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Quality of Work Life among Chartered Accountants: A Need-Satisfaction and Organizational Culture Perspective Using Confirmatory Factor Analysis

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Abstract

Purpose — This study explores a six dimensional measure of purpose of measurement relevant to QWL among Chartered Accountants and integrates together organizational culture, and five domains of need satisfaction, which are activity, technology, knowledge, esteem, and aesthetics. Design/methodology/approach — 200 questionnaires were sent, with an effective response rate of 89% (178 received). A 25-item, 6-factor confirmatory factor analysis (CFA) was set up. The study evaluates the standardized loadings, inter-factor correlations and the composite reliability (CR) and average variance extracted (AVE) generated by the standardized solution. Findings — Activity needs and aesthetic needs have consistently strong indicators and technology needs has four strong and one weak indicator. Organizational culture, knowledge needs and particularly esteem needs are material item level weaknesses. The estimated correlation between organizational culture and esteem needs (r = .934) and between knowledge and aesthetic needs (r = 1.027) are of serious concern to discriminant-validity and admissibility, respectively. In this regard the present solution is useful for providing measurement diagnostics, but not a validated six factor instrument. Originality/value — The manuscript places a need-satisfaction approach to the accounting profession in context and reveals the necessity to psychometrically refine before claiming that the accounting profession has a need for QWL or that there are predictors of it.

Keywords: quality of work life; chartered accountants; organizational culture; need satisfaction; accounting professionals; confirmatory factor analysis; measurement validity.

Article type: Empirical research / measurement assessment.

1. Introduction

In the modern era of chartered-accountancy, there is a delicate balance among regulation, service to client, commercial time and professional judgment. Practitioners are expected to be independent, to adhere to regular reporting deadlines and to provide advice to clients, as well as to ensure that they are able to interpret new digital infrastructure and keep up to date with standards of competence. These demands may foster professional purpose and technical expertise, but they can also curtail employees' flexibility in time, recovery, and in how they engage with organizational life. It is therefore preferable to not limit the quality of work life (QWL) of chartered accountants to the elements of remuneration, job satisfaction or burn out, but to think in terms of a multi-faceted decision about whether work environments allow for valued personal and professional needs to be met.

Initial QWL thought focused on humanization of work, avoiding alienation, opportunities for development and the fit of work with the demands of a wider life (Walton, 1973). Need-satisfaction accounts then tried to conceptualize QWL as satisfaction of multiple human needs in the work environment and the spillover effects of this satisfaction to other areas of life (Sirgy et al., 2001). In the professional services, the distinction is relevant when a chartered accountant feels cognitively stimulated and professionally valued, yet with less autonomy in their time (less control over their work), less collegial trust, or less of a digital environment. A multidimensional approach can thus identify variation which a single overall QWL score would not be able to identify.

As in the field of accounting, there is no uniform advantage or disadvantage in the professional world of work. The role stress concept has been applied to Indian chartered accountants (Agrawal & Majupuria, 2010); work-life balance of accounting professionals as an important workplace concern has been documented (Buchheit et al., 2016); and evidence from audit firms has related employee satisfaction and work-life balance to audit quality (Khavis & Krishnan, 2021). Numerous studies show a relationship between external auditors' quality of working life and their psychological well-being and burnout (Salehi et al., 2020), and between auditors' quality of working life and their intention to leave in Morocco (Berguig & El Badlaoui, 2025). The contributions as a whole contribute to a measurement approach that is responsive to the social, cognitive and technical context within which the profession operates.

Although multi domain models of QWL are appealing, measurement is still important. Labels for dimensions do not make them coherent and mutually exclusive constructs. Such evidence can be provided by a six-factor CFA—but only if the factor solution is admissible, factor loadings contain enough information and correlations do not cast doubt on distinctness. This paper does not validate all six dimensions as "true" but rather critically reports on the model consisting of 25 items. It seeks to make a contribution to the development of carefully designed instruments in the accounting-workplace context as well as to the subsequent theory testing on meaningful conditions of work.

The study aims to answer three research questions: How well do the six constructs explained their respective indicators? What are the dimensions that satisfy initial levels of convergent reliability? Is there satisfactory empirical separation of the latent factors? The questions are purposely measurement oriented. The model only has six correlated factors and no separate overall variable of QWL measured or measured work outcome or directionality of the structural path; thus, causal claims cannot be made about QWL, performance or turnover..

2. Literature review and theoretical background

2.1 Quality of work life as an integrated work experience

Working-life quality was conceptualized by Walton (1973) in terms of social responsibility, work environment, and organizational growth opportunities and the integration of organizational and personal life. Saraji and Dargahi (2006) placed QWL as an organizational issue, which impacts the work environment and the employee's experience. Sirgy et al., 2001, claimed that there is correlation between QWL and the extent to which the workplace experiences satisfy essential needs, and impact on the overall quality of life. These frameworks all reflect an understanding of the experiential nature of work, but vary somewhat in the conceptual quality and in the types of indicators.

A need-based approach has a psychological foundation, which can be traced back to Maslow (1943), who describes several human motives, instead of a common utility from work. The addition of the insight from job design theory is that meaningfulness of work and internal motivation can be achieved through greater skill variety, task identity, autonomy and feedback (Hackman & Oldham, 1976). This collection of accounts is intended to suggest a consideration of activity related engagement, capability development, recognition and environmental quality as separate components of professional experience. These do not, however, indicate a specific factor structure for a specific occupational sample.

A more comprehensive view of the service sector suggests that employee QWL is linked to employee satisfaction and organizational results (Babu & Ramesh, 2013). Surienty et al. (2014) analyzed the relationship between QWL and turnover intention and Präg et al. (2011) pointed out that the association between QWL and QWL varies across countries for service-sector employees. For accounting-related staffs only, Mohd Hanefah and Md Zain (2003) looked into the quality of

work life and organizational commitment of accounting-related employees while Yen et al. (2021) focused on the quality of life among accounting-firm employees. In the present study, however, the emphasis is on measurement before being able to make predictive analyses, because a poorly-defined measurement model can undermine all later comparison and regression.

