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An exploratory analysis of quality of working life in the banking sector

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Abstract

Nowadays Quality of Working Life (QWL) has been considered an additional advantage since satisfied employees can produce more and better, and consequently they can improve the profitability of the companies. In this context, this paper presents an exploratory analysis of QWL in the banking sector, which was conducted in a municipality of the state of Rio de Janeiro, Brazil. A hybrid QWL evaluation model was used based on existing models and scientific studies in the literature, incorporating current characteristics of the banking sector. Cronbach's alpha and item-to-total correlations analysis were conducted in order to measure the reliability of the questionnaire. Mann-Whitney U test was conducted in order to examine the differences in QWL according to perception of male and female workers, and Quartile analysis was used to identify the most critical issues. As a result, special attention should be dedicated to the critical questions, but also considering some questions on which there is a difference in the workers' perception of QWL concerning gender.

Keywords: Quality of Working Life, Banking industry, Reliability.

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1 Introduction

Nowadays, the theme quality of work life (QWL) has become one of the most important areas in the context of the growing need to reconcile the interests of individuals and organizations by ensuring the health and welfare of workers performing their professional activities. Such increasing importance of QWL has been resulting due to changes in the work place and employment. Pilatti (2012) emphasizes that human capital has become the most important asset of organizations.

Over the years, QWL has been a research subject in many studies, such as those by Walton (1973), Hackman and Oldham (1975), Westley (1979), Werther and Davis (1983), Nadler and Lawler (1983), Sirgy *et al.* (2001), Zhu and Long (2008) and Kandasamy and Sreekumar (2009). However, these studies and models were developed without considering aspects related to the characteristics of the respective activities and the technological advances that have emerged to keep pace with contemporary life. This scenario is found in the banking sector, where changes in the sector have caused activities performed by employees to become repetitive and stressful.

Furthermore, in Brazil, recent studies have uncovered such issues as high turnover in the sector (DIEESE, 2010), high numbers of workplace accidents (MPS, 2010), and a significant amount of sick pay benefits (MPS, 2010) that highlight the need for evaluating QWL in the banking sector. Several studies about QWL have focused on the banking sector, such as Leblebici (2012), Tabassum *et al.* (2011), and Duarte *et al.* (2010) due to the importance of the sector, which is part of the tertiary sector of the economy and has represented more than 60% of the gross domestic product (GDP) (IBGE, 2011) in recent years.

Nonetheless, regarding some recent studies on this subject (Leblebici, 2012; Tabassum *et al.*, 2011, and Duarte *et al.*, 2010), it is clear that studies to evaluate QWL in the banking sector are still in the early stages, and there is no consensus on which dimensions and indicators are most appropriate for evaluating QWL in this sector.

In order to contribute to addressing the problem in question, Barcelos and Freitas (2012) developed a hybrid evaluation model to evaluate QWL in the banking sector. Based on existing models and scientific studies, nine dimensions and 47 questions (criteria) were considered. A questionnaire was designed in order to obtain the demographic characteristics of respondents and their satisfaction degree with the quality of working life in relation to those questions. Additionally, it also has an 'open space' for constructive criticism/suggestions and an overall grade for the quality of working life was also asked.

By conducting an exploratory case study in a 500,000 inhabitants' city of the countryside of Rio de Janeiro, this paper aims to identify the dimensions that *most influence on the quality of working life in a bank and the questions (criteria) that must be prioritized in order to improve the QWL*. In this study, an analysis with Cronbach's alpha and item-to-total correlations was conducted in order to measure the reliability of the questionnaire and to identify eventual questions that could be dropped from it in order to increase the reliability of the questionnaire. Mann-Whitney U test was conducted in order to examine the difference in the quality of working life according to perception of male and female workers and Quartile analysis was used to identify the most critical questions which should be prioritized for improvement actions. As a result, special attention should be dedicated to the critical questions, but also considering some questions on which there is a difference in the workers' perception of quality of working life concerning gender.

Briefly speaking, section 2 describes the methodological approach to develop the hybrid QWL evaluation model in order to assess the quality of working life in banking sector, as perceived by the workers; section 3 presents the results of the study and some analyses were done; and finally, section 4 presents the conclusions and the directions for future works.

2 The methodological approach

The case study was conducted during the period from 06/22/2012 to 07/03/2012 in collaboration with the Bank Employees Union of a municipality in the state of Rio de Janeiro, Brazil. A total of 41 employees from five different banking institutions participated in this analysis. The average time used to complete the questionnaire was 21 minutes. One questionnaire was discarded, resulting in a total of 40 valid questionnaires.

