An official publication of The North American
Institute of Science and Information Technology

ISSN:1923-0265

INTERNATIONAL JOURNAL OF

Management Science and Information Technology

NAISIT
PUBLISHERS

www.naisit.org

The International Journal of Management Science and Information Technology (IJMSIT)

NAISIT Publishers

Editor in Chief
J. J. Ferreira, University of Beira Interior, Portugal, Email: jjmf@ubi.pt

Associate Editors

Editor-in-Chief: João J. M. Ferreira, University of Beira interior, Portugal
Main Editors:
Fernando A. F. Ferreira, University Institute of Lisbon, Portugal and University of Memphis, USA
José M. Merigó Lindahl, University of Barcelona, Spain
Vanessa Ratten, La Trobe University, Melbourne, Australia
Assistant Editors:
Cristina Fernandes, Polythecnic Institute of Castelo Branco, Portugal
Jess Co, University of Southern Queensland, Australia
Marjan S. Jalali, University Institute of Lisbon, Portugal
Editorial Advisory Board:
Adebimpe Lincoln, Cardiff School of Management, UK
Aharon Tziner, Netanya Academic College, Israel
Alan D. Smith, Robert Morris University, Pennsylvania, USA
Ana Maria G. Lafuente, University of Barcelona, Spain
Anastasia Mariussen, Oslo School of Management, Norway
Christian Serarols i Tarrés, Universitat Autònoma de Barcelona, Spain
Cindy Millman, Business School -Birmingham City university, UK
Cristina R. Popescu Gh, University of Bucharest, Romania
Dessy Irawati, Newcastle University Business School, UK
Domingo Ribeiro, University of Valencia, Spain
Elias G. Carayannis, Schools of Business, USA
Emanuel Oliveira, Michigan Technological University, USA
Francisco Liñán, University of Seville, Spain
Harry Matlay, Birmingham City University, UK
Helen Lawton Smith, Birkbeck, University of London, UK
Irina Purcarea, Adjunct Faculty, ESC Rennes School of Business, France
Jason Choi, The Hong Kong Polytechnic University, HK
João Ricardo Faria, University of Texas at El Paso, USA
Jose Vila, University of Valencia, Spain
Kiril Todorov, University of National and World Economy, Bulgaria
Louis Jacques Filion, HEC Montréal, Canada
Luca Landoli, University of Naples Federico II, Italy
Luiz Ojima Sakuda, Centro Universitário, Brazil
Mário L. Raposo, University of Beira Interior, Portugal
Marta Peris-Ortiz, Universitat Politècnica de València, Spain
Michele Akoorie, The University of Waikato, New Zealand
Pierre-André Julien, Université du Québec à Trois-Rivières, Canada
Radwan Karabsheh, The Hashemite University, Jordan
Ricardo Chiva, Universitat Jaume I, Spain
Richard Mhlanga, National University of Science and Technology, Zimbabwe

Rodrigo Bandeira-de-Mello, Fundação Getulio Vargas – Brazil
Roel Rutten, Tilberg University - The Netherlands
Rosa Cruz, Instituto Superior de Ciências Económicas e Empresariais, Cabo Verde
Roy Thurik, Erasmus University Rotterdam, The Netherlands
Sudhir K. Jain, Indian Institute of Technology Delhi, India
Susana G. Azevedo, University of Beira Interior, Portugal
Svend Hollensen, Copenhagen Business University, Denmark
Walter Frisch, University of Vienna, Austria
Zinta S. Byrne, Colorado State University, USA