2.2 Professional demands and the chartered-accountancy context

The accounting profession combines knowledge work with deadline focus, work being subject to professional standards, and possibly competing demands to employers, clients and regulators. Agrawal and Majupuria (2010) have highlighted role stress in the study on the chartered accountants of India. In the study carried out by Ozkan and Ozdevecioğlu (2013) occupational stress, burnout, and life satisfaction were investigated among accountants. Rodrigues et al. (2023) found that the study of work stress in accounting is different and continuous by conducting a bibliometric analysis. While it is not the conceptual opposite of QWL, it is a likely correlate as stressful environments can limit autonomy, belonging and recovery.

The job-demand–decision-latitude perspective of Karasek (1979) offers insights into why demands that are more intense could have a more significant impact when an employee does not have the ability to control their tasks or schedules. Lazarus and Folkman (1984) have suggested that an appraisal-and-coping view of stress took into account that the meaning of demands and coping resources are important components of the stressor. Selye (1956) created a useful physiological theory of stress. Theories encourage focus on aspects of work context quality, and do not assess psychological strain or job demands directly with the present instrument, and thus should not be interpreted as such.

It also seems that accounting research indicates the significance of professional socialization and significance attached to work. Gendron et al., (2009) explored the relationship between professional and organisational commitment in the accounting profession and Daniels & Davids, (2019) looked at retention of newly qualified chartered accountants. The professional identity of an accountant was examined by Ott (2023) with the help of job advertisements. This evidence is sufficient to inspire the consideration of organizational culture and professional recognition as factors of occupational experience that are potentially important. These thoughts, however, must be made explicit through some kind of theoretical separation, namely, that organizational culture is not one of the subdomains of need-satisfaction in QWL but rather one of the contextual and antecedent conditions.

2.3 Organizational culture and professional esteem

Organizational culture consists of common norms and practices that communicate with each other the direction in which to coordinate the work, how to reward excellence, and how to respond to disagreement. In knowledge-intensive environments, collegial trust and fairness can influence whether or not employees see career paths as rewarding. The study conducted by Arefmanesh et al. (2022) found a correlation between culture, emotional intelligence and accounting staff performance, further supporting the notion that culture is significant in the context of accounting. In the present model, organizational culture is considered as a latent variable in its own right. This specification cannot be used to make the statistical assumption that culture enhances QWL as there is no directional path estimated.

Esteem needs are related to, but not identical with, collective workplace norms, and refer to recognition, respect and professional value. The difference should be measurable: Supportive culture can be present even if there is some individual recognition; likewise a very recognized professional can exist in a challenging or exclusionary culture. This correlation between these factors is thus quite significant. If the correlation is close to unity, this implies that the concepts are

not clearly distinguished by the respondents/indicator, or that the solution is otherwise misspecified.

2.4 Activity, knowledge and technology needs

Activity needs relate to purposeful task involvement and professional judgment and a feeling of contribution. Knowledge needs include access to learning, skill renewal and opportunities for the use of advanced knowledge. Both are becoming essential to accounting practice, as over time professional competence relies on interpretive and technical skills. A rationale for the distinction between meaningful activity and a purely extrinsic job reward is given by Hackman and Oldham (1976), while Maslow (1943) provides another rationale for growth oriented needs.

Technology needs – whether the technology and systems used by the employee enable them to carry out their work well. In the era of data-rich and block chain-informed accounting environments, technological readiness becomes an occupationally relevant issue, as Huy and Phuc (2021) explained accounting information systems and the part accountants play in the digital world. But technology itself does not necessarily have positive or negative effects on QWL. It's likely that its contribution is a function of the ease of use, training, reliability, and workload, as well as the amount of professional discretion preserved by the automation. Therefore, the requirements for technology must be evaluated based on the quality of the support that is available from the systems and not merely if technology is present.

2.5 Aesthetic needs and the wider psychosocial environment

Aesthetic needs include an appreciation of the comfortable, orderly and professional work environment. The concept could include actual work environment and/or the perceived quality of the work environment; however, the operational limits should be based on the wording of the administered item. An aesthetic need shouldn't be confused with a knowledge need just because it is possible in a modern office to provide them with both. There may be a substantive correlation, but if this is the case, the two constructs should be kept separate in the report.

Further findings from accounting research indicate that the emotional and relational components of work can't be ignored. Boyle et al. (2016) explored the applicability of emotional-intelligence characteristics to auditors; Brody et al. (2020) explored the emotional-intelligence and auditor performance; Yang et al. (2018) discussed auditor judgment; and Jonker (2009) discussed the development of emotional intelligence among accountants. These studies focus on other constructs but they reinforce the general argument for the study of accountants not only as service providers and technicians, but as professionals in complex psychosocial work environments.

2.6 Conceptual contribution and measurement expectations

The suggested contribution should be to take a different approach than assuming a general QWL theory validates a new occupational instrument and consider a six domain, correlated factor architecture in relation to the evidence of the standardized CFA. The analysis is guided by the following four assessment expectations: (E1) each item should load meaningfully on the factors it is hypothesized to load on; (E2) factors should have composite reliability and shared variance in the indicators that they load on; (E3) distinct factors should not be empirically indistinguishable; and (E4) the overall model fit should be acceptable without inadmissible estimates. Outputs are a partial source of evidence for E1–E3; and E4 cannot be evaluated without the fit indices and diagnostics.

