

New Approach to an Old Concept: Quality of Working Life in Small and Medium-Sized Organizations

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Abstract

Quality of working life (QWL) is an old concept in human resource strategy which has a significant impact on motivation level of employees and their productivity. As Asia-Pacific Decent work decade reaches to its end, Iran has not prepared a plan for improving working life quality. There are plenty of QWL determinants, defined by researchers worldwide, still each country should prepare specific and tailored model of QWL on its own. Iran in one hand is a multi-cultural country, with variety of ethnics and languages, which could trigger conflicts and discrimination at work. In the other hand Iran, has a traditional management style, which tries to wipe out women from job market, by putting more obstacles in their way, which again has a bad influence on country's competitiveness. These facts show the complexity of QWL concept in Iran. This research was done to shed the light to this concept by defining determinants of QWL in Small and medium sized firms (SME). We put our effort on SME(s), because they are non-governmental and more flexible and also play a vital role in developing a knowledge based economy. In Iran, 98% of non-oil products, are exported by SME(s). Extensive search done to collect most QWL determinants from different research papers, then experts votes used to filter variables, based on their applicability in SME(s). A questionnaire was prepared based on remaining variables and ethnic discrimination, sexuality and self-esteem added as personal moderating variables. Questionnaire used among white collars in SME(s). The results analyzed by SPSS and SmartPLS and a model proposed for QWL in SME(s). Also, the effect of ethnic discrimination, sexuality and self-esteem to the individual's perception of QWL supported.

Keywords: Quality of working life, SME, SmartPLS, model, QWL

Introduction

Let's accept, we all work to live better, thus quality of working life becomes very important since the impact of quality of working life on quality of life is proved by researchers.(Hassan, Ma'amor, Razak, & Lapok, 2014) In fact, balance between job and life can be beneficial for both life and job. With a good job, you may reduce bad stress, improve your performance and productivity etc.(Srivastava & Kanpur, 2014a, 2014b).Also, to have a successful career path and empowered abilities, having an improved quality of working life sounds essential.(Bita Parsa, Khairudin Bin Idris, Bahaman Bin Abu Samah, Nor Wahiza Binti Abdul Wahat, & Parisa Parsa, 2014; B. Parsa, K. B. Idris, B. B. A. Samah, N. W. B. A. Wahat, & P. Parsa, 2014).

If you are a demanding manager for less absence rate and job turnover, you may achieve that by increasing quality of working life which can be inferred as an indicator for successful human resource management (HRM) strategies.(Celik & Oz, 2011; Jokinen & Heiskanen, 2013; Kanten & Sadullah, 2012)

As quality of working life seems to be a well-known concept, new trends in world job market, change that in recent decades. Changes like knowledge-based economy and information and communications technology (ICT), demand for a new level of skilled employees and meanwhile, fade the life and job borderline, so job and life tied in way that, if one of them goes wrong or right, it will affect the other.(Carlson, Kacmar, Wayne, & Grzywacz, 2006; Green, 2007; Greenhaus & Powell, 2006; Hoonakker, 2014; Präg, Guerreiro, & Nätti, 2011)

In today's world work systems, new jobs have more pressure – there are always things to do and you are never been good enough- so employee challenged every day to be better and more effective.(A. v. Doorne-Huiskes & L. d. Dulk, 2011) Growth of contracted job, resulted in weakening the organizational culture and personnel willingness to team work.(J. Doorne-Huiskes & L. d. Dulk, 2011) At last, changes like merger and short term contracts with employee will reduce their sense of job security.(S. Lewis, Brannen, & Nilsen, 2012)

Piling up all above, can lead us to one fact: quality of working life is a fluid concept and there is no panacea for all organizations to increase their QWL. Each organization should design or adopt the proper model for QWL according to its nature of job(s), personnel and its own needs.(Beh, 2011)

Based on International Labor office (ILO) report on 2014, improving job quality plays an important role in countries growth improvement. In last decade developing countries which invested more in creating decent jobs showed better improvement trend. Therefore ILO puts decent work as a central goal of 2015 in developing countries.(ILO, 2014, 2015)

In any country claims to have sustainable economic growth, it should focus on two areas, first area is reducing poor and unsafe work conditions, job inequalities and rising decent jobs and second area is leveraging the economic growth through SMEs. In 2013, in Europe SMEs generated 28% of GDP and accounted for 99.8% of all enterprises in the non-financial business sector.

In 2013, SMEs

In Iran, SME(s) do the 98% of non-oil export, thus they are vital part of Iran economy and their productivity have a significant impact on country's competitiveness. International labor office (ILO) described the cycle of unproductive work in SME(s),(ILO, 2007) which starts from poor working conditions and ends in business loss and failure, therefore quality of working life in SME(s) is an important part of productivity and its determinants shall be examined closely, which hasn't been covered by any other researches, we reviewed by our best try.

Research background:

Elton Mayo in 1933 was the almost earliest researcher who tried to understand the impact of environment on workers' performance. That research convulsed Taylorism and started the humanization movement of job environment.(Mayo, 2004) though there was a long way for QWL to be defined.(Martel & Dupuis, 2006) The concept of QWL evolved in years by different researchers as shown in Table 1.

