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HOW "ACCOUNTANT" ARE YOU ON THE BEAN COUNTER SCALE? A VALIDATION STUDY

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ABSTRACT. A bean counter refers to an accountant or economist responsible for financial decisions in governmental or corporate contexts, often inclined towards frugality. The emergence of bean counters in public and private sectors led to the creation of the Bean Counter Profiling Scale, designed to characterize this personality type within organizational settings. Drawing from

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qualitative literature due to the absence of relevant metrics, we adopted recommended methodologies to develop the scale's items. Employing mixed research methods, we formulated and validated the Bean Counter Scale for Romanian accounting professionals. The study involved two sample groups of accountants (n=300 and n=320) selected through cluster random sampling. Initially, we verified the 6-factor structure of the scale and subsequently cross-validated it with six personality traits (openness, self-control, leadership, self-efficacy, methodicalness and self-focusing) in the second sample. Results indicated a 62% variance explanation across the six factors: openness, control, leadership, self-efficacy, meticulosity, and focusing. The resultant 17-item Bean Counter Scale exhibited strong internal consistency, reliability, and validity. This tool holds promise in assessing accountants' personality traits, facilitating personalized learning paths, and gaining recognition from accounting bodies for integration into teaching materials, enhancing the education of future accountants. Further multinational studies using the Bean Counter Scale are recommended to explore its utility in evaluating how bean counter tendencies relate to job performance and other aspects of accounting careers.

KEYWORDS: Bean-counter validation scale; Factor analysis; Personality traits; Convergent validity.

JEL classification: M41, J24, A12.

Introduction

Accounting is essential for organizations, managing financial records and producing decision-making reports. Effective accounting demands skills like attention to detail, analytical ability, and conscientiousness. However, current measures of accounting traits have limitations. This study aims to create and validate a new scale, the bean-counter profiling scale, to measure key traits of accounting professionals.

Past studies on accounting professionals' personality traits often used generic measures, possibly missing unique traits. For example, Lea, Webley, and Levine (1993) showed how family socio-economic status affects children's money attitudes, implying broader influences on accounting traits. Additionally, existing measures rely on self-report data, prone to biases and inaccuracies (Nunnally, Bernstein, 1994).

To overcome these issues, this study aims to develop a new scale capturing critical accounting traits. It will be sensitive to the accounting profession's context and minimize biases from self-reporting. Using a mixed-methods approach, the study will qualitatively analyse successful accounting professionals' traits and characteristics from relevant literature. The second phase will involve the development and pilot-testing of the initial scale items, based on the findings from the first phase. The third phase will involve a large-scale survey of accounting professionals to examine the psychometric properties of the scale, including its reliability, validity, factor structure and convergent validity with personality traits.

The present study has several theoretical and practical implications. Theoretically, the development of a new bean-counter profiling scale will enhance our understanding of the

critical traits and characteristics that contribute to success in the accounting profession. Practically, the scale has the potential to be used in a range of settings, including recruitment and selection processes, training and development programs, and performance management systems.

In conclusion, the present study aims to develop and validate a new bean-counter profiling scale that captures the critical traits and characteristics of accounting professionals. The scale has the potential to enhance our understanding of the unique requirements of the accounting profession and to be used in a range of practical applications. The next sections of this paper will describe the literature review on bean counter, the research methodology and results of the items design and content validity index, Factor Analysis of the BCS and convergent validity of the BCS, followed by a discussion of the implications and limitations of the findings.

1. Literature Review on Bean Counter Research

"The role of the accountant is traditionally characterised by objectivity, emotional detachment, soberness and attention to fine detail…" (Baldvinsdottir, G. *et al*., 2008, pp.858-852). Indeed, the stereotypical view of personality traits deemed mandatory in an accountant has often similarly been aligned to those of a dour, straight-faced but upstanding member of the community, falling under a variety of colloquial or slang names such as 'Number Cruncher' or 'Bean Counter', (Chen *et al*., 2012; Friedman, Lyne, 2001; Leão, Gomes, 2022). Moreover, accountants are often portrayed as interested only in the short-term, single-mindedly focusing on cost and numbers without a clear line of sight on the bigger picture, potentially leading to disastrous consequences (Diminik, Felton, 2006). To explore this terminology further and offer an understanding of the starting point for this research, it is important to have a clear picture of the traditional 'Bean Counter'. Inspecting the characteristics or cognitive styles expected of the typical accountant can also be linked to ethical reasoning, another imperative attribute of the professional accountant, (Abdolmohammadi *et al*., 2009; Weiss *et al*., 2023).

The demands on the modern accountant encompass several areas; aside from reporting on the fundamental financial requirements, accountants are called upon to take a more proactive stance and provide clients with financial insights and predictive analysis to help customers gain a competitive edge in a challenging global environment, (Jones, Abraham, 2007). Accountants are no longer tucked away out of sight in the back-office bent over spreadsheets, surrounded by paperwork but are expected to prepare, predict and present analysis of big data both internally and externally (O'Shea, 2017).