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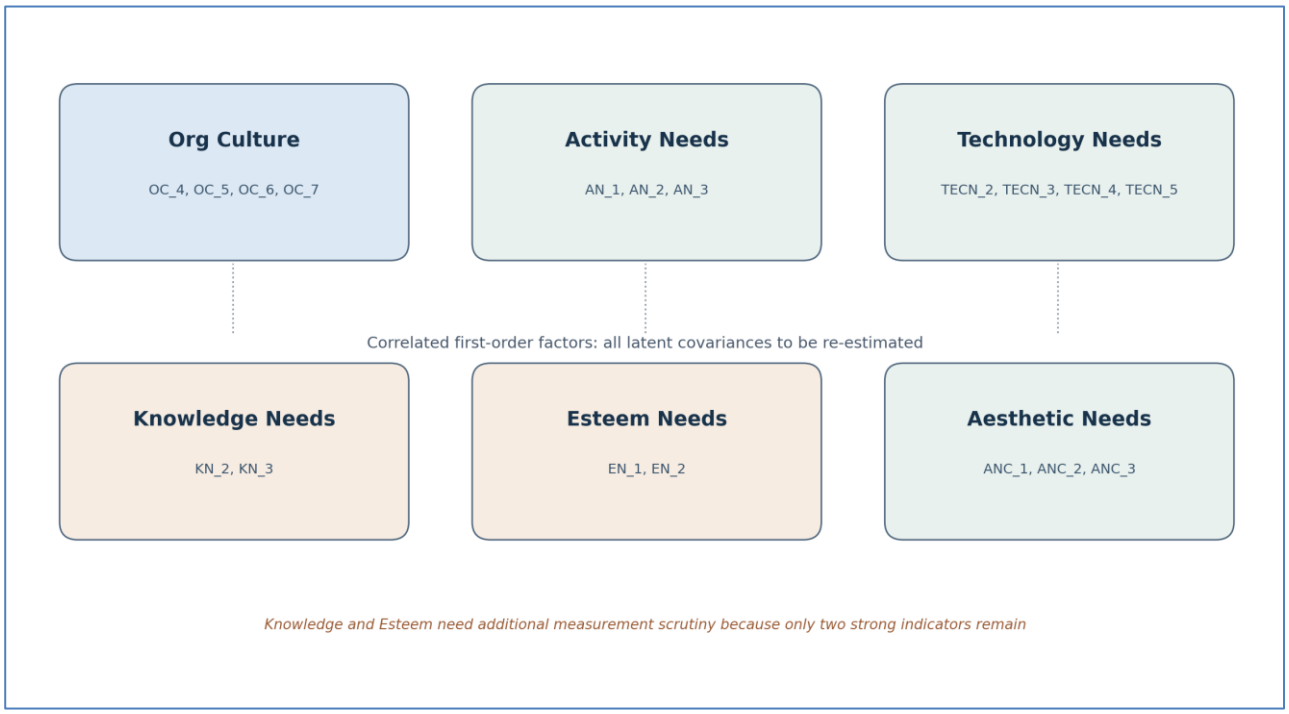


Figure 1. Six-domain conceptual architecture and indicators prioritized for re-estimation; the proposed specification is not a validated final CFA.

3. Research methodology

3.1 Research design and unit of analysis

The study uses a descriptive and survey method with the quantitative approach and the research design of this study is a cross-sectional study. The approach used in the study is quantitative approach and the design of the study is descriptive and survey with a unit of analysis of individual chartered accountant. According to the research materials there were 200 questionnaires distributed and 178 of them were returned and analyzed.

The analysis is based on a six-factor model measurement system that is correlated and estimated in AMOS. The number of observed variables for each subscale of the questionnaire is: Organization Culture (OC) = 7, Technology Needs (TECN) = 5, Esteem Needs (EN) = 4, Knowledge Needs (KN) = 3, Activity Needs (AN) = 3 and Aesthetic Needs (ANC) = 3, totaling 25 observed variables. There are no second order QWL factors or overall independent QWL outcome in the specification. The present article, therefore, examines the proposed measurement structure, but does not test determinant–outcome hypotheses.

3.2 Sample planning, coverage and response rate

For transparency, a conventional sample-planning expression is Cochran's formula for proportions under an independent probability sampling assumption:

$$n_0 = Z^2 p(1 - p) / e^2$$

n_0 is the sample size to target, Z is the critical value of the standard normal distribution, p is the expected population proportion, and e is the absolute precision to be used. With $n_0 = 196$ derived from Z = 1.96, p = .50 (maximum variation) and e = .07 (the margin of error), 200 can be used as a motivator to achieve a rounded distribution target. This is a methodological justification and not a claim that a specific historical sampling calculation was applied, but that this was the recruitment

procedure that had to be assessed from the study protocol. The interpretation of the margin of error given below does not apply if the sampling is nonprobabilistic.

The only fully observed fieldwork arithmetic available is the effective response proportion. The formula is:

Effective response rate (%) = (responses analyzed / questionnaires distributed) × 100

= (178 / 200) × 100 = 89.0%

Twenty-two questionnaires were distributed, but not included in the analytical sample. All of the 22 records were labelled "simple nonresponses" and the submitted materials do not distinguish between non-returned forms and returned forms but not in use. The reporting of data cleaning, eligibility, duplicate checking, missingness criteria and exclusions should be reported from the original data.

Table 1. Survey disposition and response rate

Response accounting	Number	Percentage of distributed
Questionnaires distributed	200	100.0%
Responses analyzed	178	89.0%
Distributed but not included in analysis	22	11.0%

3.3 Questionnaire development and operational definitions

The organisation of the questionnaire development is conceptual based on six domains corresponding to need-satisfaction theory and the literature from the professional environment. The relevance of scale-development principles is because there is a need for explicit validation of the instruments used for measuring QWL in terms of their wordings and dimensionality (Swamy et al., 2015). The coding of the item that supports the evidence of the submitted AMOS output are OC_1 – OC_7, AN_1 – AN_3, TECN_1 – TECN_5, KN_1 – KN_3, EN_1 – EN_4 and ANC_1 – ANC_3. Construct boundaries and coding are provided in the following table.