Definition of QWL:

1-Argyris: quality of work life, is convergent with the concept of the integrity of the person or organization. That is, the process of integrating an individual's goals with the goals of the Organization.(Argyris, 1964)

2-Walton: the quality of working life is creation of mechanisms in the Organization in response to the needs of the personnel for full participation in decision-making for the design of their working life.(Walton, 1974)

Table 1: QWL evolution

Researcher(s)	Result(s)	Reference
Trist, Bamforth	Innovation and technology effect productivity and quality of the work-life of mine workers	(Trist & Bamforth, 1951)
Argyris	Increasing Congruency of individual and organizational goal until integration.	(Argyris, 1964)
Friedlander and Newton	Organizational climate is a significant determinant of job satisfaction	(Friedlander & Margulies, 1969)
Walton	Defined 8 categories for QWL	(Walton, 1974)
Nitish R.De	QWL as an indicator of freedom from exploitation, injustice, inequality and oppression	(De, 1976)
Gadon	QWL has two objectives: increasing productivity and employee satisfaction	(Gadon, 1984)
Straw and Heckscher	QWL is“a philosophy, a set of principles, which holds that people are the most important resource in the organization, and they should be treated with dignity and respect”	(Straw & Heckscher, 1984)
Efraty and Sirgy	QWL is positively related to organizational identification, job satisfaction, job involvement, and job effort and job performance.	(Efraty & Sirgy, 1990)
Sirgy et al	A New measure developed based on need satisfaction based on Maslow’s taxonomy and spillover model	(Sirgy, Efraty, Siegel, & Lee, 2001)
Rose et al	The level and relationship between QWL and career-related variables determined.	(Rose, Beh, Uli, & Idris, 2006)
Dahl et al	Proposed 6 dimensions for QWL	(Dahl, Nesheim, & Olsen, 2009)
Ventegodt et al	Formula for calculating company's value from increased QWL	(Ventegodt, Andersen, Kandel, & Merrick, 2009)
National Institute for Occupational Safety and Health	An Instrument for QWL	(NIOSH), 2010)
Van Laar et al Easton and Van Laar	Developed a Work-Related Quality of Life scale	(Easton & Van Laar, 2014; Van Laar, Edwards, & Easton, 2007)
Sureshkumar and Marimuth	QWL” is the degree to which the employees feel a comfortable and enjoyable work life.”	(Sureshkumar & Marimuth, 2014)

3-Nitish in India: Quality of working life, shows the amount of the societies relief of exploitation, injustice, inequality, oppression and limitations by the continued growth of the human being to achieve the best of the situation. (De, 1976)

4-Gadon stated, two goals for life-work programs include improving efficiency and increasing the satisfaction of personnel.(Gadon, 1984)

5-straw and Heckscher proposed one of the most complete and the most popular explanations regarding the quality of working life that up to today have been used repeatedly by researchers. The quality of working life is a set of defined principles and philosophies that put personnel as the most important resource of the Organization, because they create value, they are reliable, responsible and capable and they should be respected by company. Meanwhile stressed that

if company wants to continue the QWL approach in long-term it should become a principle of management (Straw & Heckscher, 1984)

6-*Efraty & Sirgy* defined the quality of working life, as the concept of fulfilling the need for personnel, resulting from the interaction of the personnel requirements (their survival, social, historical and perfection) with organizational resources associated with it.(Efraty & Sirgy, 1990)

7-*Sirgy et al.* : the quality of working life is fulfilling the need of personnel from resources, results from their activities and participation in the Organization. They differs QWL from job satisfaction.(Sirgy et al., 2001)

8-*Martel and Dupuis*: "Quality of Work Life, corresponds to a condition experienced by the individual in his or her dynamic pursuit of his or her hierarchically organized goals within work domains where the reduction of the gap separating the individual from these goals is reflected by a positive impact on the individual's general quality of life, organizational performance, and consequently the overall functioning of society". (Martel & Dupuis, 2006)

10- *Shefali Srivastava, Rooma Kanpur* described the quality of working life as " a process in an organization which enables its members at all levels to participate actively and effectively in shaping organizational environment, methods and outcomes."(Srivastava & Kanpur, 2014a)

11- *D. Manjula Sureshkumar, Dr. M. Selvakumar Marimuth* relates the quality of working life to the degree of comfort and joy of the personnel from their working life. (Sureshkumar & Marimuth, 2014)

Evolution of QWL:

In 80's :

During this decade, the concept of QWL was not well known but researchers found that humanization of work condition could improve the motivation and productivity of personnel. Job diagnosis, job redesign and team working were prescribed by researchers to improve QWL.

In 1974, Walton defined 8 conceptual categories for QWL : 1.Adequate and fair compensation 2. Safe and healthy environment 3. Development of human capabilities 4. Growth and security 5.social integration 6.constitutionalism 7.the total life space 8.social relevance.(Walton, 1974)

At same year, Hackman and Oldham, introduced their job diagnostic survey as an instrument to improve work motivation and job satisfaction.(Hackman & Oldham, 1974)

Warr and cook in 1979, developed a scale to measure QWL in blue-collar workers, contains 8 concepts: 1.work involvement 2. Intrinsic job motivation 3.higher order need strength 4.perceived intrinsic job characteristics 5.job satisfaction 6. Life satisfaction 7. Happiness 8.self-rated anxiety.(Warr, Cook, & Wall, 1979)

In 90's:

In this period of time, researchers emphasis of job satisfaction and generally seen it equal to QWL.