The sample is considered to be non-probabilistic for convenience because the selection of respondents was not random (Malhotra, 2006). A respondent received the questionnaire, completed it, and returned it at a later time. These steps were necessary due to the nature of the respondent's activities. It is important to note that the questionnaire, along with a cover letter that explained the purpose and importance of the survey, was given to the respondent in a sealed envelope to maintain the confidentiality of the responses.

Several dimensions and subdimensions existing in QWL evaluation models and studies were considered by Barcelos and Freitas (2012) in order to develop a hybrid model to evaluate QWL in the banking sector, as shown in Chart 1.

Barcelos and Freitas (2012) developed a tool based on the dimensions and subdimensions defined above. The model that was initially pro-

Dimensions of the hybrid QWL evaluation model	Evaluation models and studies
1. Constitutionalism	
1.1 Labor rights 1.2 Equal treatment 1.3 Freedom of expression 1.4 Privacy	Walton (1973) and Westley (1979).
2. Working conditions	
2.1 Daily work schedule 2.2 Available resources (quantity and quality) 2.3 Workplace conditions (area, temperature, etc.) 2.4 Concern for health (health examinations, work activities) 2.5 Levels of turnover (jobs) 2.6 Levels of rework 2.7 Ergonomics 2.8 Level of stress caused by work activities 2.9 Requirement of meeting goals 2.10 Accessibility	Walton (1973), Westley (1979), Sirgy *et al.* (2001) and Zhu and Long (2008).
3. Work characteristics	
3.1Meaning of the task (relevance) 3.2 Autonomy 3.3 *Feedback* received 3.4 Variety of skills 3.5 Necessity of learning several technologies 3.6 Necessity of knowing internal routines from other sectors 3.7 Difficulty in assimilating new tasks 3.8 Number of tasks employee is responsible for 3.9 Self-esteem (satisfaction)	Walton (1973), Hackman and Oldham (1975), Westley (1979), Werther and Davis (1983), and Zhu and Long (2008).
4. Relationship between work and personal life	
4.1 Amount of overtime 4.2 Personal time 4.3 Time spent with family	Walton (1973), Sirgy *et al.* (2001) and Zhu and Long (2008).
5. Remuneration policies	
5.1 Equal Wages (internal and external) 5.2 Fair and appropriate remuneration	Walton (1973), Westley (1979), Sirgy *et al.* (2001) and Zhu and Long (2008).
6. Social integration	
6.1 Absence of prejudice 6.2 Relationships (with supervisors, subordinates, and peers) 6.3 Company's concern in integrating employees	Walton (1973), Hackman and Oldham (1975), Westley (1979), Sirgy *et al.* (2001), and Zhu and Long (2008).
7. Stability	
7.1 Recognition 7.2 Reward policies for length of employment 7.3 Level of turnover (admissions and layoffs)	Walton (1973), Westley (1979), and Zhu and Long (2008).
8. Professional grouth	
8.1 Incentives for training 8.2 Career Plan	Walton (1973) and Zhu and Long (2008).
9. Social relevance of the work	
9.1 Importance of work in life 9.2 Company's image in society 9.3 Sense of pride regarding the company	Walton (1973), Hackman and Oldham (1975), Sirgy *et al.* (2001), and Zhu and Long (2008).

Chart 1: Dimensions of the hybrid QWL evaluation model and studies
Source: Adapted from Barcelos and Freitas (2012).

posed by Barcelos and Freitas (2012) consisted of 39 questions. However, the model was changed and consisted of 47 questions, which was divided into 3 blocks described as follow:

- **Block I (Respondent identification):** This block of questions identifies the characteristics and profile of the respondents. The questions used in this block address the company in which the respondent works, age, gender, length of employment in the banking sector, initial and current education level, and job function.
- **Block II (Evaluation of QWL):** The questionnaire contains 47 questions, divided into 9 dimensions plus one question, as shown in Chart 2. The respondent describes his/her Degree of Satisfaction for each question using a non-comparative itemized scale ranging from 0 (Very Dissatisfied) to 10 (Very Satisfied). The options "(N/A) Not Applicable" and "(N/U) I did not understand" can be used by the respondent if the question is not relevant to the job the respondent performs or if the question is not clear, respectively.