A study undertaken by the Association of Chartered Certified Accountants titled 'Drivers of change and future skills' (ACCA, 2016) identified the need for each accountant's professional quotient to reflect their competency and skill level across seven constituent areas, one of which is the Emotional Quotient [EQ]. EQ describes the capacity of an individual to harness, process and utilize emotional information to adapt to changing environments in order to achieve goals via the modification of thinking and behaviour (Abraham, 2006; Goleman, 2013). However, there are only a small percentage of accountants cite emotional intelligence as part of their core skills when applying for accounting roles, despite this being identified by employers as a key trait in a successful candidate (Page, 2019). Emotional intelligence in the workplace is no longer purely a desirable skillset to possess but rather essential for both

relationship management and communication in an office environment and with clients (Wintrip, 2021).

Studies have shown that individuals with higher Emotional Intelligence levels have greater mental-health capacity and better social relations in the working environment, potentially leading to improved job performance with enhanced leadership and negotiation skills (Goleman, 2013; Newman, 2006).

This study proposes to identify critical character traits required of the modern accountant towards developing a framework and mathematical scale to assess individual psyche in relation to 'Accountant-ness', termed 'The Bean-counter Scale'[BCS] and developed as a tool from which accountants can answer several core questions and compare to parameters to determine, for example, their potential level of risk to burnout or identify key skillset areas that might require further attention – possibly identified as part of an annual review.

2. Data Description and Methodology

2.1 Methodology

This study aims to fill a significant literature gap in the management field by proposing the development of a novel bean counter scale. The term "bean counter" is colloquially employed to describe an accountant distinguished by meticulous attention to detail. However, within the domain of management research, a conspicuous dearth of well-defined measurement scales exists to effectively capture and quantify this attribute. This scholarly endeavour seeks to rectify this deficiency by articulating the scientific rationale for the development of a meticulously designed scale, elucidating its prospective applications, and accentuating the significance of measuring meticulousness within management scholarship.

The recognition of meticulousness, akin to that embodied by a bean counter, has garnered prominence within the realm of management owing to its discernible impact on diverse organizational outcomes such as productivity, quality, and efficiency. Despite its acknowledged import, the absence of an aptly calibrated measurement instrument represents a substantive impediment to empirical inquiry. Consequently, this study endeavours to address this lacuna by advocating for the conceptualization and subsequent development of a novel bean counter scale.

In scientific inquiry, measurement scales serve as indispensable tools, facilitating the quantification and comparative analysis of pertinent variables. Through the provision of a standardised and rigorously validated measurement instrument, researchers can fortify the methodological robustness and scholarly integrity of their investigations. Hence, the proposed creation of a bean counter scale bears profound implications for the advancement of management research, envisaged to furnish researchers with a means to undertake precise and reliable assessments of meticulousness within organizational contexts. The development of a novel bean counter scale would fill a substantial literature gap in the management field. By providing a reliable and valid measurement tool for "bean counter"-ness, this scale would enhance the precision and rigour of research studies, enable a better understanding of meticulousness and other personality traits typical to a bean counter accountant profile in management, and offer practical applications in employee selection and evaluation.

2.2 Items Design and Content Validity Index

The development of the new bean-counter profile scale required a thorough understanding of the relevant literature and research methodology. A literature review-driven design approach can be effective in developing a scale that is valid, reliable, and relevant to the target population. This section presents a detailed discussion of the research methodology used to develop the new bean-counter profile scale.

The literature review process for the development of the new bean-counter profile scale involved a thorough search for relevant studies, articles, and books on the topic. Various databases, including PubMed, PsycINFO, and Google Scholar, were used for the search. Keywords such as "bean-counter", "accountant", "Bean Keeper", "Number Cruncher", "Ledger Attendant", "Money Guard", and "personality traits" were used to find relevant literature. After the screening of the literature in terms of behavioural characteristics of bean counter accountants, 218 behavioural descriptors emerged. These behavioural descriptors were synthesized in 68 individual behavioural traits, after removing duplicate descriptors or redundant and similar descriptors.

The 68 behavioural descriptors of the bean counter profile were transformed into items, and following the scale validation methodology, they were further examined in terms of clarity and representativity by 12 senior accounting experts. The methodology involved an online Google form comprising the 68 descriptors with the purpose of establishing the inter-rater agreement.

Validating the reliability of a rating scale necessitates the establishment of an inter-rater agreement (Cohen, 1960; Landis, Kock, 1977; Cicchetti, Feinstein, 1990; Bakerman, Gottman, 1997; Hallgren, 2012). Given the expansive nature of the new bean-counter profile scale, comprising 68 items, it is important to determine whether raters consistently assess these items in a consistent manner. Cohen's kappa statistic provides a quantitative method for assessing inter-rater agreement, accounting for chance agreement. Scholarly discourse underscores the variability in inter-rater agreement, influenced by factors such as item complexity and the number of raters involved (Miles, Shelvin, 2001; Sim, Wright, 2005; Viera, Garrett, 2005; McHugh, 2012).