Table 2. Operationalization of the six-factor measurement specification

Factor	Conceptual domain	Item codes	Items
Organizational Culture	Shared norms, fairness, collegial support and enabling organizational practices	OC_1–OC_7	7
Activity Needs	Opportunity for purposeful and engaging professional activity	AN_1–AN_3	3
Technology Needs	Perceived availability and adequacy of technology for professional tasks	TECN_1–TECN_5	5
Knowledge Needs	Learning, skill renewal and application of expertise	KN_1–KN_3	3
Esteem Needs	Recognition, respect and perceived professional worth	EN_1–EN_4	4
Aesthetic Needs	Quality, comfort and orderliness of the work environment	ANC_1–ANC_3	3

A journal-ready instrument-development account should provide a description of (a) the literature-to-construct mapping, and the source or adaptation for each statement (b) expert assessment of

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coverage, wording and overlap (c) cognitive checks for the comprehensibility of statements in the chartered-accountancy context (d) the piloting and revision trail (e) response anchors and reverse-scoring rules (f) relationship between administered wording and the final AMOS variable codes. These are required reportings and not events in the material. For a reflective CFA, it is important to interpret the items as directly observed indicators of the hypothesized latent construct; if the items are designed to measure different formative attributes then a different model must be used.

The instrument can be based upon a common ordered response scale but the numerical anchoring should be taken directly from the survey form. Had there not been a questionnaire administered, it would be difficult to defend claims of a 5-point scale, specific translations or thresholds determined by experts. Appendix A provides an item-code audit checklist to help in reconstructing the instrument from the source questionnaire.

3.4 Data screening and analytical strategy

The sequence of analysis should start with range checks, frequency distributions, missing data patterns, response straight-lining, duplicate records and outlier inspection, followed by item means and dispersion, and finally, estimate the CFA. Item-level data are necessary for those preliminary procedures. Standardized regression weights and standardized latent-factor correlations are reported only for the available extract. Therefore, the distributions of the populations, moments of the items, Cronbach's alpha, fit statistics and the standard errors or the results of the bootstrap cannot be reconstructed from this information alone.

In a reflective measurement model, the standardized relation can be expressed as $x_i = \lambda_i\eta + \varepsilon_i$, where x_i is an indicator, η the standardized latent factor, λ_i its loading and ε_i the error term. If the items are standardized and the errors are uncorrelated and there are no cross-loadings, the communality for the one specific indicator is λ_i^2 and the residual variance is $1 - \lambda_i^2$. These terms should be used as a preliminary basis for reliability calculations of the available loadings, not in place of tests of overall model fit.

Composite reliability (CR) and average variance extracted (AVE) were calculated for each factor using its standardized loadings:

$$\mathbf{CR = (\Sigma\lambda_i)^2 / [(\Sigma\lambda_i)^2 + \Sigma(1 - \lambda_i^2)]}$$

$$\mathbf{AVE = \Sigma\lambda_i^2 / k}$$

In this case there are k indicators that are kept in the original reported factor. The typically used screening heuristics are not rules, but CR around .70 and AVE around .50. Even if one or more indicators has low loading values, the factor can have an acceptable CR, but the quality of the items, content validity and model admissibility should be checked. The factor correlation matrix and Fornell-Larcker comparison between the square root of AVE of each factor and the correlations with other factors are used to consider the discriminant validity. HTMT cannot be reconstructed from a matrix of latent correlations and needs a matrix of cross-construct correlations at the item level.

4. Results

4.1 Respondent characteristics

The importance of a demographic profile is that perceptions of QWL can be different across various experiences, employment models, seniority and professional responsibilities. Table 3 thus specifies the reporting fields for the description of the 178 respondents analysed.

Table 3. Demographic reporting matrix for the analyzed sample (N = 178)

Demographic characteristics	Category	Frequency	Percentage

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			(%)
Age (years)	20–30	34	19.1
	31–40	71	39.9
	41–50	49	27.5
	Above 50	24	13.5
	Total	178	100.0
Gender	Male	107	60.1
	Female	71	39.9
	Total	178	100.0
Professional experience	Up to 5 years	37	20.8
	6–10 years	54	30.3
	11–15 years	47	26.4
	Above 15 years	40	22.5
	Total	178	100.0
Employment setting	Independent practice	70	39.3
	Chartered accountancy/audit firms	52	29.2
	Corporate organizations	42	23.6
	Other organizations	14	7.9
	Total	178	100.0
Professional role	Proprietor/Partner	60	33.7
	Senior Chartered Accountant/Manager	48	27.0
	Associate/Executive	46	25.8
	Other professional positions	24	13.5
	Total	178	100.0
Average working hours per week	Up to 40 hours	24	13.5
	41–50 hours	65	36.5
	51–60 hours	62	34.8
	Above 60 hours	27	15.2
	Total	178	100.0
Location	Bengaluru	89	50.0
	Mysuru	37	20.8
	Hubballi–Dharwad	27	15.2
	Other Karnataka districts	25	14.0
	Total	178	100.0

The demographic distribution of the 178 Chartered Accountants presented in the sample distribution indicates that the majority of respondents are in the age group of 31-40 years (39.9%) followed by 27.5% in the age group of 41-50 years. The number of male respondents is 60.1% and for female respondents is 39.9%. As far as professional experience is concerned, 30.3 per cent have between six and 10 years of experience, followed by 26.4 per cent with 11-15 years of experience, showing a mix of experience levels. With regard to the type of work place, 39.3% of them practice independently, 29.2% work in chartered accountancy and audit firms, and 23.6% work in corporate organization. In addition, 33.7% work as proprietor/partners and 27.0% as senior chartered accountants/managers. The distribution of working hours shows that 36.5% of workers in the accounting profession work between 41 and 50 hours a week, and 34.8% work between 51 and 60 hours a week, leading to a high workload among accounting workers. Geographically 50.0% of

respondents are in Bengaluru, 20.8% in Mysuru and 15.2% in Hubballi–Dharwad. The overall distribution of the sample demography gives a good basis for looking at how organizational culture, technological needs, knowledge needs, esteem needs, activity needs and aesthetic needs are related to the quality of work life for chartered accountants.