In 1984, Levin, Tylor and Davis, identified 7 predictors of QWL through Delphi method as : respect and confidence of superior to the employee, variety in work routine, work challenge, work opportunity in future, self-esteem, relation of QOL and QWL, contribution of job and the society.(Levine, Taylor, & Davis, 1984)

At same year, Mirvis and Lawler, relates QWL with 7 measures: satisfaction with pay, fringe benefits, job security, working conditions, co-worker relation, accomplishments, chances to develop skills and overall job.(Mirvis & Lawler, 1984)

In 1988, Spector developed the work locus of control scale and shown the correlation between WLCS with job satisfaction, intention of quitting, perceived influence at work, role stress and perception of supervisory style.(Spector, 1988)

War in 1990, developed an instrument to measure well-being and mental health of employee at work.(Warr, 1990)

In 1991, baba and jamal, defined 10 measures for QWL: 1. Routinization in job context (routine or nonroutine working hours, days, shifts) 2. Routinization in job content 3. organizational commitment 4. job involvement 5. Work role ambiguity 6. Work role conflict 7. Job stress 8. Job satisfaction 9. turn over motivation 10. workload pressure

Schwarzer and Jerusalem in 1995, developed an scale for self-efficiency to predict adaptation skills after any stressful events. (Schwarzer & Jerusalem, 1995)

Lau and May defined 6 factors for QWL to enhance company's market and financial performances: 1. Pay and benefits 2. Opportunities 3. Job security 4. Pride in work 5. Openness and fairness 6. Friendliness.(Lau & May, 1998)

Up to 2015:

After year 2000, the QWL differentiated from job satisfaction. Work labor organization (ILO) announced decent work decade in Asia and set the decent work goal in 2030, also described the importance of QWL in SMEs productivity which leads to country's development. In these years many researchers focused on QWL in large organizations.

Lewis et al, defined extrinsic (tangible benefits) and intrinsic (skill, autonomy and challenge) determinants of QWL in seven different health care instantiations. (D. Lewis, Brazil, Krueger, Lohfeld, & Tjam, 2001)

At same year, Wyatt et al, defined 4 dimensions of QWL: work environment, personal growth and autonomy, nature of job, job opportunity and co-workers, among a sample of Singaporean employees.(Wyatt & Wah, 2001)

Sirgy et al, proposed a new measure for QWL based on need satisfaction and spillover theories with seven dimensions: 1. health and safety needs 2. Economic and family needs 3. Social needs 4. Esteem needs 5. actualization needs 6. Knowledge needs 7. Aesthetics needs.

Swapna and Gomathi in 2013, defined 5 constructs to measure QWL: 1.job satisfaction 2. Working condition 3. General well being 4. Work life balance 5. Career prospect.(Swapna & Gomathi, 2013)

In 2014, Srivastava and Kanpur, proposed strategies to improve QWL, as job enrichment and redesign, autonomy, growth opportunity, justice, job security, suggestion system, job flexibility and employee participation.(Srivastava & Kanpur, 2014a)

Nanjundeswaraswamy and D.R. Swamy in 2015, defined 9 components for QWL, 1. Work environment 2. Organizational culture 3. Training and development 4. Compensation and rewards 5. Job satisfaction and security 6. Relation and cooperation 7. Adequacy of resources 8. Autonomy of work 9. Facilities.(Nanjundeswaraswamy & Swamy, 2015)

Selecting the variables

Since 2006, world labor organization (ILO) prepared regional plans to improve QWL. Asian plan made a great difference in some countries like Malaysia.(ILO, 2006) In 2009, Arabic countries in the Middle East joined the plan for improving QWL till 2019. (ILO, 2009)

Unfortunately in Iran, nothing prepared as a plan to define and improve QWL in Iranian companies,(Fars News Agency, 2015) especially in SME(s), where Iran needs sever improvement to shift from oil based economy to knowledge based one. As SME(s) in Iran, export 98% of Iranian

non-oil products, so improving QWL in them will lead to country's productivity and growth, so, in this research we focused on SME(s) in Iran.

Other important variable for researchers was the status of women QWL in Iran, as Women are not welcome as employees, in the eye of traditional managers, but still their presence is inevitable as they are 50% human resource in each society. They mostly, suffer from inequity at job in many ways, experience different challenges than men and face extra obstacles in their job life especially in Middle Eastern countries. In Iran, women occupy only to 13% of total job vacancies. One out of three woman lose her job after maternity leave, 75% of Iranian employed women don't hold a job related to their specialty.(Iran Entrepreneurship Association., 2015) These things may change their expectation of QWL in many ways.so, we decided to check whether the concept of QWL has is different between women and men.

Finally, Iran is a multicultural country, ethnic and language diversity is one of the characteristics of Iranian nation, this can cause unbalanced culture in the organizations which may lead to conflict. So, we examined whether the ethnic discrimination is an issue in Iranian organizations or not and how it can effect of perception of QWL.

Above variables never examined in other researchers, before. Other variables selected based on literature review:

- Job safety took from Richard Walton model. (Walton, 1974)
- Self-esteem took from Levin, Taylor and Davis Model.(Levine et al., 1984)
- Relation with colleague adopted from Mirivs and Lawler Model and Lau and Bruce researches.(Lau & May, 1998; Mirvis & Lawler, 1984).This element divided in two parts: feeling satisfied in colleague relations and feeling threaten by colleagues
- Job conflict extracted from Baba and Jamal research.(V. Baba, V. & M. Jamal, 1991; 1991)
- Job attraction selected from Wyatt and Wah research.(Wyatt & Wah, 2001)
- Personal need criterion extracted from Sirgy et al and Warr et al researches. (Sirgy et al., 2001; Warr et al., 1979)
- Participative management adopted from Ellis and Pompili research.(Ellis & Pompili, 2002)
- The impact of sexuality adopted from Saraji and Dargahi as well as the role of autonomy.(Saraji & Dargahi, 2006)
- Happiness at Job extracted from Ganguly research. (Ganguly, 2010)
- The sense of equity used from Lewis et al research.(S. Lewis, van Doorne-Huiskes, Redai, & Barroso, 2011)
- The role of training selected from Swapna and Gomathi as per as Swamy models.(Nanjundeswaraswamy & Swamy, 2015; Swapna & Gomathi, 2013)
- The role of Motivation selected from Vijaimadhavan et al research.(Vijaimadhavan, Com, & Phil, 2013)

Methodology

As the first step, we reviewed over 39 models for measuring QWL and 69 research papers about QWL worldwide and categorized the factors as determinant of QWL and used them to develop a questionnaire in Likert's five points scale. (Figure 1). Also, ideas adopted from other researchers' works, which defined in last section.