In the case of the new bean-counter profile scale, it is important to have a sufficient number of raters to ensure a reliable assessment of inter-rater agreement. Thus, to examine the content validity of these items, we provided 12 senior accounting experts with over 10 years of professional economic experience: 2 from the United Kingdom, 1 from Italy and 9 from Romania, with the 68 Bean Counter descriptions and presented the items to them in random order. Experts were tasked with rating each item on two scales—clarity and representativeness—using a 5-point Likert scale (Yusoff, 2019). The clarity scale ranged from 1 (indicating the item is not clear at all) to 5 (indicating the item is very clear), while the representativeness scale ranged from 1 (indicating the item is not relevant at all) to 5 (indicating the item is very relevant). Ratings of 1 and 2 were considered content invalid, while ratings of 3, 4, and 5 were considered content valid (Polit, Beck, 2006; *Polit et al*., 2007). Experts also provided additional comments and recommendations on the hard copy of the questionnaire distributed with the cover letter. Items classified as clear and relevant by at least 75% of the 12 raters were retained, resulting in the inclusion of all 68 items for further scale development (Polit, Beck, 2006; Polit *et al*., 2007).

Following this initial evaluation, the final set of scale items was administered to a sample of 471 certified accountants to assess the psychometric properties of the scale.

Regarding demographic characteristics, the sample comprised 94 (20%) male accountant participants and 377 (80%) female accountant participants. The age range of the participants varied from 21 to 74 years old. In terms of previous professional experience as accountants, participants reported a range of 1 to 52 years of experience.

2.3 Factor Analysis of the BCS

To further examine the construct validity of the bean counter-profiling measures, a cross-validation approach was used, and the overall sample (N=471) was randomly split into two subsamples. The first subsample (N=300) was used to find the best-fitting model (calibration sample) and then cross-validated this model with the second subsample (N=171) (cross-validation sample). Any of several related model validation techniques, such as cross-validation (Allen, 1974; Stone, 1974; Stone, 1977), rotation estimation (Devijver, Kittler, 1982; Geisser, 1993; Kohavi, 1995;), or out-of-sample testing, is used to determine how well the findings of a statistical analysis will generalize to a different data set. Cross-validation is a resampling technique that uses several data subsets to test a model on various iterations. It is mostly employed when predicting outcomes is the objective and accuracy of a predictive model performance needs to be measured.

In terms of descriptive statistics, out of the 300 valid respondents, 20% represent male respondents, and 80% represent female respondents, with an age mean of 44 years old and a previous professional experience of 20 years in accounting. Factor analysis will further help us to explore and then confirm the relationships between scale items and identify the total number of dimensions represented by the scale. Before conducting the exploratory factor analysis (EFA), we performed the Kaiser–Meyer–Olkin (KMO) test (Kaiser, 1970; Kaiser, 1974) to measure the sampling adequacy and Bartlett's test of sphericity (Bartlett, 1950) to investigate the factorability of the data. KMO results obtained values within the range of 0.725 and 0.880, well above the 0.50 minimally accepted level, implying sampling adequacy of the data for EFA and a significant test statistic was indicated by Bartlett's test of sphericity, an χ^2 of 2300(136) at $p < 0.001$.

To test the construct validity of the BCP scale, an exploratory factor analysis with a minimum residual extraction method was used in combination with an obliging rotation using an eigenvalue-one procedure was performed on the item responses from the first subsample (N=300) of participants. The scree plot identified six significant factors (*Figure 1*). A scree plot is a graphical representation used to determine the number of factors to retain in a factor analysis. In this case, the scree plot output for a six-factor scale with a sample size of 300. The scree plot displays the eigenvalues of the factors extracted from the factor analysis. The eigenvalues represent the amount of variance explained by each factor. In the scree plot, the eigenvalues are plotted against the factor number, starting from the first factor. The plot typically shows a decreasing pattern, with the largest eigenvalue associated with the first factor and subsequent eigenvalues decreasing gradually.

For a six-factor scale, the scree plot would show a distinct break or elbow point after the sixth factor. This break indicates that the first six factors capture a significant amount of variance in the data, while the subsequent factors contribute relatively less to the overall variability.

Based on the screen plot output, it is recommended to retain the first six factors in the scale since they explain a substantial portion of the variance in the data. These factors can be further analysed and interpreted to understand the underlying dimensions or constructs being measured by the scale.