Editorial Review Board

Adem Ögüt, Selçuk University Turkey, Turkey
Alexander B. Sideridis, Agricultural University of Athens, Greece
Alexei Sharpanskykh, VU University Amsterdam, The Netherlands
Ali Kara, Pennsylvania State University -York, York, USA
Angilberto Freitas, University of Grande Rio, Brazil
Arminda do Paço, University of Beira Interior, Portugal
Arto Ojala, University of Jyväskylä, Finland
Carla Marques, University of Tras-os-Montes e Alto Douro, Portugal
Carla Pereira, University of Beira Interior, Portugal
Cem Tanova, Çukurova University, Turkey
Cristiano Tolfo, Universidade Federal de Santa Catarina, Brazil
Cristina S. Estevão, Polytechnic Institute of Castelo Branco, Portugal
Dario Miocevic, University of Split, Croatia
Davood Askarany, The University of Auckland Business School, New Zealand
Debra Revere, University of Washington, USA
Denise Kolesar Gormley, University of Cincinnati, Ohio, USA
Dickson K.W. Chiu, Hong Kong University of Science and Technology, Hong Kong
Domènec Melé, University of Navarra, Spain
Dina Miragaia, University of Beira Interior, Portugal
Emerson Mainardes, FUCAPE Business School, Brazil
Eric E. Otenyo, Northern Arizona University, USA
George W. Watson, Southern Illinois University, USA
Gilnei Luiz de Moura, Universidade Federal de Santa Maria, Brazil
Jian An Zhong, Department of Psychology,Zhejiang University, China
Joana Carneiro Pinto, Faculty of Human Sciences, Portuguese Catholic University, Lisbon, Portugal
Joaquín Alegre, University of Valencia, Spain
Joel Thierry Rakotobe, Anisfield School of Business, New Jersey, USA
Jonathan Matusitz, University of Central Florida, Sanford, FL , USA
Kailash B. L. Srivastava, Indian Institute of Technology Kharagpur, India
Karin Sanders, University of Twente,The Netherlands
Klaus G. Troitzsch, University of Koblenz-Landau, Germany
Kuiran Shi, Nanjing University of Technology, Nanjing, China
Liliana da Costa Faria, ISLA, Portugal
Luiz Fernando Capretz, University of Western Ontario, Canada
Lynn Godkin, College of Business, USA

Maggie Chunhui Liu, University of Winnipeg, Canada
Marcel Ausloos, University of Liège, Belgium
Marge Benham-Hutchins, Texas Woman's University,Denton, Texas, USA
María Nieves Pérez-Aróstegui, University of Granada, Spain
Maria Rosita Cagnina, University of Udine, Italy
Mayumi Tabata, National Dong Hwa University,Taiwan
Micaela Pinho, Portucalense University and Lusíada University, Portugal
Paolo Renna, University of Basilicata, Italy
Paula Odete Fernandes, Polytechnic Institute of Bragança, Portugal
Paulo Rupino Cunha, University of Coimbra, Portugal
Peter Loos, Saarland University, Germany
Pilar Piñero García, F. de Economia e Administración de Empresas de Vigo, Spain
Popescu N. Gheorghe, Bucharest University of Economic Studies, Bucharest, Romania
Popescu Veronica Adriana, The Commercial Academy of Satu-Mare and The Bucharest University of Economic Studies, Bucharest, Romania
Ramanjeet Singh, Institute of Management and Technology, India
Ricardo Morais, Catholic University of Portugal
Ruben Fernández Ortiz, University of Rioja, Spain
Ruppa K. Thulasiram, University of Manitoba, Canada
Soo Kim, Montclair State University,Montclair, NJ, USA
Wen-Bin Chiou, National Sun Yat-Sem University, Taiwan
Willaim Lawless, Paine College ,Augusta, GA, USA
Winston T.H. Koh, Singapore Management University, Singapore

The International Journal of Management Science and Information Technology (IJMSIT)

NAISIT Publishers

Issue 26 (Oct-Dec 2017)

Table of Contents

1 **AN ANALYSIS ON THE MOBILE READINESS OF AMERICAN FORTUNE TOP 500 COMPANIES' WEBSITES**
JUYUN CHO , Colorado State University, USA
JONGHEON KIM, Auburn University – Montgomery, USA

21 **CRITICAL SUCCESS FACTORS FOR KNOWLEDGE REPOSITORY IMPLEMENTATION: CONTENT, TECHNOLOGY AND PROMOTION**
NORFATIN FARHANAH ZAMANI , Universiti Teknologi MARA , Malaysia
TENGKU ADIL TENGKU IZHAR, Universiti Teknologi MARA, Malaysia

44 **A FRAMEWORK ON MOTIVATIONAL FACTORS OF TEACHERS AS KNOWLEDGE WORKERS AND THEIR EFFECTS ON JOB SATISFACTION**
NUR AFIFAH BINTI YAKUB, University of Technology MARA, Malaysia
NUR FARHANA BINTI ZAIDI , University of Technology Mara, Malaysia