Other criteria such as Emotional and Political quotient, Spirituality... which abandoned due to keeping the model easy to measure and use.

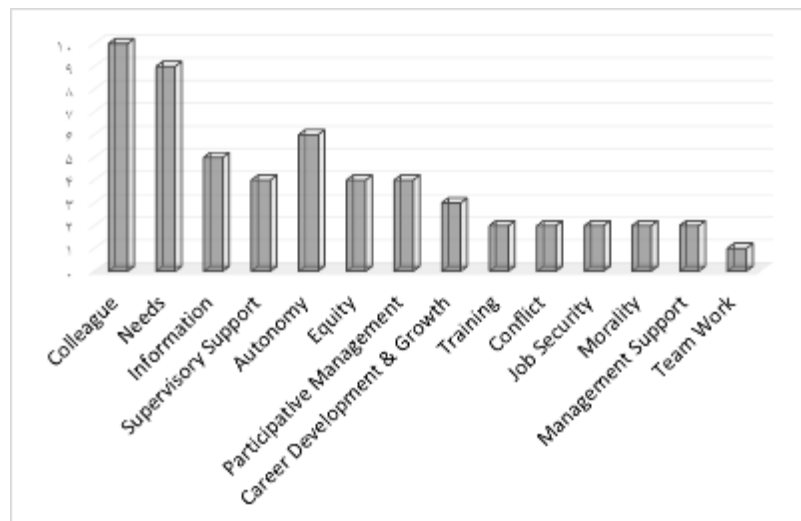


Figure 1: Frequesncy of QWL determinants

The present study conducted among white collar employees and managers of SME(s) in Tehran. Based on Morgan sampling method we needed 384 samples. A list of 16 000 registered SME(s) in Tehran city collected and 150 number of them selected by randomizer software. 7% of contact numbers were wrong and 13% of selected firms were dissolved. We spoke with 120 managers and invited them to a half day meeting, which was accepted by 70 managers. (Return rate of calls was 58%) Forty managers with managerial experience over than 10 years selected as expert group for validating the questionnaire by CVI method¹ (greater than 0.8).

Out of 700 questionnaire, 407 complete and usable one collected yielding a response rate of 58%. Analyzing the random samples revealed that most of the firms positioned in service industry (92%) and 53% of respondents were male.

Exploratory data analysis conducted by SPSS to define groups of factors affecting QWL. The result shows the adequacy of sampling (Table 2)

Table 2: Kaiser-Meyer-Olkin and Bartlett's Test

0.79	Kaiser-Meyer-Olkin Measure of Sampling Adequacy
0.000	Sig
4.334E3	Bartlett's Test of Sphericity

Exploratory data analysis with Varimax rotation resulted four groups as determinants of QWL with reliability greater than 0.7. The QWL also, measured by one question. (Total perceived satisfaction at job) (Table 3)

Table 3: Group's reliability

Cronbach's Alfa	Questions	Group
0.852	6	Management Style (M)
0.781	5	Empowerment (E)
0.710	4	Organizational Climate (C)
0.986	2	Lived Experience at Job (L)

¹ Content validity index

Conceptual framework

A model developed based on exploratory analysis, with four constructs: management style (M), Empowerment (E), organizational climate (C), lived experience at job (L) and with four moderating factors: one categorical variable-S (Sexuality) - and three continuous: Se (Self Esteem), A (Accidents), ED (Ethnic discrimination) (Figure 2)

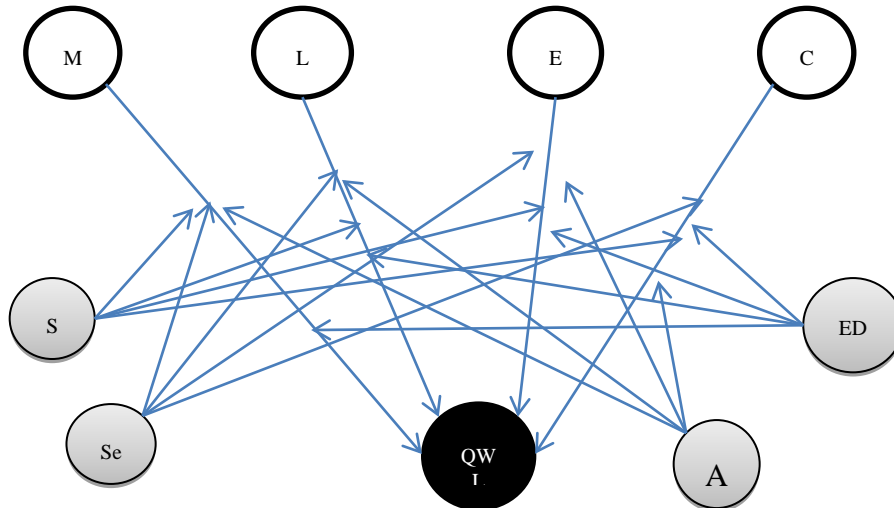


Figure 2: Conceptual model

PLS Modeling

We categorized the variables in four constructs as below:

Management Style construct contains: 1) perceived equity by employee, 2) Managers work ethics and morals, 3) Perceived support by higher rank managers, 4) Team working, 5) Participative management, 6) Top management support (Questions 25,26,27,28,29,30)