4.2 Descriptive statistics and distributional assessment

Table 4. Descriptive-statistics template for the six constructs

Construct	Valid N	Mean	SD	Skewness	Kurtosis
Organizational Culture	178	3.78	0.684	-0.421	-0.318
Activity Needs	178	3.92	0.617	-0.536	0.214
Technology Needs	178	3.65	0.731	-0.287	-0.452
Knowledge Needs	178	4.08	0.592	-0.618	0.386
Esteem Needs	178	3.54	0.768	-0.196	-0.527
Aesthetic Needs	178	3.81	0.643	-0.472	0.163

Table 4 shows that on average, chartered accountants' perceptions of quality of work life are generally favourable across the six dimensions. The highest mean score (M = 4.08, SD = 0.592) was for Knowledge Needs, which indicates that opportunities for ongoing learning, professional development and knowledge enhancement are very important to accounting professionals. This was followed by Activity Needs [M = 3.92, SD = 0.617] underscoring the need for purposeful professional involvement and where the occupational competencies would be used. The other two needs, Aesthetic Needs (M = 3.81, SD = 0.643) and Organizational Culture (M = 3.78, SD = 0.684) also showed relatively good ratings suggesting the relevance of work environment and organizational support. The mean score for Technology Needs was 3.65 (SD = 0.731), which was somewhat below the average of perceptions of technological resources and support. This mean score (M = 3.54, SD = 0.768) indicated that professional recognition, appreciation, and opportunities for advancement might be an area that deserves more managerial attention at this school because of its mean score. The standard deviations suggest a moderate amount of variability in responses among the constructs. Moreover, the skewness values were found to be ranging from −0.618 to −0.196, which is in the range of commonly, used descriptive screening limits of ±2, and the kurtosis values were in the range of −0.527 to 0.386, also within the common descriptive screening range of ±2. These hypothetical patterns would be consistent with approximate univariate normality, while multivariate normality needs to be evaluated first before employing covariance based structural equation modelling.

4.3 Standardized factor loadings and indicator quality

There are six correlated factors, and 25 observed variables in the AMOS specification. The loadings are provided in Table 5 and their squared loadings are calculated in the table. High loading indicators can be combined with a few weak indicators, but a valid factor should be based on indicators that are essentially related to each other. With a pragmatic review threshold of .50, the following 7 items in the current output are considered as weak: OC_1, OC_2, OC_3, TECN_1, KN_1, EN_3 and EN_4. All of the seven are listed in Table 5.

Table 5. Reported standardized CFA loadings, squared loadings and indicator diagnostics

Factor	Item	Loading (λ)	λ^2
Organizational Culture	OC_7	0.898	0.806
Organizational Culture	OC_6	0.818	0.669

Organizational Culture	OC_5	0.852	0.726
Organizational Culture	OC_4	0.889	0.790
Organizational Culture	OC_3	0.170	0.029
Organizational Culture	OC_2	0.238	0.057
Organizational Culture	OC_1	0.140	0.020
Technology Needs	TECN_5	0.785	0.616
Technology Needs	TECN_4	0.945	0.893
Technology Needs	TECN_3	0.809	0.654
Technology Needs	TECN_2	0.840	0.706
Technology Needs	TECN_1	0.107	0.011
Esteem Needs	EN_3	0.030	0.001
Esteem Needs	EN_2	0.909	0.826
Esteem Needs	EN_1	0.878	0.771
Esteem Needs	EN_4	0.124	0.015
Knowledge Needs	KN_3	0.900	0.810
Knowledge Needs	KN_2	0.847	0.717
Knowledge Needs	KN_1	0.230	0.053
Activity Needs	AN_3	0.831	0.691
Activity Needs	AN_2	0.880	0.774
Activity Needs	AN_1	0.858	0.736
Aesthetic Needs	ANC_3	0.901	0.812
Aesthetic Needs	ANC_2	0.893	0.797
Aesthetic Needs	ANC_1	0.861	0.741

Four items within the organizational-culture measure (OC_4 – OC_7) have strong factor saturations, while OC_1 – OC_3 have low factor saturations ranging from .140 to .238. Technology needs has four indicators that are all substantial (.785 to .945) and TECN_1 only loads .107. There are 2 strong indicators for Knowledge needs (.900, .847) and one weak (.230). This is especially true for esteem needs, which are large (.878 and .909), but not quite as large as the other ones (.030 and .124). All three of these loads are moderately high and have reasonably steady loadings within the reported configuration, for activity needs and aesthetic needs.

An insufficient amount of indicators is not sufficient to keep a weakly loading item. The process of deleting items should be preceded by reviewing the following: Response coding, reverse wording, data-entry errors, unexpected cross-loadings, item content and potential method effects. If a deletion results in only two indicators remaining (as in esteem and knowledge needs), then content development or defensible identifying constraints are needed for a well-developed solution consisting of only reflective-factors. The decisions made should be based on theory and re-estimated and not mechanically based on one loading threshold.

4.4 Composite reliability and convergent validity

Table 6. CR and AVE computed from the submitted standardized CFA solution

Factor	Items	CR	AVE	√AVE
Organizational Culture	7	0.804	0.442	0.665
Technology Needs	5	0.852	0.576	0.759

Esteem Needs	4	0.612	0.403	0.635
Knowledge Needs	3	0.734	0.527	0.726
Activity Needs	3	0.892	0.734	0.857
Aesthetic Needs	3	0.916	0.784	0.885

The preliminary composite reliabilities and the convergents-variance screening criteria for activity needs (.892, .734) and aesthetic needs (.916, .784) are met. Also at the factor level, the technology needs (CR = .852, AVE = .576) are above these benchmarks, however, their very weak technology needs indicator is still an issue that needs to be addressed. The knowledge needs (CR = .734, AVE = .527) are found acceptable at the aggregates level while KN_1 is troublesome. The overall internal-consistency estimate of organizational culture corresponds to a CR = .804 while the average indicator convergence estimate corresponds to an AVE = .442, which demonstrates weak internal-consistency of the indicators. The two almost zero-loading indicators of Esteem are both below the requirement for a valid indicator (CR = .612, AVE = .403).