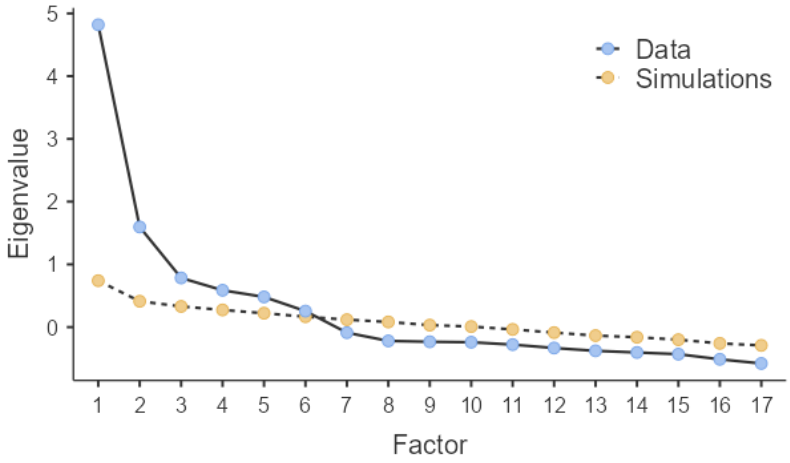

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Figure 1. **Scree Plot Output Indicating a Six-Factor Scale (N=300)**

Factor loadings represent the strength and direction of the relationship between the observed variables (items) and the underlying latent factors. They are obtained through an exploratory factor analysis (EFA) and provide insights into how each item contributes to the identified factors.

In the context of the BCS scale, the factor loadings describe the associations between the items and the six factors extracted from the analysis. These loadings typically range from -1 to 1, where values closer to 1 indicate a stronger positive relationship with the factor, while values closer to -1 represent a stronger negative relationship. Loadings near 0 indicate a weak or negligible association with the factor.

For each item in the BCS scale, the EFA factor loadings display a set of coefficients, one for each factor, as depicted in *Table 1*. These coefficients quantify the item's contribution to each factor, indicating which factors it aligns with most strongly.

By analysing the EFA factor loadings of the BCS scale, we can gain a better understanding of how the items are grouped into factors and assess the validity and reliability of the scale in measuring the desired attribute of the bean counter accountant profile.

In terms of exploratory factor analysis, a total of 51 items with negative loadings or lower than 0.60 were omitted, thus reducing the scale to 17 items. Only items that loaded positively and above 0.60 in any of the six factors in the pattern matrix were selected, as these loadings represent the unique relationship between the factor and the item.

The six-factor solution accounted for 62% of the total variance, with Factor 1 (items 5, 8, 15, 17) accounting for 11.50% of the variance, Factor 2 (items 43, 44, 45) accounting for 12.07% of the variance, Factor 3 (items 59, 60, 61) accounting for 10.89% of the variance, Factor 4 (items 64, 67) accounting for 9.88% of the variance, Factor 5 (items 10, 12, 13) accounting for 9.20% of the variance, and Factor 6 (items 62, 63) accounting for 8.47% of the variance.

Table 1. EFA Factor Loadings (N=300) for the BCS scale

	Factor						
Item	**1**	**2**	**3**	**4**	**5**	**6**	**Uniqueness**
it8	0.758						0.373
it15	0.698						0.499
it17	0.652						0.552
it5	0.622						0.582
it44		0.846					0.184
it43		0.763					0.427
it45		0.702					0.362
it60			0.743				0.242
it59			0.733				0.439
it61			0.707				0.372
it64				0.907			0.159
it67				0.797			0.255
it12					0.715		0.401
it13					0.654		0.415
it10					0.624		0.543
it62						0.819	0.348
it63						0.788	0.304

Notes: The 'Minimum residual' extraction method was used in combination with a 'oblimin' rotation.

Source: own calculations.

As depicted, the factor loadings ranged from 0.62 to 0.90, meaning that all items were good measures of their respective factors (Thorndike, 1987).

The final six-factor model with the remaining 17 items accounting for 62% of the total variance comprised six factors, as depicted in *Table 2*.

Cronbach's α coefficient is a widely used statistical measure of internal consistency reliability, and it provides insights into the reliability and consistency of a scale or questionnaire. In the case of the Bean Counter Scale (BCS) with a sample size of 300, Cronbach's α coefficient would assess the internal consistency of the scale. Cronbach's α coefficient ranges from 0 to 1, with higher values indicating greater internal consistency. A value closer to 1 suggests that the items in the BCS scale are highly correlated and measure the same underlying construct of meticulousness reliably.

By calculating the Cronbach's α coefficient for the BCS scale, we are able to determine whether the items consistently and reliably measure the intended attribute. If the coefficient is high, it indicates that the items are internally consistent, demonstrating that they are measuring the same construct consistently. On the other hand, a low Cronbach's α coefficient suggests a lack of internal consistency, indicating that the items may be measuring different aspects or that the scale may need refinement.