54 **A STUDY ON LIBRARY SPACE AND USERS SATISFACTION OF ACADEMIC LIBRARY USERS NEED**
NUR AINA ALIAA AHMAD LATFI , Universiti Teknologi MARA, Malaysia
TENGKU ADIL TENGKU IZHAR, Universiti Teknologi MARA, Malaysia

73 **RECENT DEVELOPMENT ON KEY DETERMINANTS OF EMPLOYEES' INNOVATIVE WORK BEHAVIOR IN KNOWLEDGE INTENSIVE FIRMS**
NUR FARHANA ZAIDI, Universiti Teknologi MARA , Malaysia
NUR AFIFAH YAKUB , Universiti Teknologi MARA , Malaysia
TENGKU ADIL TENGKU IZHAR, Universiti Teknologi MARA , Malaysia

This is one paper of
The International Journal of Management Science and Information Technology (IJMSIT)
Issue 26 (Oct-Dec 2017)

NAIST North American Institute of Science and Information Technology

The International Journal of Management Science and Information Technology (IJMSIT)
Issue 26 (Oct-Dec 2017) (44 - 53)

A Framework on Motivational Factors of Teachers as Knowledge Workers and Their Effects on Job Satisfaction

Nur Afifah Binti Yakub, Nur Farhana Binti Zaidi and Tengku Adil Tengku Izhar

Faculty of Information Management,

University of Technology MARA

UiTM Selangor, Malaysia

Abstract

The motivational factors of knowledge workers and teachers has been the major interest in research world for many years. However, very few current research on motivational factors of teachers as knowledge workers. This paper reviews previous literature on motivational factors of teachers, previous framework and proposing a conceptual framework on the motivational factors of teacher as knowledge worker and their effects on job satisfaction. Based on previous literature, there are six independent variables identified, professional development, job autonomy, job security, monetary incentives, reward and recognition and working environment, while dependent variable is teacher job satisfaction. This review is significant to educational policymaker, school administrator and the government to have an insight into motivational factors of teachers as knowledge workers and how these factors can increase teacher job satisfaction.

Keywords: knowledge workers, teachers, autonomy, job security, reward and recognition.

1. Introduction

Previous studies indicated that teachers suffered lack of occupational satisfaction compare to others job profession. It is likely that dissatisfactions can be correlated with several factors that can demotivated them toward achieving job satisfaction. Intrinsic and extrinsic motivational factors can positively or negatively connect to teacher job satisfactions. Thus, it is important to carried out this study in orders to find out factors that lead to overall satisfaction of teachers as knowledge workers.

To many, teachers is not a knowledge workers. It is often overlooked and deemed unimportant as people often views knowledge workers as someone in more highly professional fields such as engineer, doctors, lawyers and information system designer. The recognition of teachers as knowledge worker was first made by Peter Drucker in 1999 that

ISSN 1923-0265 (Print) - ISSN 1923-0273 (Online) - ISSN 1923-0281 (CD-ROM), Copyright NAISIT Publishers 2018

mention the productivity of teachers is measure based on the quality of the performance just like other knowledge worker. Accordingly, Le Borgne (2012) portraying following traits associated with teachers as modern knowledge workers such as collaboration, best practices, knowledge mapping, cultures, information audits and others. This is supported by Whitby (2013) that stated teacher are knowledge workers that define their own needs and purposes and use their connections to gain information and formulate their knowledge.

However, there is lack of current research on motivational factors of teachers in the aspect of knowledge worker and in the context of primary school in Malaysia. Since teacher populate the centre position in primary education systems, therefore, it is crucial to identify what are the motivation factors of teacher as knowledge workers and how these factors improve their job satisfaction. The aims of this paper is to propose framework on motivational factors of teacher as knowledge worker and their effects on job satisfaction. Based from previous studies, there are six factors that can motivate teacher toward job satisfaction which is professional development, job autonomy, job security, monetary incentives, reward and recognition and working environment. Hence, the next section of this paper discussed the literature review, previous framework and proposed framework for this study.