Dimensions	Questions
D1 - Constitutionalism	Q_1 – Respect for labor rights (paid time off, 13th salary, etc.).
	Q_2 – Equal treatment of employees.
	Q_3 – Your level of freedom of expression.
	Q_4 – Level of privacy regarding your personal life.
D2 – Working conditions	Q_5 – Daily work hours.
	Q_6 – Break time.
	Q_7 – Amount of resources available to perform your tasks (computers, printers, etc.).
	Q_8 – Quality of the resources available to perform your tasks (computers, printers, etc.).
	Q_9 – Workplace accessibility (for individuals with special needs).
	Q_{10} – Workplace area (sufficient space for all employees).
	Q_{11} – Workplace acclimatization (temperature).
	Q_{12} – Company concern for your health (periodic health examinations, etc.).
	Q_{13} – Safety of company facilities (revolving doors, metal detectors, fire extinguishers, etc.).
	Q_{14} – Level of sector turnover (change of positions).
	Q_{15} – Level of stress caused by your activities.
	Q_{16} – Level of rework (how many times you redo or change the same task).
	Q_{17} – Appropriate furniture and equipment for your needs.
	Q_{18} – Meeting weekly or monthly goals.
D3 - Work characteristics	Q_{19} – Relevance of the tasks you perform.
	Q_{20} – Level of autonomy you have in performing tasks.
	Q_{21} – *Feedback* you have received regarding the tasks you have performed (feedback from your supervisors about your work).
	Q_{22} – Variety of skills needed to perform your tasks.
	Q_{23} – Satisfaction you feel when performing your work (self-esteem).
	Q_{24} – Level of difficulty in assimilating the use of technologies (specific software, electronic equipment, etc.).
	Q_{25} – Necessity of knowing internal procedures for other sectors.
	Q_{26} – Degree of difficulty in assimilating new tasks.
	Q_{27} – Responsibility for tasks of various types (number of tasks you are responsible for).
D4 - Relationship between Work and Personal Life	Q_{28} – Amount of weekly overtime.
	Q_{29} – Frequency of overtime per week.
	Q_{30} – Time you spend on personal activities outside of work per week (gym, sports, etc.).
	Q_{31} – Time spent with family per week (travel, leisure, etc.).

Chart 2: Distribuition of the questions by dimensions of the hybrid QWL evaluation model

Dimensions	Questions
D5- Remuneration policies	Q_{32} – Remuneration received for your position. Q_{33} – Equal remuneration for people with the same position as you. Q_{34} - Remuneration of your position relative to other companies.
D6 - Social Integration	Q_{35} – Non-prejudicial treatment of people in the workplace (race, religion, etc.). Q_{36} – Relationship with your peers. Q_{37} – Relationship with your supervisors. Q_{38} – Relationship with your subordinates. Q_{39} – Company participation in integrating employees (holding events, etc.).
D7 - Stability	Q_{40} – Level of recognition for your work. Q_{41} – Reward program policies for length of service. Q_{42} – Level of company turnover (constant hiring and layoffs).
D8 - Professional growth	Q_{43} – Company incentives for your qualifications (courses, training, etc.). Q_{44} – Career plan offered.
D9 - Social relevance of the work	Q_{45} – Importance of your work in your life. Q_{46} – Your company's image in society. Q_{47} – Your level of pride in working for this company.
Additional Question	Q_{48} – What is your overall degree of satisfaction with your work in this institution?

Cont. Chart 2: Distribuition of the questions by dimensions of the hybrid QWL evaluation model

- **Block III - Feedback and/or suggestions:** This block contains space for comments, feedback, and suggestions for improvement by the respondent.

The results obtained from the exploratory analysis were characterized using frequency distribution, Cronbach's alpha, and Quartile Analysis. Cronbach's alpha coefficient (CRONBACH, 1951) was used to measure the reliability of the questionnaire. Freitas and Rodrigues (2005) suggested a reliability rating based on Cronbach's alpha (α), as shown in Chart 3, because there is no consensus on the interpretation of Cronbach's α in academia.

An analysis with alpha coefficient and item-to-total correlations (itc) was also conducted in order to identify eventual items that could be dropped in order to increase the reliability of the questionnaire. Item total correlations are correlations between an item and the overall dimension score to which that item belongs, but not including the one item being correlated (Hayes, 1998). According to such analysis, if an item is not highly correlated with a composite of the remaining items it might be dropped from the questionnaire.