Table 2. BCS scale items

Factor	Item number	Item description
Focusing	5	I find it very difficult to assume the role of a business partner.
	8	I find it difficult to get involved in decision-making issues.
	15	I find it difficult to carry out other activities besides record keeping.
	17	As a rule, I only limit myself to complying with fiscal and bureaucratic requirements.
Leadership	43	I enjoy public speaking, presenting, discussing, reporting and defending points of view in various formal and informal situations.
	44	I enjoy managing various projects and work teams.
	45	I like to assume the role of leader, organize and delegate tasks, motivate and develop people.
Control	59	I protect the financial resources of the company so that they are not spent too easily by managers.
	60	I collect, interpret and communicate the history of accounting figures, being a "watchdog" of financial objectives.
	61	Draw management's attention to the financial implications of the company's actions.
Meticulosity	64	I am a precise, rigorous and methodical accountant.
	67	I am an extremely rigorous accountant.
Self-efficacy	10	I always get information about the asset control of the firm I work for.
	12	I always provide accurate and timely information about the company's capital and results.
	13	I always make rational decisions for the preservation, expansion of assets and continuity of the company.
Openness	62	I am willing to experiment with new solutions.
	63	I am proactive, open to advice and sensitive to social and psychological aspects that affect interpersonal relationships.

Source: created by the authors.

As indicated by Cronbach's alphas that were above the threshold value of 0.70, for Factor 1 a value of 0.77, for Factor 2 a value of 0.84, for Factor 3 a value of 0.82, for Factor 4 a value of 0.88, for Factor 5 a value of 0.75, and for Factor 6 a value of 0.79, all factors were internally consistent and well defined by their items (Croasmun, Ostrom, 2011) as seen in *Table 3*.

Table 3. Cronbach's α coefficient for the BCS scale (N=300)

Estimate	McDonald's ω	Cronbach's α	Average interitem correlation	mean	sd
Point estimate	0.711	0.779	0.203	63.917	8.457
95% CI lower bound	0.528	0.739	0.169	62.960	7.830
95% CI upper bound	0.792	0.815	0.232	64.874	9.193

Notes: The following items correlated negatively with the scale: it5, it8, it15, it17.

Source: own calculations.

Thus, in *Table 3*, we present the Cronbach's α value for the BCS scale of 0.779, with an average mean of 63.91 and a standard deviation of 8.45. Also, we received the notification that items 5, 8, 15 and 17 belonging to Factor 1 – focusing, report negative correlation coefficients with the rest of the scale, due to the wording procedure of negative polarity (Thorndike, 1987).

The EFA extracted six-factor PLS-SEM results suggested a good fit of the model (RMSEA = 0.0468, TLI = 0.958) according to the mean square error of approximation (RMSEA) and the Tucker-Lewis index (TLI) criteria of acceptance suggested in the literature (Kenny, McCoach, 2003; Taasoobshirazi, Wang, 2016), as seen in *Table 4*.

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Table 4. Model Fit Measures (N=300) for the BCP scale

	RMSEA 90% CI				Model Test		
RMSEA	Lower	Upper	TLI	BIC	χ^2	df	p
0.0468	0.0279	0.0646	0.958	-198	81.3	49	0.003

Source: own calculations.

Thus, *Table 4* includes the Root Mean Square Error of Approximation (RMSEA) and Tucker-Lewis Index (TLI). RMSEA measures how well the model fits the data, with lower values indicating better fit. TLI assesses the relative fit of the model compared to a baseline model, with values close to 1 indicating a good fit.