2. Literature Review

Teacher as the backbone of the education industries need to be highly motivated to improve the school standards, students, quality of education, enhancing human capital development and nation building. There are several factors that can motivate teacher toward achieving job satisfaction, for examples professional development. Teacher professional development is the internal processes and activities designated to create and increase knowledge, expertise, skill and attitudes of teacher professionally (Guskey, 2000; Timperley

ISSN 1923-0265 (Print) - ISSN 1923-0273 (Online) - ISSN 1923-0281 (CD-ROM), Copyright NAISIT Publishers 2018

et.al. 2007). It can be exemplified by school-based teaching research group, teaching contest and public lesson (Wang and Paine, 2003; Hu, 2005; Paine & Han, 2010).

The primer factors that differentiate a knowledge worker with regular workers are their need to have job autonomy (Pyoria, 2005; Davenport, 2005; Mladkoya, 2011). Teacher autonomy is defined as the ability to employ in self-directed teaching and capacity to take charge of their own teaching (Gavriliuk, 2010). Different profession has different level of job security, while teacher can be categorized as one of the profession with high job security. A study revealed that teacher was satisfied to work in public school due to high job security, permanent assurance on position and pension grant (Ombeni, *et al.* 2016).

Bohlander *et al*. (2001) also emphasized that compensation incentives are the crucial element in motivating teacher and need to become the focal point of educational administrator. Whereas recognition for teacher should be publicly known and resulted in monetary gains for their achievement in academic and research (Rao, 2016). One of the highest reward and recognition for teachers in Malaysia is the Excellence Teacher Award that arouse teaching standards, increase teacher wages and increase job satisfaction (Ismail, 2017). Working environment is an optimal environment for teacher well-being associated with their productivity, input and happiness (Timms, 2013). It is compliance with a study on teacher perception about working environment such as nature of students, class size and school facilities are dominating their job satisfaction (Taylor & Tashakkori, 1995; Perie *et al*., 1997; Dinham & Scott, 1998, 2000; Collie *et al*., 2012).

3. Comparison of theoretical framework

3.1 Hygiene and motivators factors affecting excellent teacher job satisfaction

For the construction of theoretical framework for this paper, five theoretical frameworks from previous literature is selected, highlighted, review and analysed as the

ISSN 1923-0265 (Print) - ISSN 1923-0273 (Online) - ISSN 1923-0281 (CD-ROM), Copyright NAISIT Publishers 2018

basis. The first theoretical framework is proposed by Ismail Hussein Amzat, Yahya Don, Sofian Omar Fauzee, Fauzi Hussin and Arumugam Raman in 2017 for their paper entitles Determining Motivators and Hygiene Factors among Excellent Teachers in Malaysia: An Experience of Confirmatory Factors Analysis. This framework is one of the current study on teacher motivation factors toward job satisfaction and one of the latest study in Malaysia. This framework have the same variables with the proposed framework of this study. The variables adopted are recognition, personal growth, salary and working condition.

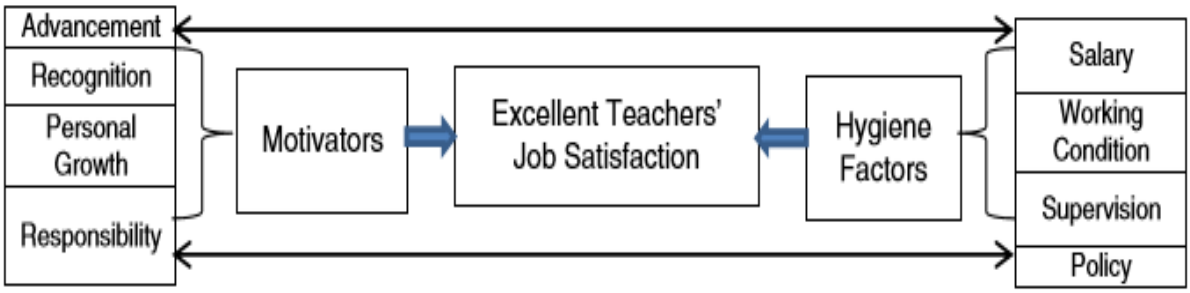

Figure 1: Theoretical framework for hygiene and motivators factors affecting excellent teacher job satisfaction by Ismail et al. (2017).