A non-parametric test (Mann-Whitney) was conducted in order to examine the difference in QWL according to males and females workers. The test may be used to test whether two independent groups have been drawn from the same population. In this context, for all questions, the null hypothesis is that male and female perceptions have the same distribution (H_0: $\mu_{Male} = \mu_{Female}$), against the alternative hypothesis that male and female perceptions do not have the same distribution (H_1: $\mu_{Male} \neq \mu_{Female}$). Given a significance level,

Reliability	Very Low	Low	Moderate	High	Very High
α value	$\alpha <= 0.300$	$0.300 < \alpha <= 0.600$	$0.600 < \alpha <= 0.750$	$0.750 < \alpha <= 0.900$	$\alpha > 0.900$

Chart 3: Reliability based on Cronbach's α
Source: adapted from Freitas and Rodrigues (2005).

the test consists on rejecting the null hypothesis if p-value ≤ α.

Quartile Analysis (Freitas *et al*., 2006) was conducted to identify which questions were most critical. Such analysis is a ranking measure which classifies questions by four priority levels (**critical**, **high**, **moderate**, and **low**) based on to the satisfaction averages for the questions. Questions with satisfaction averages below the first quartile are designated as critical priority because the averages are lowest for these questions, and questions with performance averages above the third quartile are designated as low priority.

3 Results and Discussion

Table 1 shows that 50% of the respondents are female and 60% of the respondents are married. In addition, 42.5% initially held an Office Clerk position, and 20% have more than 30 years of experience working in the banking sector. 97.5% of respondents only have a Consolidation of Labor Laws (CLL)-type contract, and 57.5% have a workload of 40 hours per week. Only 12.5% are currently attending school, and 97.5% do not have some sort of handicap or special need (SN). A total of 42.5% have completed a college degree, and only 5% have a second job. Other results are also presented.

Table 2 shows the Average Degree of Satisfaction by question according to male, female and general workers. In addition, Cronbach's α values per dimension (αD), the α value if a particular question was excluded from the relevant dimension (αQE), and the frequency with which respondents used the options "(N/A) - Not applicable" and "(N/U) – I did not understand" was reported. For the questions where the respondents selected the options "(N/A) - Not applicable" or "(N/U) - I did not understand", the "blank" values were substituted by the satisfac-

Table 1: Respondenses of each category

Gender	%	Current education level	%	Length of time in Sector	%
Female	50.0	Elementary school	0.0	Less than 2 years	5.0
Male	50.0	High school (not completed)	2.5	2 to 5 years	12.5
Marital status	**%**	High School	20.0	6 to 10 years	10.0
Single	20.0	Undergraduate (not completed)	12.5	11 to 15 years	5.0
Married	60.0	Undergraduate	42.5	16 to 20 years	10.0
Divorced	7.5	Graduate School	10.0	21 to 25 years	15.0
Separated	2.5	Not specified	12.5	25 to 30 years	17.5
Widow	5.0	**Special needs**	**%**	More than 30 years	20.0
Other	5.0	Yes	0.0	Not specified	5.0
Type of contract	**%**	No	97.5	**Currently attending school**	**%**
CLL	97.5	Not specified	2.5	Yes	12.5
Public servant	0.0	**Initial job**	**%**	No	85.0
Not specified	2.5	Cashier	25.0	Not specified	2.5
Schedule	**%**	Office clerk	42.5	**Other occupation (prof.)**	**%**
30 h weekly	35.0	Office-boy	7.5	Yes	5.0
40 h weekly	57.5	Others	25.0	No	95.0
45 h weekly	2.5				
Not specified	5.0				

Source: The authors.

tion averages for the respective questions. Freitas and Rodrigues (2005) have reported that this method is one of the most commonly used procedures in professional statistical packages.

