Csikszentmihalyi, M. The effect of perceived challenges and skills on the quality of subjective experience. *Journal of Personality* 1996; 64: 275-310.
- [8] Hedman, L., & Sharafi, P. Early use of internet-based educational resources: Effect on student's engagement modes and flow experience. *Behaviour & Information Technology* 2004; 23(2): 137-146.
- [9] Salanova, M., Bakker, A., & Llorens, S. Flow at work: Evidence for a gain spiral of personal and organizational resources. *Journal of Happiness Studies* 2006; 7(1): 1-22.
- [10] Csikszentmihalyi & Nakamura, Mihaly & Jeanne, *The Concept of Flow, The Handbook of Positive Psychology*: Oxford University Press 2002; p. 89-92, ISBN 9780195135336
- [11] Massimini, F., & Carli, M. The systematic measurement of flow in daily experience. In M. Csikszentmihalyi & I. S. Csikszentmihalyi (Eds.), *Optimal experience: Psychological studies of flow in consciousness*. Cambridge University Press, 1988.
- [12] Demerouti, E. Job Characteristics, flow and performance: The moderating role of conscientiousness. *Journal of Occupational Health Psychology* 2006; 11: 266-280.
- [13] Makikangas, A., Bakker A.B., Aunola, K., & Demerouti, E. Job Resources and flow at work: Modelling the relationship via latent growth curve and mixture model methodology. *Journal of Occupational Psychology* 2010; 83: 795-814.
- [14] Bakker, A.B., Demerouti, E. and Schaufeli, W.B. Dual processes at work in a call centre: an application of the Job Demands-Resources Model, *European Journal of Work and Organizational Psychology* 2003; 12, . 393-417.
- [15] Schaufeli, W., & Bakker, A.B. Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behaviour* 2004; 25: 293-315.
- [16] Makikangas, A., Bakker A.B., Aunola, K., & Demerouti, E. Job Resources and flow at work: Modelling the relationship via latent growth curve and mixture model methodology. *Journal of Occupational Psychology* 2010; 83: 795-814.
- [17] Moneta G. The Flow Model of Intrinsic Motivation in Chinese: Cultural and Personal Moderators. *Journal of Happiness Studies* 2004; 5: 181-217.
- [18] Soltani, Amanallah., Roslan, Samsilah., Abdullah, Maria C., & Jan, C. C. Facilitating Flow Experience in People with Intellectual Disability Using a Music Intervention Program. *International Journal of Psychological Studies* 2011; 3(2), 54-63.

- [19] Paulus Insap Santosa, Model konseptual pemanfaatan teori flow dalam elearning. *Jurnal Nasional Pendidikan Teknik Informatika* 2012; 1(1): 24-28.
- [20] Chen, H., Wigand, R. T., & Nilan, M. S. Optimal experience of Web activities. *Computers in Human Behaviour* 1999; 15(5): 585–608.
- [21] Csikszentmihalyi, M. *Good Business, Leadership, flow, and the making of meaning*. USA: Pinguin Books; 2003.
- [22] Seligman, M., Csikszentmihalyi M., Fredrikson B. L., Waterman, A., Emmons, R. *Cross Cultural Advancement in Positive Psychology*. Springer Dordrecht Heidelberg London New York; 2011.
- [23] Demerouti, E., Bakker, A.B. & Fried, Y. Work orientations in the job demands-resources model. *Journal of Managerial Psychology* 2012; 27(6): 557-575.
- [24] Engeser, S., & Rheinberg, F. Flow, performance and moderators of challenge-skill balance. *Motivation and Emotion* 2008; 32: 158-172.
- [25] George, J.M., & Brief, A.P. Feeling good-doing good: A conceptual analysis of the mood at work-organizational spontaneity relationship. *Psychological Bulletin* 1992; 112: 310-329.
- [26] Eisenberger, R., & Rhoades, L. Incremental effects of reward on creativity. *Journal of Personality and Social Psychology* 2001; 81: 728-741.
- [27] Engeser, R., Jones, J.R., Stiglbauer, F., Shanock, L., & Randall, A.T. Flow experiences at work: For high need achievers alone? *Journal of Organizational Behaviour* 2005; 26: 755-775.
- [28] Shernoff D., Csikszentmihalyi M., Shneider B. & Shernoff E. Student engagement in high school classrooms from the perspective of flow theory. *School Psychology Quarterly* 2003; 18: 158- 176.
- [29] Seligman, M., & Csikszentmihalyi M. *Positive psychology: An introduction American Psychologist* 2001; 56: 89-90.
- [30] Chen, L., Ye, Y.-C., Chen, M. -Y & Tung, I. W. (2010) Algegria! Flow in leisure and life Satisfaction: The mediating role of event satisfaction using data from an acrobatics show. *Social Indicators Research* 2010; 99(2): 301-3-3.
- [31] Zhou, Tao., Li, Hongxiu. and Liu, Yong *The effect of flow experience on mobile SNS users' loyalty*; 2010; Vol. 110 No. 6: p. 930-946.
- [32] Chen, J. Flow in games (and everything else). *Communications of The ACM* 2007 50: 31-34.
- [33] Chin-Sheng W. & Wen-Bin C. Psychological Motives and Online Games Addiction: A Test of Flow Theory and Humanistic Needs, *Theory for Taiwanese Adolescents*; 2006; 9: 317- 324.
- [34] Bakker, A. B. Flow among music teachers and their students: The crossover of peak experiences. *Journal of Vocational Behaviour* 2005; 66: 26-44.
- [35] Bakker, A.B. The work-related flow inventory: Construction and initial validation of the WOLF. *Journal of Vocational Behaviour* 2008; 72: 400-414.
- [36] Nakamura, J., & Csikszentmihalyi, M. The concept of flow. In C.R. Snyder, & J.S. Lopez (eds), *Handbook of positive psychology*. New York: Oxford University Press; 2005, p. 89-105.