3.2 Factors affecting teacher motivation

The second theoretical framework is proposed by Muhammad Imran Rashed, Asad Afzal Humayon, Usama Awan and Affan ud Din Ahmed in 2016 for their research entitles Factors Affecting Teacher's Motivation: An HRM Challenge for Public Sector Higher Educational Institutions of Pakistan (HEIs). The independent variables for the framework are compensation packages, job design and working environment, performance management system and training and development. These four variables are factors that affecting teacher motivation. Variables that is adopted are compensation packages, working environment and training and development which being applied in proposed framework as monetary incentives, working environment and professional development.

ISSN 1923-0265 (Print) - ISSN 1923-0273 (Online) - ISSN 1923-0281 (CD-ROM), Copyright NAISIT Publishers 2018

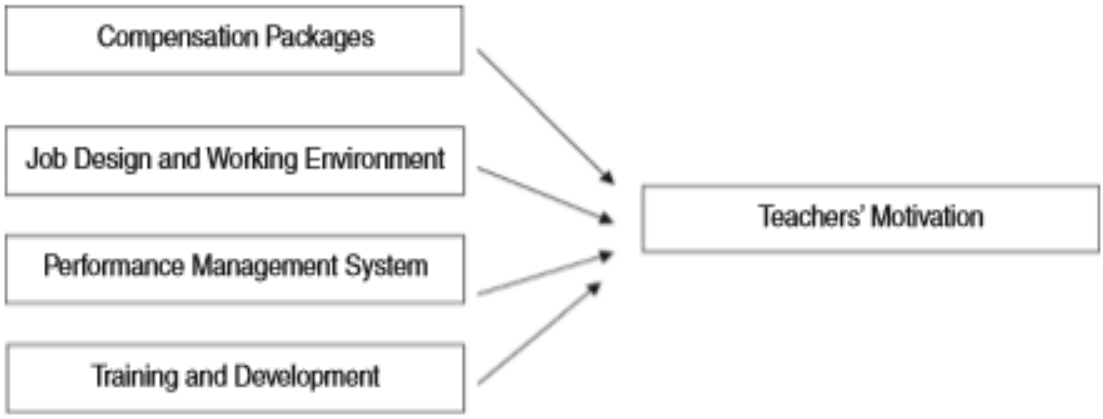

Figure 2: Theoretical framework for factors affecting teacher motivation by Muhammad et al (2016).

3.3 Teacher motivation, teacher job satisfaction and school performance

The third theoretical review is a hypothesized model between teacher motivation, teacher job satisfaction and school performance by Ali Yassin Sheikh Ali, Abdulkadir Mohamud Dahie and Ali Abdulkadir Ali for their paper entitles Teacher Motivation and School Performance, the Mediating Effect of Job Satisfaction: Survey from Secondary School in Mogadishu in 2016. The variables adopted are work environment, reward, autonomy and social benefits. This framework highlighted the relationship of teacher motivation such as work environment, cooperation and facilitation with teacher job satisfaction exemplified by rewards, job autonomy and social benefits.

Figure 3: Theoretical framework for teacher motivation, teacher job satisfaction and school performance by Ali, et al. (2016)

ISSN 1923-0265 (Print) - ISSN 1923-0273 (Online) - ISSN 1923-0281 (CD-ROM), Copyright NAISIT Publishers 2018

3.4 Factors that operate as teacher incentives

The fourth theoretical review is a model for factors that function as teacher incentives proposed by Vegas and Umansky in 2009 for their study entitle Teacher Motivation, Incentives and Working Conditions. The framework highlighted nine factors of qualified, motivated and effective teachers. The variables adopted are recognition and prestige, job stability, pension and benefits and professional growth. While adequate infrastructure and teaching material are part of working environment variables for proposed framework, however this framework is not up-to-date compared with three others.