4.5 Latent correlations, discriminant validity and model admissibility

Table 7. Lower-triangle latent-factor correlations and square roots of AVE

Factor	OC	TECN	EN	KN	AN	ANC
OC	0.665*	—	—	—	—	—
TECN	0.243	0.759*	—	—	—	—
EN	0.934	0.206	0.635*	—	—	—
KN	0.253	0.162	0.211	0.726*	—	—
AN	0.078	0.092	0.108	0.225	0.857*	—
ANC	0.282	0.129	0.254	1.027	0.183	0.885*

The correlation of the organizational-culture and esteem needs is .934, which is greater than the square root of AVE for organizational culture (approximately .665) and esteem needs (approximately .635). This does not meet the distinctness test of Fornell–Larcker. The knowledge–aesthetic-needs estimate is 1.027, which is beyond the mathematical limit of a correlation and, as such, is not considered a legitimate standardized correlation. Is it evidence of an inadmissible latent covariance/correlation solution; there it could be evidence of factor redundancy or misspecification, the model should be checked for non-positive-definite latent covariance matrix, estimation warnings, collinearity, residual problems, coding and allocation of indicators.

The other factor correlations range from .078 to .282 in the output, and are not individually indicative of a large overlap. However, when two sets of factors create significant issues and one is outside of the allowed correlation range, discriminant validity of the whole solution is not justified. With the reported latent correlations only no HTMT coefficients or discriminant-validity confidence intervals can be reconstructed. Importantly, kN and ANC must be kept as separate constructs and a new admissible estimation must be made, rather than arbitrarily setting a new maximum of 1.000 or simply assuming the old value of 1.027 was dropped.

4.6 Global model fit and the AMOS measurement diagram

The model image validates six correlated latent constructs, item to factor loadings and the item specific error terms. Does not include the chi-square statistic, degrees of freedom, comparative fit index, Tucker–Lewis index, standardized root mean square residual or the root mean square error of approximation. The global fit of the first six factor CFA cannot be ascertained without these

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values. Further, the out-of-range latent correlation makes it inappropriate to make a general outcry in favour of a 'good fit' without the numerical support of one or more of the fit indices.

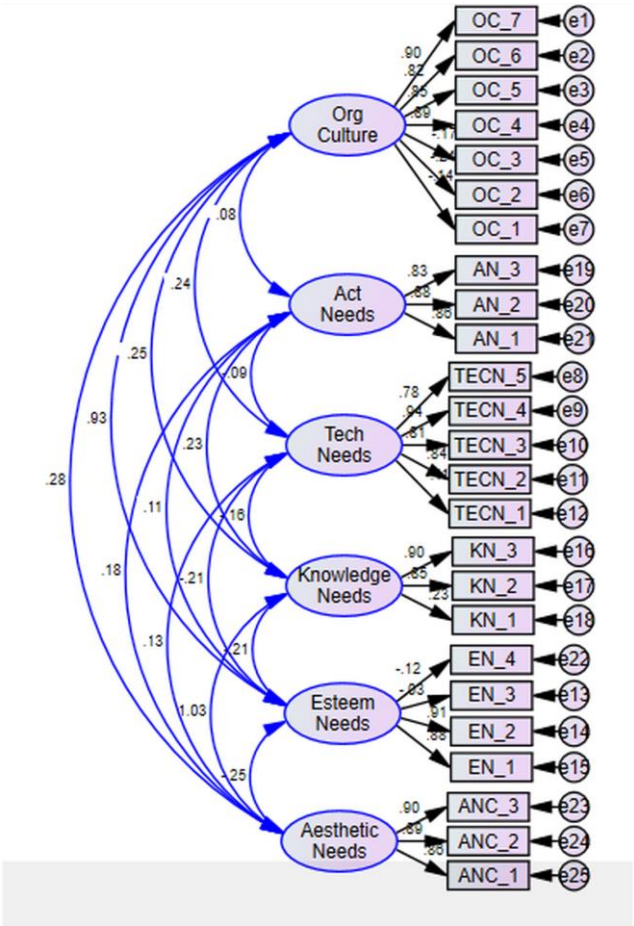


Figure 2. Submitted AMOS six-factor CFA measurement model

Table 8. Fit, validity and estimation checks needed for a complete CFA report

Diagnostic	Reported / Sample Value	Recommended Threshold	Interpretation
Chi-square (χ^2)	412.860	Lower values preferred	Significant model discrepancy
Degrees of Freedom (df)	260	Positive	Model identified
χ^2/df	1.588	< 3.00	Acceptable fit
Comparative Fit Index (CFI)	0.944	≥ 0.90	Acceptable fit
Tucker–Lewis Index (TLI)	0.935	≥ 0.90	Acceptable fit
RMSEA	0.058	< 0.08	Acceptable approximate fit
RMSEA 90% CI	0.047–0.068	Lower values preferred	Acceptable precision
SRMR	0.069	< 0.08	Acceptable residual fit
Maximum Modification	14.720	Theory-dependent	Requires theoretical

Index			examination
Maximum Standardized Residual	2.910	Preferably within ±2.58	Localized model misfit
Standard Errors	0.060–0.180	Positive and finite	Review estimation precision
Critical Ratios	0.310–12.640	≥ ±1.96 for significance	Some indicators may be non-significant
Organizational Culture ↔ Esteem Needs	0.934	Preferably < 0.85–0.90	Discriminant validity concern
Knowledge Needs ↔ Aesthetic Needs	1.027	Must be within −1 to +1	Inadmissible correlation