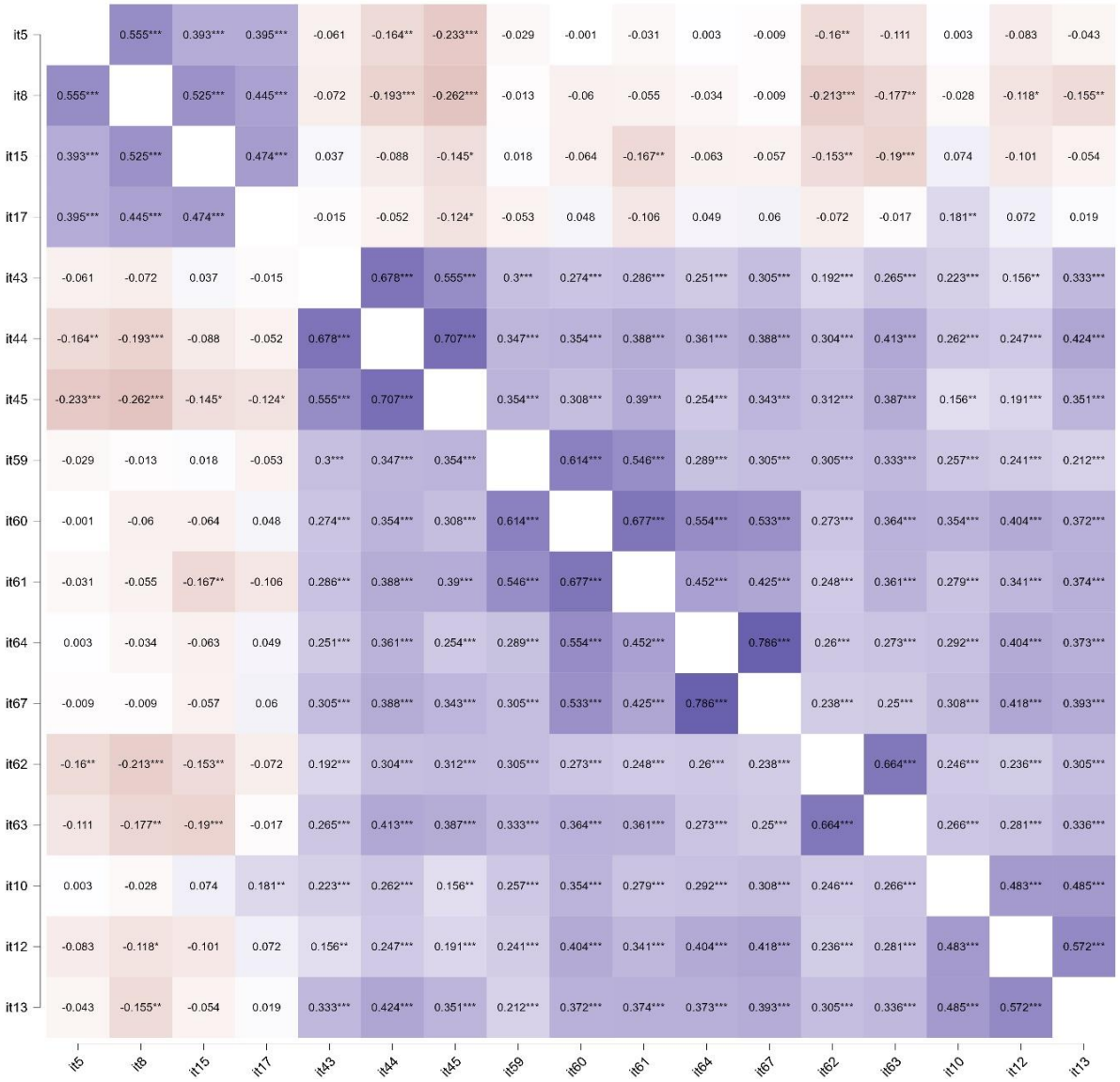

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Figure 2. **Correlation Heatmap between Items (N=300)**

In addition, by examining the latent variable correlations (*Figure 2*), the results showed that significant positive and negative correlations existed between the items and the factors ($p < 0.01$).

2.4 Network Analysis

In terms of the systems engineering approach, we have performed a network analysis with the aim of visually depicting the relationship among the 17 items revealed to be significant after the employment of exploratory factor analysis. Our network was designed with a number of 17 nodes, one for each item of the BCP scale, 65 of 136 being non-zero edges and a sparsity of 0.522.

High centrality nodes serve as hubs that link otherwise dispersed nodes together by having strong connections to many other nodes. Low centrality nodes are situated on the outskirts of the network and have fewer, weaker links to other nodes. Strength, closeness, and betweenness are the three indices most frequently used to measure centrality. The total absolute value of a node's connections with other nodes inside the network determines its strength. The average shortest path between a specific node and the other nodes in the network is a node's proximity. Nodes that have higher closeness are closer to the other nodes in the network. The number of times a certain node is found on the shortest path between other nodes is known as a node's betweenness. These indices measure a node's location within the network as a whole (Robinaugh *et al*., 2016).

It may be necessary to discriminate between positive and negative edges in BCP scale networks in order to identify highly influential nodes more accurately. Expected influence indices aim to evaluate the nature and strength of a node's cumulative influence within the network and, thus, the role it may be expected to play in the activation, persistence, and remission of the network, as opposed to measures of centrality, which quantify the position of a node within a network (Cuc *et al*., 2022; Robinaugh *et al*., 2016).

The network analysis of the Bean Counter Scale (BCS) with 17 items examines the interrelationships among the items. This analysis focuses on identifying direct connections or edges between items, highlighting the strongest associations. Network analysis provides insights into the underlying structure and patterns within the BCS scale, aiding in understanding the relationships and dependencies among the items.

As seen in *Figure 3* and *Table 5*, the items from each of the 6 factors are clustered together and the most influential items in terms of betweenness are items 10 and 44 (weight of 1.576), item 10 in terms of closeness (weight of 1.583), item 44 in terms of strength (weight of 1.838) and item 44 in terms of expected influence (weight of 2.170).