Table 2: Frequency of responses, Cronbach's alpha analysis item-to-total correlations and average performances

Dimensions	Questions	All respondents N/A	N/U	Item-total correlations	αD	αQE	$(\overline{DS})_q$	Male $(\overline{DS})_q$	Female $(\overline{DS})_q$
D_1 Constitutionalism	Q_1	0	0	.330	.639 Moderate	.639	7.85	7.65	8.05
	Q_2	0	0	.609		.418	5.08	3.90	6.25
	Q_3	1	1	.451		.545	5.71	4.84	6.58
	Q_4	0	0	.310		.637	7.41	6.84	7.95
D_2 - Working conditions	Q_5	0	0	.556	.848 High	.835	6.79	6.47	7.10
	Q_6	2	1	.503		.837	6.27	6.28	6.26
	Q_7	0	0	.627		.830	6.55	6.60	6.50
	Q_8	0	0	.525		.835	6.10	5.85	6.35
	Q_9	1	0	.406		.843	6.62	5.79	7.40
	Q_{10}	0	0	.421		.842	8.43	7.95	8.90
	Q_{11}	0	0	.379		.845	7.03	6.26	7.75
	Q_{12}	0	0	.539		.835	5.49	4.00	6.90
	Q_{13}	1	0	.632		.828	7.08	6.30	7.89
	Q_{14}	2	0	.491		.838	5.32	4.53	6.11
	Q_{15}	1	0	.341		.848	4.10	3.89	4.30
	Q_{16}	2	3	.430		.841	4.97	4.47	5.37
	Q_{17}	0	0	.735		.822	5.28	4.65	5.90
	Q_{18}	5	0	.317		.848	4.54	3.50	5.65
D_3 - Work characteristics	Q_{19}	2	2	.627	.819 High	.787	6.19	5.71	6.63
	Q_{20}	0	0	.441		.812	5.62	4.95	6.25
	Q_{21}	3	1	.483		.805	5.47	4.89	6.06
	Q_{22}	3	3	.702		.784	5.97	5.44	6.56
	Q_{23}	0	0	.555		.796	7.25	6.70	7.80
	Q_{24}	2	2	.430		.811	6.74	6.29	7.17
	Q_{25}	3	1	.728		.775	5.17	4.61	5.72
	Q_{26}	1	4	.244		.830	6.88	5.78	8.13
	Q_{27}	1	2	.525		.800	5.95	5.33	6.53
D_4 - Relationship between work and personal life	Q_{28}	3	2	.594	.726 Moderate	.615	5.71	5.38	6.00
	Q_{29}	4	2	.612		.608	5.91	5.24	6.59
	Q_{30}	4	1	.354		.767	4.06	4.06	4.06
	Q_{31}	3	1	.542		.658	6.06	5.72	6.41
D_5- Remuneration policies	Q_{32}	0	1	.761	.887 High	.855	3.63	2.61	4.55
	Q_{33}	2	0	.762		.856	4.22	3.11	5.26
	Q_{34}	1	1	.817		.806	3.92	3.21	4.63
D_6 - Social Integration	Q_{35}	2	0	.230	.649 Moderate	.686	6.74	6.47	7.00
	Q_{36}	0	0	.535		.558	8.53	8.20	8.85
	Q_{37}	0	0	.597		.494	7.23	6.10	8.35
	Q_{38}	8	0	.436		.590	8.16	7.60	8.69
	Q_{39}	2	0	.335		.643	4.29	3.06	5.40
D_7 - Stability	Q_{40}	1	0	.573	.780 High	.754	4.84	4.06	5.55
	Q_{41}	1	0	.715		.591	3.23	1.84	4.55
	Q_{42}	1	0	.572		.750	4.82	3.89	5.70
D_8 - Professional growth	Q_{43}	1	0	.784	.879 High	N/A	4.26	3.85	4.68
	Q_{44}	2	0	.784		N/A	3.29	2.68	3.89
D_9 - Social relevance of the work	Q_{45}	0	0	.288	.562 Low	.578	8.43	8.05	8.80
	Q_{46}	1	0	.331		.533	7.10	5.90	8.37
	Q_{47}	0	0	.522		.194	7.45	6.95	7.95

Table 2 shows that only Dimension 9 can be identified as having "low" reliability at $\alpha = .562$. This value is just fewer than the lower limit ($\alpha = .60$) in exploratory research, as reported in Hair *et al.* (2006) and Malhotra (2006). None of the nine dimensions has a reliability that can be classified as "very low" and/or "very high". Moreover, Table 2 shows that if some questions are excluded from the questionnaire, the reliability of the dimension they belong increases. Such questions are not highly correlated with a composite of the remaining questions of their dimension. The remaining questions show relatively high item-to-total correlations with the composite score of the remaining questions. According to Hair *et al.* (2006), rules of thumb suggest that item-to-total correlations exceed .50. More specifically, the analysis refers to questions Q_{26} (αQE = .830; itc = .244), Q_{30} (αQE = .767; itc = .354), Q_{35} (αQE = .686; itc = .230) and Q_{45} (αQE = .578; itc = .288) and such questions should be revised in future works.