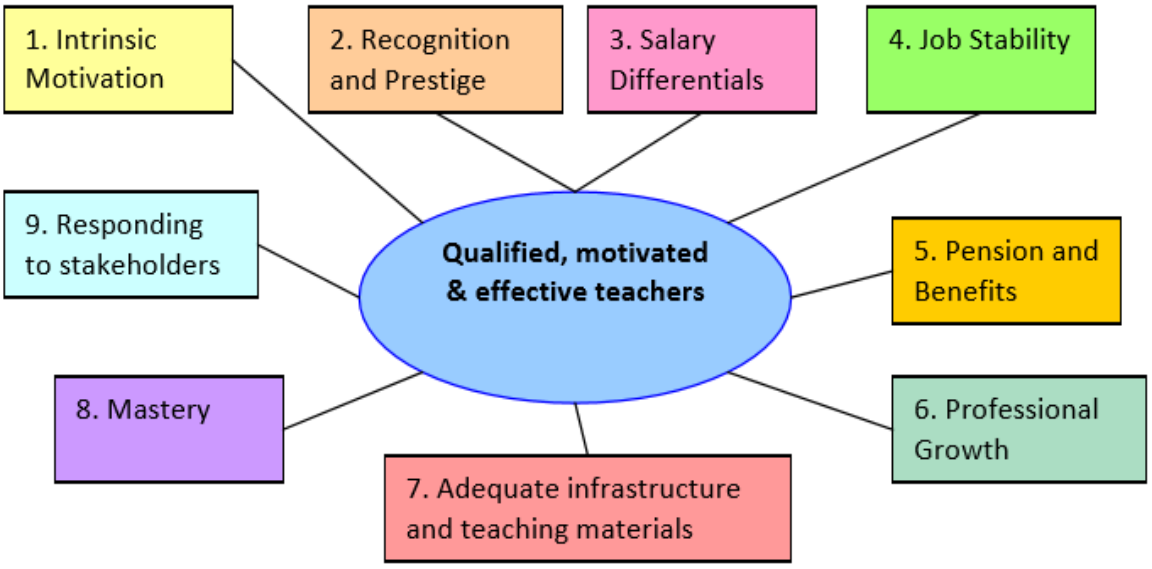

Figure 4: A model of factors that can operate as teacher incentives by Vegas and Umansky (2009).

3.5 Work dimension and overall job satisfaction

The last theoretical review is taken from a study entitle Job Satisfaction of Secondary School Teachers in Tawau, Sabah written by Muhammad Madi Abdullah, Jegak Uli and Shahrul Nizam Salahudin in 2000. This framework is constructed 17 years back and could be irrelevant in term of currentness. The variables in this theoretical framework that being adopted are pay, working condition and promotion as part of reward and recognition.

ISSN 1923-0265 (Print) - ISSN 1923-0273 (Online) - ISSN 1923-0281 (CD-ROM), Copyright NAISIT Publishers 2018

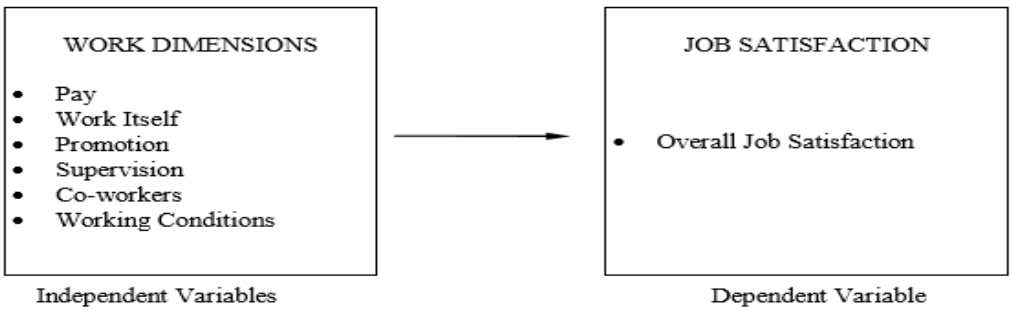

Figure 5: Theoretical framework for work dimension and overall job satisfaction by Muhammad, et al. (2000)

4. Proposed framework

This paper is proposing and manifesting a theoretical framework based on the synthesis and adaptation of previous literature. The purpose of this paper is to determinant the intrinsic and extrinsic motivation factors of teacher as knowledge worker and their effect on job satisfaction. Independents variables are professional development, job autonomy, job security, monetary incentives, reward and recognition and working environment. Job satisfaction of teacher as knowledge worker are the dependent variables for this study. Figure 6 describe the theoretical framework for this study:

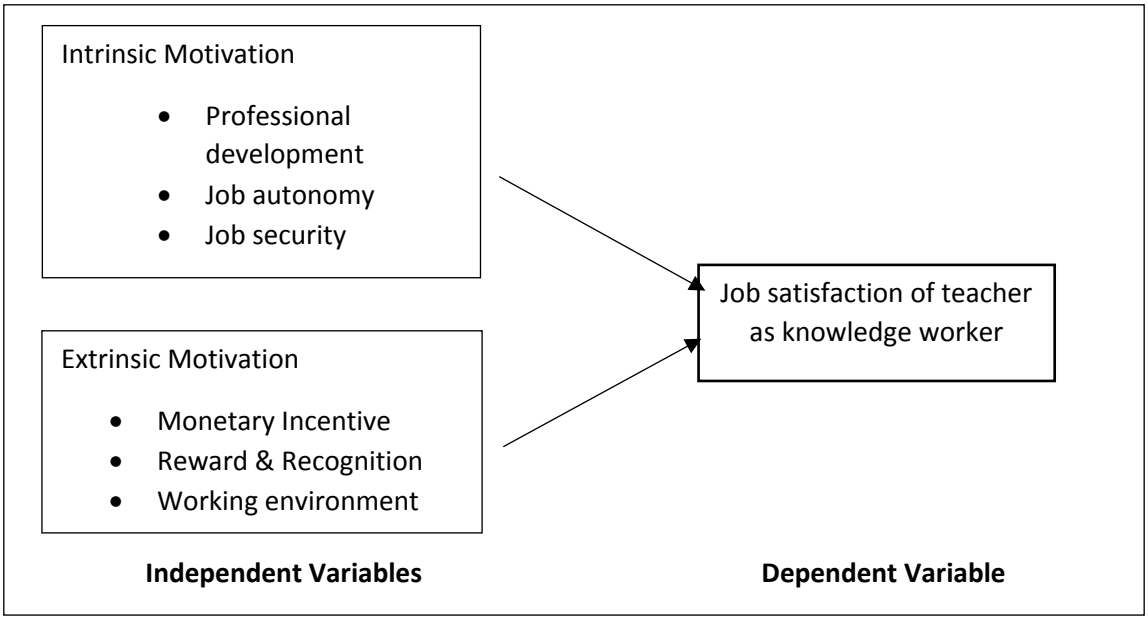

Figure 6: Theoretical framework for intrinsic and extrinsic motivation factor and job satisfaction of teacher as knowledge worker.

ISSN 1923-0265 (Print) - ISSN 1923-0273 (Online) - ISSN 1923-0281 (CD-ROM), Copyright NAISIT Publishers 2018

Based on previous literature and further reading on both teacher and knowledge worker motivational factors, fourteen factors are constructed as the variables in this study. From 14 motivation factors, six were chosen which is professional development, job autonomy, job security, monetary incentives, reward and recognition and working environment. These six variables are chosen to best representing the motivational factors of teachers as knowledge worker. Job autonomy or teacher autonomy is the vital representation of teacher as knowledge worker, the primer distinguished factors of knowledge worker with other types of worker. As for job security, teacher has high job security, which is in government school, the job is legally binding with the government and high certainty of permanent position. This study will further investigate either job security is also applicable to private primary school teacher and how job security motivates the government and private school teacher toward job satisfaction. For monetary incentives, reward and recognition and working environment, they are the similar motivational factors found for both teachers and knowledge worker.

5. Conclusion

In conclusion, teacher is the vital element in the building of high quality education, prestigious school standards, and developer of human capital and nation building toward highly educated country in 2050. Fulfilling the teacher job satisfaction is crucial to give them a sense of appreciation and recognition for the work they have done along this process. Thus, it is crucial for the education policymakers, school administrators and the government to have an insight on factors that motivated teacher toward achieving job satisfaction. Motivational factors come from two sources which is intrinsic and extrinsic (Reeve, 2001).