Empowerment Construct contains: 1) Job Conflict 2) motivation 3) job advancement 4) training 5) Job autonomy (Questions 13, 14, 15, 16 and 19)

Organizational Climate contains: 1) Job security 2) Job attractiveness 3) relation with colleague 4) threaten by colleagues (Questions 12, 22, 31, 32)

Lived Experience at Job contains: 1) Happiness at job 2) Personal needs fulfilment (Questions 34, 35)

At the first step of PLS modeling we had to decide about using formative or reflective indicators for each construct in measurement model. We used a mixed approach for decision making based on Tables 6 to 9. The result for each construct concluded based on Jarvis et al and Hair et al methods.(J. Hair, F, Hult, Ringle, & Sarstedt, 2014; J. J. Hair, F. , Hult, Ringle, & Sarstedt, 2013; C. Jarvis, Burke, S. MacKenzie, B, & P. Podsakoff, M., 2003; C. B. Jarvis, S. B. MacKenzie, & P. M. Podsakoff, 2003)

Job Empowerment Construct

For using formative indicator we need R^2 value to be more than 0.64, so despite from VIF value less than five -which is acceptable for both formative and reflective constructs- we had to use reflective indicators for Empowerment construct. Three more questions from Jarvis et al Model also, verify the same. (Table 4)

Table 4: Reflective vs formative model checklist 1

	Formative	Reflective
R ²	0.343	-
² VIF	1.383, 1.513, 1.696, 1.424	1.519
Direction of causality is from construct to measure? No		
Dropping an indicator from measurement model does not alter the meaning of construct? No		
Measures are correlated? Yes		

Management Style construct

Table 5: Reflective vs formative model checklist 2

	Formative	Reflective
R ²	0.579	-
VIF	1.661, 1.863, 1.873, 1.628, 1.702, 1.962	1.869
Direction of causality is from construct to measure? No		
Dropping an indicator from measurement model does not alter the meaning of construct? No		
Measures are correlated? Yes		

For the Management construct reflective indicators should be used.(Table 5)

Organizational Climate construct

Table 6: Reflective vs formative model checklist 3

	Formative	Reflective
R ²	0.544	-
VIF	1.716, 1.648, 1.151, 1.367	1.899
Direction of causality is from construct to measure? No		
Dropping an indicator from measurement model does not alter the meaning of construct? No		
Measures are correlated? Yes		

For the Organizational Climate construct reflective indicators should be used. (Table 6)

² Variance Inflation Factor (VIF)

Lived Experience at Job construct

Table 7: Reflective vs formative model checklist 4

	Formative	Reflective
R ²	0.497	-
VIF	18.830	1.603
	Direction of causality is from construct to measure? No	
	Dropping an indicator from measurement model does not alter the meaning of construct? No	
	Measures are correlated? Yes	

As shown in Table 7, VIF index is much higher than acceptable level for a formative construct (5), so lived experience construct should be reflective whereas R² result concludes the same.

Evaluating the Model

To evaluating the PLS model, we have to determine the outer model (measurement model) and inner model (structural model), criteria for each part were shown in Figure 3.

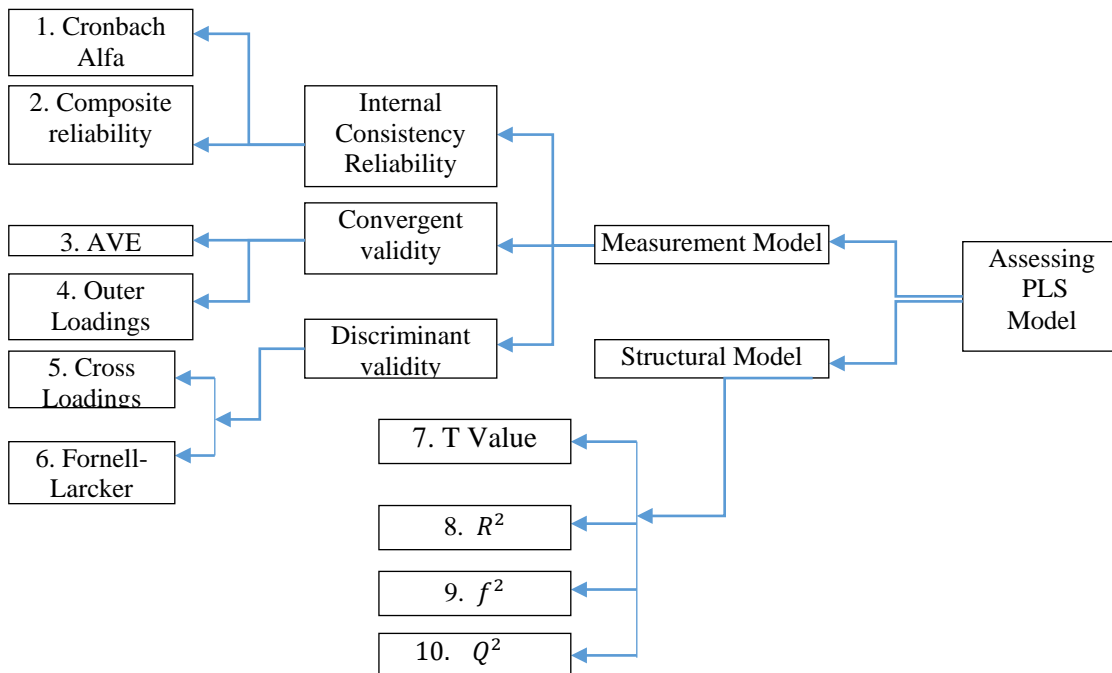


Figure 3: Path way to assessing PLS model

Measurement Model

1. *Cronbach Alfa*: This criterion shows the internal consistency. Cronbach Alfa equal or more than 0.7 shows good internal consistency.(Abdi, Chin, Vinzi, Russolillo, & Trinchera, 2013) All constructs shown a good internal consistency as shown in Table 8.