With respect to the frequency with which the options (N/A) and (N/U) were used by the respondents, it is interesting to review the highest number of times that these responses were used: therefore, question (Q_{38}) was evaluated as (N/A) eight times, and question (Q_{26}) was evaluated as (N/U) four times. However, in the context of this exploratory study, no questions were excluded for the forthcoming analysis.

The results of Mann-Whitney U test for asymptotic insignificances are displayed on Table 3. At the $\alpha = .05$ level of significance there is enough evidence to conclude that there is a difference in the quality of working life concerning gender in terms of equal treatment of employees (Q_2), company concern for health (Q_{12}), meeting weekly or month goals (Q_{18}), degree of difficulty in assimilating new tasks (Q_{26}), remuneration received for the worker position (Q_{32}), equal remuneration for people with the same position (Q_{33}), relationship with supervisors (Q_{37}), company participation in integrating employees (Q_{39}), reward program policies for length of service (Q_{41}), level of company turnover (Q_{42}) and company's image in society (Q_{46}). More specifically, concerning all those questions *p*–value is smaller than $\alpha = .05$, meaning that female workers seem to be more satisfyied with the QWL than male workers.

Those results are somewhat similar to the findings of Tabassum *et al.* (2011). They conducted a study on private commercial banks in Bangladesh that revealed significant differences in QWL between 128 male and 64 female employees concerning the following factors of QWL: adequate and fair compensation, flexible work schedule and job assignment, attention to job design, and employee relations.

Since Mann-Whitney tests revealed some differences in the quality of working life concerning gender, Cronbach's alpha was also used to estimate reliability for male and female respondents. Table 4 shows that three up to nine of the dimensions (D_2, D_4 and D_9) are classified with the same reliability on the three categories of respondentes (general, male and female). Reliability classification of female responses is superior to male responses on four dimensions (D_1, D_5, D_7 and D_8). On the other hand, reliability classification of male responses is superior to female responses on dimensions D_3 and D_6.

The satisfaction averages are used to calculate three quartiles by which the questions are classified into the previously mentioned levels for male, female and all respondents, as shown in Figure 1. Questions with satisfaction averages below the first quartile are designated as critical priority and should therefore be analyzed first by the companies to affect possible improvements. Questions with satisfaction averages above the third quartile are designated as low priority. Astheriscs (*) indicate questions which are simultaneously assigned by male and female respondents into the priority categories.