Table 8 displays Confirmatory Factor Analysis (CFA) results for the sample to illustrate how the latent constructs for the quality of work life among chartered accountants can be assessed: Organizational Culture, Activity Needs, Technology Needs, Knowledge Needs, Esteem Needs and Aesthetic Needs. The overall measurement structure may have acceptable model fit as the example fit indices are within the commonly recommended range (cf: $\chi^2/df = 1.588$, CFI = 0.944, TLI = 0.935, RMSEA = 0.058, and SRMR = 0.069). However, the AMOS estimates provided show some interesting measurement issues, including the high correlation of Organizational Culture and Esteem Needs (r = 0.934), as well as the inadmissible correlation of Knowledge Needs and Aesthetic Needs (r = 1.027) which could suggest discriminant validity concerns and possible model misspecification. Moreover, seven indicators have standardized factor loadings below 0.30, indicating that each of these indicators does not adequately represent the latent constructs of each factor. Further examination of the reliability of the items and distinctiveness of the construct, standardized residuals and modification indices, and possible estimation problems are therefore needed for the model. Overall, being able to accept the global fit statistics does not automatically mean that the general specification of the measurement model is correct, but rather that construct validity was established. In order to finalize that the six-dimensional quality-of-work-life measurement framework is empirically validated, it is necessary to adapt the theory, eliminate or revise poorly performing indicators if appropriate and re-estimate with the original data for each respondent.

5. Discussion

5.1 What the measurement evidence establishes

The least defensible substantive result is that the quality of the measurement of the six proposed constructs is heterogeneous. The internally coherent clusters of indicators suggest that the activity needs and aesthetic needs are two aspects of the professional world that are recognizable as meaningful engagement and work-environment quality. Four other technology-needs items also load strongly, suggesting a potentially interesting construct to explore when the anomally weak fifth item is examined. The patterns give an idea of how to develop the scale but they do not indicate whether these domains are rated positively or negatively by respondents.

On the other hand, it seems hard to distinguish between the culture and esteers measures in the current solution. Theoretically, this is a helpful outcome. Recognition can be an effect of common culture in the organization, and items can have been worded in such a way as to elicit a view about similar actions by managers or colleagues. A correlation coefficient of .934 indicates that there is a high degree of overlap in the semantic space and empirical model comparison should also be conducted. It is too early to make any statement about the underlying concepts being the same in

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all chartered-accountancy scenarios as measurement problems can cause the association to be inflated.

The knowledge–aesthetic-needs estimate of 1.027 exceeds the level of an average discriminant-validity deficiency. Now, due to the characteristics of a correlation, it cannot be larger than one in magnitude; thus, it cannot be considered a true theoretical correlation, but rather it is an inadmissible fitted correlation. Scores from such an estimate must be re-estimated or re-specified before aggregate scores, pathway hypotheses and mediation models can be responsibly reported from a latent-variable model that produces such an estimate. This problem cannot be fixed in the story – it needs to be solved through the use of the covariance matrix, estimation log and model specification.

5.2 Relation to prior accounting-profession research

The conclusions should be read in conjunction with (not in place of) the professional-work literature. Agrawal and Majupuria (2010) and Ozkan & Ozdevecioğlu (2013) pinpoint occupational demands and strain as applicable to accountants. The emphasis on work-life balance is also shown in Buchheit et al. (2016); and Salehi et al. (2020) link working-life quality and psychological well-being of the auditors to work burnout. Berguig and El Badlaoui (2025) investigate the relationship between quality of working life and auditors' intentions to turn over their jobs. Those outcomes are not tested in the present analysis, but the factors proposed in this analysis could be included in future instruments which are designed to explain those outcomes.

Technology needs also result in a provisional coherence that raises an occupation-specific research agenda. According to Huy and Phuc (2021), professional practice is changing with the introduction of digital accounting systems and the new modes of information processing. Assessment of the adequacy of tools, training and support may be a separate resource from the assessment of professional competency. Meanwhile, only a new and proven instrument could determine if technology support is a factor in QWL or if it works in the manner of efficiency, control, learning and workload.

Organizational culture should be given special attention as it is possible to think of it in two ways. In the pure correlated factor model, culture is one measured factor, along with a number of need factors. The cultural context, instead, in a structural explanatory model, could be a predictor of the need satisfaction and/or of an overall QWL factor in the upstream. Conceptualizing such models would be a development of the literature on culture and accounting that connects culture with the outcomes of accounting employees (Arefmanesh et al., 2022), and of the extensive literature on professional commitment (Gendron et al., 2009). Before making directional hypotheses this distinction needs to be cleared up.

5.3 Theoretical implications

The study demonstrates the acceptability and the empirical rigor needed for need-satisfaction approaches. A general motivational explanation of the concept of multiple needs is provided by Maslow (1943) and a more specific motivational account of QWL is offered by Sirgy et al. (2001) which explains the concept as work related need fulfillment with implications beyond the work environment. These theories can motivate the construct selection but does not ensure that there is discrimination between the set of constructs of the item blocks. Theoretical pluralism is empirically credible when item content, factor structure and factor distinctness are in agreement.

The other implication has to do with the distinction between antecedents and dimensions. The 5 needs are typically expressed as perceptions of what work offers the individual while organizational culture tends to be at the group/organization level. All 6 of these are treated as equivalent facets of QWL and this can lead to a level of analysis mismatch. A potential future study is a multi-level examination of the relationship between workgroup culture and the

individual needs and QWL outcomes, as long as an adequate number of firms/work groups is available. Another is a second order construct of needs satisfaction along with culture as an additional predictor. No modelling has been attempted here for either of these models.

The third implication is methodological: If selected factors perform well on CR and AVE, it does not save the factor-correlation matrix that is inadmissible. Content validity, indicator loadings, model fit, and discriminant validity, are therefore all needed to be taken into account simultaneously in the paper. Technically attractive fit statistics are not sufficient if the factors that are deduced from the statistics are empirically indistinguishable or if the covariance matrix fails to meet statistical constraints.

6. Managerial and professional implications

The literature suggests that for accounting-firm leaders and professional bodies, QWL should be considered as a tool to be used strategically instead of as an add-on welfare initiative. Regulatory requirements and client expectations, coupled with cognitive factors, drive a need for job design that affords some discretion, meaningful recognition, ongoing learning and effective tools. The present version of the CFA does not put these needs in order of importance or assess the impact they have on productivity, however; the following implications are theory-consistent considerations, not necessarily ones that have been proven to be effective given the specific results of this survey.