Table 8: Cronbach Alfa

	Cronbach Alpha
Empowerment	0.786
Organizational Climate	0.714
Management Style	0.853
Lived Experience	0.986
QWL	1

2. *Composite Reliability*: This criterion should be more than 0.7 to show a good reliability. (Vinzi, Chin, Henseler, & Wang, 2010) (Table 9)

Table 9: Composite reliability

	Composite Reliability
Empowerment	0.852
Organizational Climate	0.824
Management Style	0.888
Lived Experience	0.993
QWL	1

3. *Average Variance Extracted (AVE)*: AVE is equivalent to the communality of a construct. An AVE value of 0.50 or higher shows that, on average, the construct explains more than half of the variance of its indicators. (J. J. Hair, F. et al., 2013) (Table 10)

Table 10: Average Variance Extracted

	AVE
Empowerment	0.536
Organizational Climate	0.546
Management Style	0.569
Lived Experience	0.987
QWL	1.000

4. *Outer Loadings*: desirable level of loadings are 0.7.

Table 11: Outer loadings

	E	C	M	L	QWL
Q12		0.673			
Q13	0.730				
Q14	0.722				
Q15	0.729				
Q16	0.803				
Q19	0.671				
Q22		0.566			
Q25			0.726		
Q26			0.713		
Q27			0.727		
Q28			0.760		
Q29			0.795		
Q30			0.802		
Q31		0.848			
Q32		0.831			
Q33					1.000
Q34				0.993	
Q35				0.993	

Although loadings between 0.4 - 0.7 should be reviewed based on literature review and could be kept in the model if CR and VIF are acceptable.(J. J. Hair, F. et al., 2013) (Table 11)

As shown in Table 14, gray cells have loadings less than 0.7, with research literature in mind and with consideration good CR and AVE values, we kept those indicators in model.

5. *Cross Loadings*: An indicator's outer loading on the associated construct (Gray cells in Table 12) should be greater than all of its loadings on other constructs.(J. J. Hair, F. et al., 2013)

Table 12: Cross loadings

	E	C	M	L	QWL
Q12	0.415	0.673	0.416	0.314	0.404
Q13	0.730	0.490	0.389	0.304	0.464
Q14	0.722	0.383	0.294	0.353	0.353
Q15	0.729	0.365	0.405	0.298	0.360
Q16	0.803	0.340	0.417	0.443	0.509
Q19	0.671	0.249	0.228	0.357	0.308
Q22	0.368	0.566	0.349	0.280	0.425
Q25	0.372	0.338	0.726	0.463	0.443
Q26	0.345	0.392	0.713	0.330	0.328
Q27	0.262	0.379	0.727	0.227	0.292
Q28	0.357	0.480	0.760	0.282	0.569
Q29	0.346	0.632	0.795	0.519	0.669
Q30	0.483	0.499	0.802	0.478	0.524
Q31	0.452	0.848	0.563	0.396	0.639
Q32	0.296	0.831	0.494	0.509	0.642
Q33	0.560	0.733	0.667	0.704	1.000
Q34	0.473	0.529	0.511	0.993	0.704
Q35	0.484	0.504	0.539	0.993	0.694

6. *Fornell-Larcker criterion*: The logic of this method is because a construct shares more variance with its associated indicators (Gray cells in Table 13) than with any other construct.(J. J. Hair, F. et al., 2013)

Table 13: Fornell-Larcker criterion

	empowerment	Organizational Climate	Management Style	Lived Experience	QWL
Empowerment	0.732				
Organizational Climate	0.506	0.739			
Management Style	0.484	0.626	0.755		
Lived Experience	0.481	0.520	0.529	0.993	
QWL	0.560	0.733	0.667	0.704	1.000

Structural Model

7. *T values*: t values are calculated to determine each indicator weight's significance. To calculate that, Bootstrapping should be done. If T values equal to 1.96 then we presume, the path coefficient differs significantly from zero at a significance level of 5%, also, if it's equal to 2.57 the confidence level will be at 99%.(J. J. Hair, F. et al., 2013) (Table 14)

Table 14: T statistics

	T Statistics	P Values
E <-QWL	2.926	0.004
C <-QWL	7.319	0.000
M <-QWL	5.526	0.000
L <-QWL	8.434	0.000

Based on T value result we conclude that, E construct has a significant relation with QWL at confidence level 99%, where other constructs (L, M, C) have stronger relation with QWL (p value 0.000).

8. R^2 : This value shows the predictive accuracy of the model and measures from 0 to 1. There is no exact way to interpret R^2 value level, but generally the value 0.67, 0.33 and 0.19 show a substantial, moderate and weak level of accuracy. (Chin, 1998). (Table 15)

Table 15: R square

	R Square Standard
QWL	0.710
	R Square Adjusted
QWL	0.713

f^2 : This value allows determining an exogenous construct's contribution to an endogenous latent variable's R square value. The values of 0.02, 0.15, and 0.35 indicate an exogenous construct's small, medium, or large effect, on an endogenous construct. (J. J. Hair, F. et al., 2013)

Table 16: f square

	QWL
Empowerment	0.025
Organizational Climate	0.257
Management Style	0.070
Lived Experience	0.275

As shown in Table 16, Lived experience (L) construct has the greatest effect on QWL among others, hence all the impacts are medium as their value is less than 0.35. Also E construct has the least effect on QWL which is still acceptable.