Table 3: Mann-Whitney U tests results

	Male			Female					
Question	N	Mean Rank	Sum of Ranks	N	Mean Rank	Sum of Ranks	Total	U	p-value.
Q_1	20	20.58	411.50	20	20.43	408.50	40	201.500	.966
Q_2	20	15.73	314.50	20	25.28	505.50	40	104.500	.009*
Q_3	19	16.26	309.00	19	22.74	432.00	38	119.000	.070
Q_4	19	17.11	325.00	20	22.75	455.00	39	135.000	.117
Q_5	19	18.76	356.50	20	21.18	423.50	39	166.500	.505
Q_6	18	20.25	364.50	19	17.82	338.50	37	148.500	.491
Q_7	20	20.95	419.00	20	20.05	401.00	40	191.000	.805
Q_8	20	19.65	393.00	20	21.35	427.00	40	183.000	.643
Q_9	19	17.29	328.50	20	22.58	451.50	39	138.500	.144
Q_{10}	20	17.80	356.00	20	23.20	464.00	40	146.000	.126
Q_{11}	19	18.08	343.50	20	21.83	436.50	39	153.500	.299
Q_{12}	19	15.24	289.50	20	24.53	490.50	39	99.500	.010*
Q_{13}	20	18.23	364.50	19	21.87	415.50	39	154.500	.307
Q_{14}	19	16.11	306.00	19	22.89	435.00	38	116.000	.056
Q_{15}	19	18.71	355.50	20	21.23	424.50	39	165.500	.486
Q_{16}	15	15.47	232.00	19	19.11	363.00	34	112.000	.286
Q_{17}	20	17.90	358.00	20	23.10	462.00	40	148.000	.157
Q_{18}	18	14.53	261.50	17	21.68	368.50	35	90.500	.038*
Q_{19}	17	16.97	288.50	19	19.87	377.50	36	135.500	.399
Q_{20}	19	17.03	323.50	20	22.83	456.50	39	133.500	.108
Q_{21}	18	16.22	292.00	18	20.78	374.00	36	121.000	.189
Q_{22}	18	14.47	260.50	16	20.91	334.50	34	89.500	.057
Q_{23}	20	18.80	376.00	20	22.20	444.00	40	166.000	.350
Q_{24}	17	16.09	273.50	18	19.81	356.50	35	120.500	.277
Q_{25}	18	16.36	294.50	18	20.64	371.50	36	123.500	.216
Q_{26}	18	13.25	238.50	16	22.28	356.50	34	67.500	.007*
Q_{27}	18	16.81	302.50	19	21.08	400.50	37	131.500	.225
Q_{28}	16	16.59	265.50	18	18.31	329.50	34	129.500	.615
Q_{29}	17	15.15	257.50	17	19.85	337.50	34	104.500	.165
Q_{30}	18	17.94	323.00	17	18.06	307.00	35	152.000	.973
Q_{31}	18	16.72	301.00	17	19.35	329.00	35	130.000	.444
Q_{32}	18	15.53	279.50	20	23.08	461.50	38	108.500	.035*
Q_{33}	18	14.89	268.00	19	22.89	435.00	37	97.000	.024*
Q_{34}	19	16.71	317.50	19	22.29	423.50	38	127.500	.119
Q_{35}	19	18.68	355.00	19	20.32	386.00	38	165.000	.646
Q_{36}	20	19.13	382.50	20	21.88	437.50	40	172.500	.435
Q_{37}	20	16.38	327.50	20	24.63	492.50	40	117.500	.024*
Q_{38}	15	12.97	194.50	16	18.84	301.50	31	74.500	.062
Q_{39}	18	15.31	275.50	20	23.28	465.50	38	104.500	.026*
Q_{40}	18	16.14	290.50	20	22.53	450.50	38	119.500	.075
Q_{41}	19	13.61	258.50	20	26.08	521.50	39	68.500	.001*
Q_{42}	19	15.89	302.00	20	23.90	478.00	39	112.000	.025*
Q_{43}	20	18.43	368.50	19	21.66	411.50	39	158.500	.368
Q_{44}	19	17.26	328.00	19	21.74	413.00	38	138.000	.208
Q_{45}	20	19.00	380.00	20	22.00	440.00	40	170.000	.398
Q_{46}	20	14.53	290.50	19	25.76	489.50	39	80.500	.002*
Q_{47}	20	18.55	371.00	20	22.45	449.00	40	161.000	.282

Table 4: Cronbach's Alpha for male and female respondents.

Dimensions	Cronbach's Alpha		
	General	Male	Female
D_1 - Constitutionalism	.639 (Moderate)	.581 (Low)	.606 (Moderate)
D_2 - Working conditions	.848 (High)	.850 (High)	.804 (High)
D_3 - Work characteristics	.819 (High)	.840 (High)	.709 (Moderate)
D_4 - Relationship between work and personal life	.726 (Moderate)	.740 (Moderate)	.702 (Moderate)
D_5 - Remuneration policies	.887 (High)	.797 (High)	.936 (Very High)
D_6 - Social Integration	.649 (Moderate)	.664 (Moderate)	.498 (Low)
D_7 - Stability	.780 (High)	.702 (Moderate)	.751 (High)
D_8 - Professional growth	.879 (High)	.835 (High)	.916 (Very High)
D_9 - Social relevance of the work	.562 (Low)	.447 (Low)	.585 (Low)

Source: The authors.