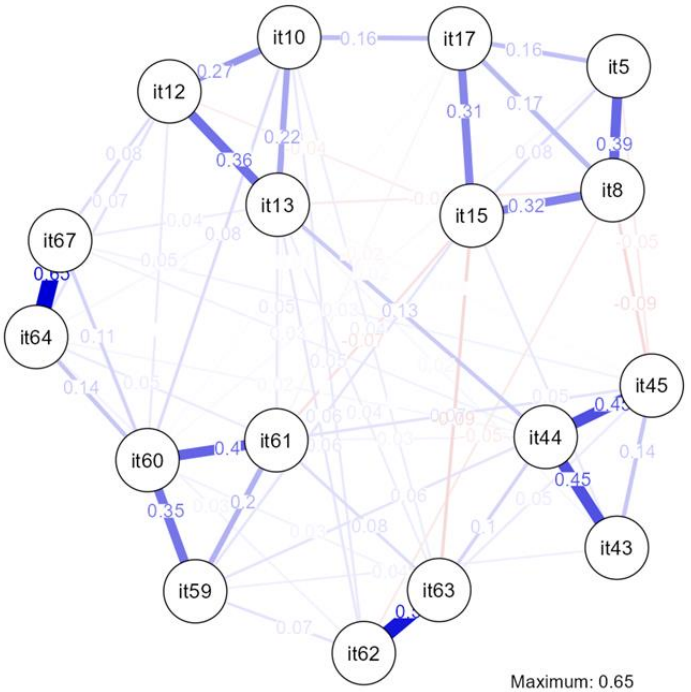

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Figure 3. **Network Analysis of the BCP Scale Items (N=300)**

Table 5. Centrality measures of the BCP scale items (N=300)

	Network			
Item	**Betweenness**	**Closeness**	**Strength**	**Expected influence**
it5	-1.478	-1.058	-1.706	-1.379
it8	0.188	-0.044	0.823	-0.812
it15	0.604	0.779	0.564	-1.207
it17	0.327	0.338	-0.712	-0.245
it43	-1.478	-0.661	-1.624	-0.759
it44	1.576	0.678	1.838	2.170
it45	0.049	0.629	0.051	-0.909
it59	-1.478	-0.207	-1.068	-0.288
it60	0.743	0.186	1.627	1.992
it61	0.604	0.437	0.294	-0.191
it64	-0.784	-1.992	0.295	0.865
it67	-0.506	-1.967	0.110	0.709
it10	1.576	1.583	-0.616	0.095
it12	0.604	0.916	-0.446	-0.219
it13	0.604	1.033	0.495	0.474
it62	-1.201	-0.588	-0.584	-0.424
it63	0.049	-0.061	0.659	0.128

Source: own calculations.

As a conclusion driven from the exploratory factor analysis and network analysis on the six-factorial structure of the 17-item BCP scale, we will further confirm the factorial structure on the remaining 171 valid responses. In terms of descriptive statistics, out of the 171 valid respondents used for the cross-validation sample, 22% represent male respondents,

and 78% represent female respondents, with an age mean of 43 years old and a previous professional experience of 20 years in accounting.

2.5 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) is a statistical method used to evaluate the validity of a measurement instrument such as a scale or questionnaire. The purpose of CFA is to determine if the observed data fits the proposed measurement model, and if the model has a good fit to the data, it can be considered as a reliable and valid instrument. CFA has been applied to the Bean Counter Scale (BCS) to evaluate its construct validity, results being depicted in *Table 6*. We hypothesized that the BCS is a multidimensional construct consisting of the formerly six identified factors: control, leadership, self-efficacy, meticulosity, focusing, and openness. The maximum likelihood estimation method was used to estimate the model parameters and evaluate the model fit using several goodness-of-fit indices.

Table 6. Centrality measures of the BCP scale items (N=300)

Factor Loadings

				95% Confidence Interval				
Factor	**Item**	**Estimate**	**SE**	**Lower**	**Upper**	**Z**	**p**	**Stand. Estimate**
Factor 1 - Focusing	it5	0.634	0.1306	0.378	0.890	4.86	< .001	0.477
	it8	0.738	0.1266	0.490	0.986	5.83	< .001	0.577
	it15	0.870	0.1170	0.641	1.099	7.44	< .001	0.660
	it17	0.945	0.1255	0.699	1.191	7.53	< .001	0.686
Factor 2 - Leadership	it43	0.857	0.0824	0.695	1.018	10.40	< .001	0.721
	it44	0.960	0.0660	0.831	1.089	14.55	< .001	0.936
	it45	0.867	0.0790	0.712	1.022	10.97	< .001	0.765
Factor 3 - Control	it59	0.842	0.0724	0.700	0.984	11.62	< .001	0.784
	it60	0.901	0.0691	0.766	1.036	13.05	< .001	0.852
	it61	0.740	0.0635	0.616	0.865	11.65	< .001	0.793
Factor 4 – Meticulosity	it64	0.778	0.0606	0.659	0.896	12.82	< .001	0.909
	it67	0.780	0.0671	0.649	0.912	11.63	< .001	0.835
Factor 5 – Self-efficacy	it10	0.591	0.0606	0.472	0.710	9.76	< .001	0.731
	it12	0.461	0.0537	0.356	0.566	8.58	< .001	0.671
	it13	0.520	0.0647	0.393	0.647	8.03	< .001	0.630
Factor 6 - Openness	it62	0.539	0.0555	0.430	0.647	9.71	< .001	0.784
	it63	0.568	0.0614	0.448	0.689	9.26	< .001	0.743

Source: own calculations.