10. Q^2 :³ This is a measure of predictive relevance based on the blindfolding technique. The Values of 0.02, 0.15, and 0.35 indicate that an exogenous construct has a small, medium, or large predictive relevance for a certain endogenous construct. VAF index takes a value from 0 to 1 where higher value shows the greater impact of moderating factor.

Table 17: Q square

	SSO	SSE	1-SSE/SSO
Empowerment	2.035	2.035	
Organizational Climate	1.628	1.628	
Management Style	2.442	2.442	
Lived Experience	814.00	814.00	
QWL	407.00	123.037	0.698

³ Stone-Geisser's Q square value

Based on resulted value for Q square (0.698) we presume a large predictive relevance for QWL construct. (Table 17)

Evaluating the moderating effect

In this research we predicted four moderators, sexuality as a categorical moderator and three continuous moderators (Se (Self Esteem), A (Accidents), ED (Ethnic discrimination)). To define the impact of categorical moderator we used PLS-MGA (multi group analysis). To define the effect of continuous moderators, VAF⁴ index used as well as decision tree shown in figure 5. VAF value greater than 0.08 Implies full mediation, between 0.02-0.08 shows partial mediation and less than 0.02 shows no mediation effect.(J. J. Hair, F. et al., 2013) The method of calculating VAF showed below in figure 4 (moderating effect of self-esteem on relation of M construct and QWL).

$$VAF = \frac{b \times c}{(b \times c) + a}$$

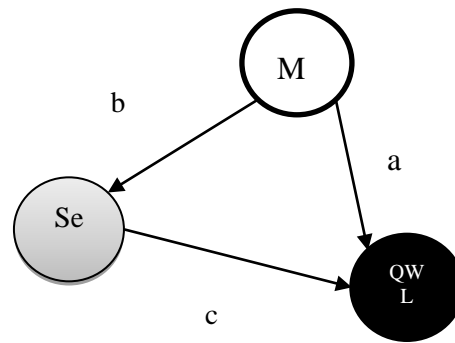


Figure 4: Direct and indirect paths

Wherever the sign of path coefficient changes after adding the moderator, we have to calculate VAF with second method, where the result 0.02, 0.15 and 0.35 suggested small, medium and large moderating effect.(Wilson, 2010)

$$\frac{R^2 \text{ model with moderator} - R^2 \text{ model without moderator}}{1 - R^2 \text{ model with moderator}}$$

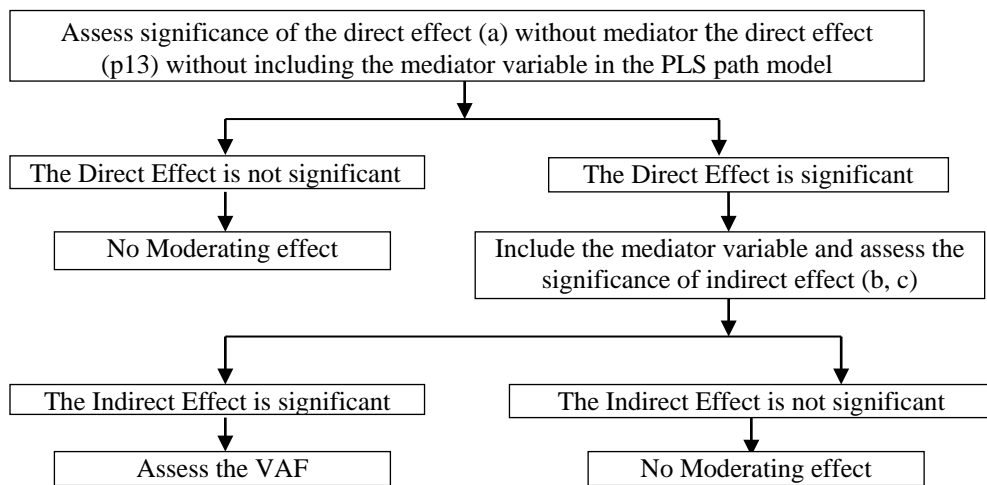


Figure 5: Decision tree for moderating effect- ref:(J. J. Hair, F. et al., 2013)

⁴ Variance Accounted For

Moderator variables analyzed one by one (Self-esteem, accidents and Ethnic discrimination), also, VAF calculated. Based on result Self-esteem had a small moderating impact on the relations between all constructs and QWL (P Value=0.01). No moderating effect recognized for accident between any of constructs and QWL. Ethnic discrimination had small moderating effect on relation of E construct and QWL and M and QWL. (P Value=0.01)

Multi Group Analysis

Multi group analysis performed to catch the difference between female and male groups. (Table 18)

Table 18: MGA result

	Path Coefficients-diff male-female	P Values
E <-QWL	0.162	0.978
C <-QWL	0.095	0.144
M <-QWL	0.208	0.997
L <-QWL	0.374	0.000

Based on the fact, that P Value greater than 0.95 or less than 0.05 are significant, we surmises sexuality impacts on E and QWL, M and QWL and L and QWL relations.(Cleophas, 2005) Also, sexuality has no effect on the relation C and QWL relation. To achieve the better understanding of the impact, bootstrap performed, rest on result, sexuality has the most significant impact on the L and QWL relation. (Table 19)

Table 19: T statistics (female/male)

	t-values-diff male-female	P Values
E <-QWL	2.207	0.028
C <-QWL	1.026	0.306
M <-QWL	2.673	0.008
L <-QWL	4.907	0.000

Discovering unobserved Heterogeneity

It's not possible to define all the variables which may cause heterogeneity, so we examined the data using PLS-POS as this method is applicable for the proposed QWL model. (Table 20)

Table 20: Conceptual capabilities of FIMIX-PLS and PLS- POS. ref:(Becker, Rai, Ringle, & Völckner, 2013)