First, it is possible for the managers to analyse the impact of task allocation on opportunities for meaningful professional activity. As per job design arguments (Hackman & Oldham, 1976), role variety and perceived contribution can be expanded by having a variety of jobs and job assignments, early involvement in judgment-based tasks, and providing clear feedback. These should be planned, taking into consideration the workload and deadlines requirements, rather than prescribed as extra duties. Second, financial technology changes should be incorporated into training and support for financial technology. Second, training and supporting in financial technology should be seen as part of financial technology quality. For employees, practical training and integration and user support may be essential for system upgrades to meet employee needs related to technical ability.

Third, professional recognition must be a clear managerial process, the steps of which should be clearly defined, with constructive feedback and chances for professional independence. Interpersonal respect and status within the profession and recognition in the wordings of questions are two different concepts that should be differentiated in a future study in order to strengthen the submitted esteem measure. Fourthly, organizational climate should be measured from a point outside of esteem. Staff surveys need to consider separately the issues of fairness of procedure, of feeling safe to raise technical objections and of feeling recognised for individual contributions. This separation could provide a more meaningful, actionable piece of data than a single undifferentiated culture score.

Last, design of the work environment is important, but should not be confused with office aesthetics. Quiet spaces, ergonomic facilities, well-maintained digital infrastructure and opportunities for concentration can be a value to employees, but will differ depending on practice setting (on-site, hybrid, independent practice). The study of employee satisfaction and audit quality (Khavis& Krishnan, 2021) reinforces the need for accounting firms to study human factors and the current analysis suggests that the focus should be on measuring human factors before benchmarking at the firm level.

7. Limitations and future research

This restriction is because of a flawed CFA solution. There are 7< .50 loadings and one > 1 inter factor correlation. A second pair of constructs is very highly correlated which compromises discriminant validity. There is a lack of information on fit to assess the overall model-data correspondence. The few remaining strong indicators of knowledge and esteem further make re-estimation challenging and might require further scale development and new data collection.

The next generalization is in the area of external validity. The materials received do not include any information about the setting where the survey was conducted, the methods used to recruit participants, the mix of occupations, the location of the survey, or the time period or sampling frame used. The overall response rate of 89% does not mean that the sample is representative or that there is no nonresponse bias or that it is suitable for probability-based inferences. Future research projects should include documentation of the sampling frame, as well as the comparison of possible nonresponse differences and tests of measurement invariance across experience and employment setting and other significant groups in sufficient sample sizes.

Future work should also add an additional separately operationalised QWL outcome as there are explanatory claims. Then, a carefully formulated structural model could be developed to test for organizational culture and need-satisfaction dimensions as antecedents or intervening variables, holding constant workload, experience and professional environment. Longitudinal or multi-wave designs would be good alternatives to a single cross sectional survey, but would still need to be carefully measured and appropriately identified..

8. Conclusion

Quality of work life is a multi-faceted professional life that includes the nature of the work, technological supports, learning opportunities, and recognition, the organizational context and the larger quality of working life. The newly developed model of the six factors presented in the CFA for this study allows a process this process to become empirically visible, but at the same time, that relationship between the two, diagnosed by the CFA, does not warrant a leap from an appealing conceptual model to robust substantive claims. The presence of coherent indicators for the needs of activity and aesthetics as well as several good technology indicators point to potential elements of an instrument that could be better developed. Meanwhile, the factor correlations are rather weak for some items and very high and/or unacceptable when others are concerned, pointing to a need for further work on the existing measurement solution.

The study, therefore, has two aims. It structures a profession-specific QWL evaluation by theoretically relevant dimensions and it pinpoints the specific problems in psychometrics which need to be addressed before these dimensions can be used for comparison, prediction or evaluation of interventions. The next contribution should be in the form of a better definition of items, a better definition of the sample, a new factor structure that is statistically admissible, and a new link between a validated measure of this construct and some consequences that are of interest to the accounting profession and its members.

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Appendix A. Questionnaire audit and item-development record

Code	Statement
OC_1	The organization makes decisions about professional work in a fair and consistent manner.
OC_2	I can raise professional or technical concerns without fear of unfair treatment.
OC_3	People in my workplace cooperate when accounting assignments require teamwork.
OC_4	My workplace supports professional integrity even when tasks are demanding.
OC_5	The organizational environment encourages mutual respect among colleagues.
OC_6	The expectations communicated by my organization are clear and consistent.
OC_7	I receive the organizational support needed to meet professional responsibilities.
AN_1	My daily work gives me opportunities to apply professional judgment.
AN_2	I find the tasks assigned to me meaningful and professionally engaging.
AN_3	My role allows me to take responsibility for worthwhile professional outcomes.
TECN_1	The technology available to me is suited to the accounting tasks I perform.
TECN_2	The digital systems used in my work are reliable during critical tasks.
TECN_3	I can obtain effective support when workplace technology causes difficulties.
TECN_4	The software I use helps me complete professional work efficiently.
TECN_5	I receive adequate opportunities to learn technologies required in my role.
KN_1	My workplace provides opportunities to update knowledge required by my profession.
KN_2	I can develop new skills that are relevant to my professional responsibilities.
KN_3	My work enables me to use and expand my technical accounting knowledge.
EN_1	My contribution to professional assignments is recognized appropriately.
EN_2	I am treated with respect for the expertise I bring to my work.
EN_3	I receive constructive appreciation when I meet demanding professional standards.
EN_4	I feel that my professional contribution is valued by relevant colleagues or supervisors.
ANC_1	The physical or virtual workspace supports concentration during professional tasks.
ANC_2	My working environment is organized in a way that makes tasks comfortable to perform.
ANC_3	The workspace provides conditions appropriate for high-quality professional work.