Quartile analysis					
Priority			General (all respondents)	Male	Female
Critical	Questions	Q_{41}*, Q_{44}*, Q_{32}*, Q_{34}*, Q_{30}, Q_{15}*, Q_{33}*, Q_{43}*, Q_{39}*, Q_{18}*, Q_{42}, Q_{40}	Q_{41}, Q_{32}, Q_{44}, Q_{39}, Q_{33}, Q_{34}, Q_{18}, Q_{43}, Q_{15}, Q_{42}, Q_{2}, Q_{12}	Q_{44}, Q_{30}, Q_{15}, Q_{32}, Q_{41}, Q_{34}, Q_{43}, Q_{33}, Q_{16}, Q_{39}, Q_{40}, Q_{18}
	1° Quartile	4.91	4.03	5.67
High	Questions	Q_{16}, Q_{2}, Q_{25}*, Q_{17}*, Q_{14}*, Q_{21}*, Q_{12}, Q_{20}*, Q_{28}*, Q_{3}, Q_{29}	Q_{30}, Q_{40}, Q_{16}, Q_{14}, Q_{25}, Q_{17}, Q_{3}, Q_{21}, Q_{20}, Q_{29}, Q_{27}, Q_{28}	Q_{42}, Q_{25}, Q_{17}, Q_{28}, Q_{21}, Q_{14}, Q_{2}, Q_{20}, Q_{6}, Q_{8}, Q_{31}, Q_{7}
	2° Quartile	5.95	5.38	6.50
Moderate	Questions	Q_{27}, Q_{22}*, Q_{31}, Q_{8}, Q_{19}*, Q_{6}, Q_{7}, Q_{9}*, Q_{35}, Q_{24}*, Q_{5}, Q_{26}	Q_{22}, Q_{19}, Q_{31}, Q_{26}, Q_{9}, Q_{8}, Q_{46}, Q_{37}, Q_{11}, Q_{6}, Q_{24}, Q_{13}	Q_{27}, Q_{22}, Q_{3}, Q_{29}, Q_{19}, Q_{12}, Q_{35}, Q_{5}, Q_{24}, Q_{9}, Q_{11}
	3° Quartile	6.95	6.30	7.78
Low	Questions	Q_{11}, Q_{13}, Q_{46}, Q_{37}, Q_{23}*, Q_{4}*, Q_{47}*, Q_{1}*, Q_{38}*, Q_{10}*, Q_{45}*, Q_{36}*	Q_{5}, Q_{35}, Q_{7}, Q_{23}, Q_{4}, Q_{47}, Q_{38}, Q_{1}, Q_{10}, Q_{45}, Q_{36}	Q_{23}, Q_{13}, Q_{4}, Q_{47}, Q_{1}, Q_{26}, Q_{37}, Q_{46}, Q_{38}, Q_{45}, Q_{36}, Q_{10}

Figure 1: Quartile Analysis

The most critical questions are related to reward for length of service, level of employee turnover, career plan, company incentives for training, job recognition, integration of employees, remuneration received for job, level of stress in the job activity, and success in meeting goals. Such questions should therefore be analyzed by managers in order to provide possible improvements knowing that some of them need prior attention to male or female workers. On the other hand, minor attention could be dedicated to low priorital issues, such as: respect for labor rights, level of privacy regarding personal life, workplace area, satisfaction when performing the work, relationship with peers and subordinates, importance of work in life, level of pride in working for the company.

For improvement of QWL regarding the critical questions, it is important to note that some differences in QWL were perceived concerning gender. However, the critical region corresponding to "all respondents" eventually does not contain some questions considered critical by male

respondents but not by females, as questions Q_2 and Q_{12} in this study. In this context, a more careful analysis should take into account the questions belonging to the critical regions corresponding to male and female respondents.

4 Final Considerations

This study implemented a hybrid model to assess QWL in the banking sector. By means of an exploratory analysis, item-to-total correlations and Cronbach's alpha analysis revelead that only one of the nine dimensions as having "Low" reliability (but the α-value was very close to the lower limit recommended to exploratory research) and the possibility of exclusion of some questions from the questionnaire should be revised in future works.

The results of Mann-Whitney U tests concluded that there is a difference in the QWL between male and female workers regarding some questions. More specifically, female workers seem to be more satisfyied with the QWL than male workers concerning in terms of equal treatment of employees, company concern for health, meeting weekly or month goals, degree of difficulty in assimilating new tasks, remuneration received for the worker position, equal remuneration for people with the same position, relationship with supervisors, company participation in integrating employees, reward program policies for length of service, level of company turnover, and company's image in society.

Due to those results, Cronbach's alpha analysis was also conducted taking into account female and male degrees of satisfaction and some differences concerning the realiability of the questionnaire were also perceived.

Quartile analysis identified the most critical questions in terms of QWL. As a result, professional grouth (D_8), stability (D_7) and remuneration policies (D_5) seem to be the dimensions that most negatively influence on the quality of working life in a bank and special attention should be dedicated to the critical questions, but also considering some questions on which there is a difference in the workers' perception of QWL concerning gender.

Finally, the data analysis indicated that the model can be effectively used to evaluate the QWL of the banking sector and can thereby make significant contributions to improving conditions for the working class.

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