Segmentation method	Ability to detect heterogeneity in reflective measures	Ability to detect heterogeneity in formative measure	Ability to detect heterogeneity in the structural model	Maximizes R square	Ability to handle non-normal data
FIMIX-PLS	-	-	√	√	-
PLS-POS	√	√	√	√	√

PLS-POS found three segments with 49, 63 and 295 members and R square assigned to each group was 0.981, 0.971, and 0.982. Bootstrap revealed that, path coefficients of one group was not significant, so PLS-POS repeated with two groups with 256 and 151 members. Both groups had significant path coefficients. (Tables 21,22)

Table 21: Bootstrapping result for group 1 (256 members)

	T Statistics (O.STERR)	P Values
E <-QWL	5.488	0.000
C <-QWL	9.681	0.000
M <-QWL	4.176	0.000
L <-QWL	22.807	0.000

Table 22: Bootstrapping result for group 2 (151 members)

	T Statistics (O.STERR)	P Values
E <-QWL	7.522	0.000
C <-QWL	2.267	0.024
M <-QWL	14.272	0.000
L <-QWL	3.728	0.000

To define whether the difference between two discovered segments are significant or not, PLS-MGA executed. The result shown that, these two groups are notably different. We may conclude that first group members primarily relate the QWL with fulfilling the personal needs and Happiness at job, where second group relates the QWL with Management style construct. (Table 23)

Table 23: PLS-POS segmentation

	Path Coefficients-diff (group1-group2)	t-Value (group1 vs group2)	p-Value (group1 vs group2)
E <-QWL	0.508	10.164	0.000
C <-QWL	0.558	8.036	0.000
M <-QWL	0.847	16.341	0.000
L <-QWL	0.867	18.191	0.000

Conclusion and Discussion

In this research we reviewed researches since 1950 and collected factors affecting QWL, then we categorized the factors in four different groups, by exploratory data analysis and we tested the model in Smart-PLS 3.2.1. Also, we examined the 4 moderating variables and we proposed a model for QWL in SME(s) as showed in figure 6.

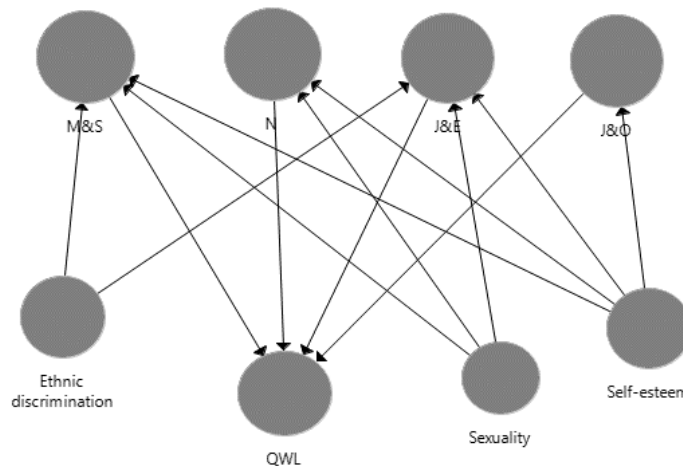


Figure 6: Proposed model for QWL in SME(s)

This model is easy to use at any stage of career path, because it doesn't stick to any part of job definition such as working hours, salary...These factors may be important at some stages of career path while they are not important at other stages. In this model we discovered that QWL has different components compared to large enterprises, for example accident had no relation with QWL in SME(s). This fact highlighted even more in our research because most of the firms, we selected, placed in service industry by random selection.

In the gravity perspective, we conclude that in SME(s), Lived experience (L) construct is the most important measure of QWL, so it will be helpful if the employees' needs monitored from time to time, by a questionnaire or suggestion system and align their bonus and benefits with their desires and needs.

Organization climate (C) construct comes to the second place, so managers can increase QWL with enhancing job security and providing good environment free from threats. In this way the conflict between colleagues reduces and experienced working life boosts.

Management style (M) comes to the third, so as it could be expected in SME(s), Participative management style and team working deem to increase the QWL as well.

Empowerment (E) comes at last, it means defining career path and training and motivating employees will improve perceived QWL. Regarding the least importance of this construct in defining QWL, we could assume that, empowerment is like a ceiling for QWL home where other three constructs are like walls. Indeed, QWL could not built solitarily on empowerment plans for employees.

For the first time, we checked the impact of ethnic discrimination in Iran SME(s) and we found it a significant variable, which was unanticipated and means the organizational culture in Iran should be improved to eliminate the ethnic discrimination, as Iran has vast ethnical diversity.

Also, self-esteem discovered to be an important variable in all constructs, and it means managers should provide a mutual respectful environment in their organizations and avoid humiliating, offensive behavior with their employees. Employee in the SME(s) expected to be multitasker, innovative and motivated, to increase their organizational productivity, so if their efforts undervalued by their manager their perceived QWL will be decreased.

In this research we found that, male and females have different point of view of QWL concept. Where for the female the most important measure of QWL are happiness at work and needs fulfillment, for men, job equity, support from superiors and top management, team working and participative management are most important.

Suggestion for future research:

In this research we observed heterogeneity, by PLS-POS, we discovered two different segments, with different perception of QWL. First group mostly relate the QWL to the lived experience and second group relates it to management style. These results were similar to what we saw in female and male segments, but surprisingly it was not related to sexuality. We could not discover the source of this heterogeneity and it may be dug out by future researches.

Also, we were not able to check whether holding multi jobs at same time, impacts on perceived QWL of one or all of jobs held by one person, or not.

The impact of career path stages on perceived QWL was not examined in this research though it may be important variable in improving QWL for each stage of career.

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