Motivational factors of teachers and knowledge workers have been proposed by several authors such as professional development, monetary incentives and reward (Rao,

ISSN 1923-0265 (Print) - ISSN 1923-0273 (Online) - ISSN 1923-0281 (CD-ROM), Copyright NAISIT Publishers 2018

2016), job security (Ombeni, *et al.* 2016), working environment (Muhammad, *et al.* 2016) and job autonomy (Lok & Crawford, 2006; Mosadegh & Yarmohammadian, 2006; Schyns *et.al*., 2009). Through literature review we have proposed six factors that possibly and positively influence teacher job satisfaction which is professional development, job security, job autonomy, monetary incentives, reward and recognition and working environment. These factors are intended to effectively motivated teachers toward their job satisfaction and with the findings, the authorities can reinforce or change the present administration policies and practice by giving more opportunities and support for teacher professional development. This study can furnish new insight into ameliorating connections to improve educational system. School administrator should have some understanding on what are the factors that affect teacher job satisfaction and how satisfaction impact their work lives. The findings of this study should provide policy makers and educators with a cornerstone in retaining satisfied teachers and motivating teacher with low job satisfaction.

References

Abdullah, Alkhaliel Adeeb and Hooi, L. W. (2013). Relationships of non-monetary incentives, job satisfaction and employee job performance. *International Review of Management and Business Research*, 2 (4), 1085-1091.

Abdullah, Muhammad Madi., Uli, Jejak and Salahudin, Shahrul Nizam (2007). *Job satisfaction of secondary school teachers in Tawau, Sabah*. Retrieved from http://repo.uum.edu.my/1737/1/JOB_SATISFACTION_OF_SECONDARY_SCHOOL_TEACHERS_IN_TAWAU.pdf.

Amzat, Ismail Hussien (2017). Key performance indicators for excellent teachers in Malaysia: a measurement model for excellent teaching practices. *International Journal of Productivity and Performance Management*, 66 (3), 298-319.

Amzat, Ismail Hussien., Don, Yahya., Fauzee, Sofian Omar., Hussin, Fauzi and *et al.* (2017). Determining motivators and hygiene factors among excellent teachers in Malaysia: an experience of confirmatory factor analysis. *International Journal of Educational Management*, 31 (2), 78-97.

Ashley, K. S. and Trisha, D. S. (2013). Motivation among public primary school teachers in Mauritius. *International Journal of Education Management*, 27 (4), 446-464.

ISSN 1923-0265 (Print) - ISSN 1923-0273 (Online) - ISSN 1923-0281 (CD-ROM), Copyright NAISIT Publishers 2018

Islam, Rafikul and Ismail, Ahmad Zaki (2008). Employee motivation: a Malaysian perspective. *International Journal of Commerce and Management*, 18 (4), 344-362.

Madasu, B. R. (2016). Motivation of teachers in higher education. *Journal of Applied Research in Higher Education,* 8 (4), 469-488.

Msuya, O. W. (2016). Exploring levels of job satisfaction among teachers in public secondary schools in Tanzania. *International Journal of Educational Administration and Public Studies*, 8 (2), 9-16.

Ocham, L. and Okoth, U. A. (2015). Head-teacher motivational practices in public secondary schools in Kenya. *The TQM Journal*, 27 (6), 814-822.

Rashed, Muhammad Imran., Humayon, Asad Afzal., Awan, Usama and Ahmed, Affan ud Din (2016). Factors affecting teacher's motivation: an HRM challenge for public sector higher educational institutional in Pakistan (HEIs). I*nternational Journal of Education Management*, 30 (1), 101-114.

Sheikh Ali, Ali Yassin., Mohamud Dahie, Abdulkadir and Ali, Abdulkadir Ali (2016). Teacher motivation and school performance, the mediating effect of satisfaction: survey from secondary schools in Mogadishu. *International Journal of Education and Social Science*, 3(1), 24-38.

Timms, C. and Brough, P. (2013). I like being a teacher: career satisfaction, the work environment and work engagement. *Journal of Educational Administration*, 51 (6), 768-789.

Vegas, E. and Umansky, I. (2009). *Teacher motivation, incentives and working condition.* Retrieved from http://siteresources.worldbank.org/INTSOUTHASIA/Resources/ PolicyBrief8.pdf.

Xue, H. (2012). Big moves to improve the quality of teacher education in China. *On the Horizon*, 20 (4), 324-335.

ISSN 1923-0265 (Print) - ISSN 1923-0273 (Online) - ISSN 1923-0281 (CD-ROM), Copyright NAISIT Publishers 2018