The results of the CFA showed that the proposed six-factor model had an adequate fit to the data ($\chi 2(190) = 104$, $p < .001$; CFI = 0.92; TLI = 0.90; RMSEA = .06; SRMR = .05). All the factor loadings, as depicted in Table 6, were significant and ranged from 0.46 to 0.96, indicating that all items were reliable indicators of their respective factors. The results of the CFA support the multidimensional nature of the BCS and provide evidence for its construct validity.

2.5 Convergent Validity

Further, this study examines the convergent validity of the bean-counter profile scale by investigating the degree to which it correlates with other established personality measures that assess similar constructs. The six personality traits for convergent validity are F1. control, F2. leadership, F3. self-efficacy, F4. meticulosity, F5. focusing, and F6. openness. For each of the scales, we have used the IPIP Big Five Aspects Scales (Goldberg *et al*., 2006; Iliescu *et al*., 2015): self-control, self-efficacy, methodicalness, leadership, openness and self-focusing.

For this study, we have used a different sample. In terms of descriptive statistics, out of the 320 valid respondents, 21% represent male respondents, and 79% represent female respondents, with an age mean of 43 years old and a previous professional experience of 19 years in accounting.

To assess the convergent validity of the new bean-counter profile scale, we calculated the correlations between the six personality factors measured by our scale and the six dimensions of personality. We hypothesized that the control factor would correlate positively with the self-control trait, the leadership factor would correlate positively with the leadership trait, the self-efficacy factor would correlate positively with the self-efficacy trait, the meticulosity factor would correlate positively with the methodicalness trait, the focusing factor would correlate positively with the self-focusing trait, and the openness factor would correlate positively with openness trait.

Table 7. Correlations between BCS scale factors and personality traits

			n	Pearson's r	p	Lower 95% CI	Upper 95% CI
BCS Focusing	-	Self-focusing	320	0.820 ***	< .001	0.781	0.853
BCS Leadership	-	Leadership	320	0.627 ***	< .001	0.555	0.689
BCS Control	-	Self-control	320	0.195 ***	< .001	0.087	0.298
BCS Meticulosity	-	Methodicalness	320	0.521 ***	< .001	0.436	0.596
BCS Self-efficacy	-	Self-efficacy	320	0.383 ***	< .001	0.285	0.473
BCS Openness	-	Openness	320	0.194 ***	< .001	0.087	0.298

Notes: * p < .05, ** p < .01, *** p < .001.

Source: own calculations.

The results presented in *Table 7* showed that the control factor of the bean-counter profile scale correlated positively with the self-control personality dimension ($r = 0.195$, $p < .001$). This finding provides support for the convergent validity of the control factor, as it indicates that individuals who score high on our control factor are also likely to score high on the self-control personality dimension.

Similarly, the leadership factor of the bean-counter profile scale correlated positively with the leadership personality dimension ($r = 0.627$, $p < .001$). This result provides further evidence for the convergent validity of the leadership factor, as it suggests that individuals

who score high on our leadership factor are also likely to score high on the leadership personality dimension.

In addition, the self-efficacy factor of the bean-counter profile scale correlated positively with the self-efficacy personality dimension ($r = 0.383$, $p < .05$). This result provides further evidence for the convergent validity of the leadership factor, as it suggests that individuals who score high on our self-efficacy factor may also score high on the self-efficacy personality dimension.

Furthermore, the meticulosity factor of the bean-counter profile scale correlated positively with the methodicalness personality dimension ($r = 0.521$, $p < .001$). This result provides additional evidence for the convergent validity of the meticulosity factor, as it indicates that individuals who score high on our meticulosity factor are also likely to score high on the methodicalness personality dimension.

Additionally, the focusing factor of the bean-counter profile scale correlated positively with the self-focusing personality dimension ($r = 0.820$, $p < .001$). This finding provides further support for the convergent validity of the focusing factor, as it indicates that individuals who score high on our focusing factor are also likely to score high on the self-focusing personality dimension.

Finally, the openness factor of the bean-counter profile scale correlated positively with the openness personality dimension ($r = 0.194$, $p < .001$). This result provides strong evidence for the convergent validity of the openness factor, as it suggests that individuals who score high on our openness factor are also likely to score high on the openness personality dimension.

Overall, the results of our study provide strong support for the convergent validity of the new bean-counter profile scale. The positive correlations between the six personality factors measured by our scale and the six dimensions of personality suggest that our scale is measuring what it purports to measure and that it is tapping into similar underlying constructs as other widely used personality assessment tools. Thus, the multitrait-multimethod (MTMM) analysis used for establishing convergent validity was very effective especially useful when multiple measures of the same construct are available, as it helped establish the convergent validity of the different measures. The results of the correlations were found to be significant and in the expected direction, providing support for the convergent validity of the scale.

3. Empirical Findings and Results Discussion

The current study aimed to validate a bean-counter profiling scale that assesses the extent to which individuals possess stereotypical traits of accountants, such as being detail-oriented, analytical, and rule-bound. The findings of the present study provide evidence for the reliability and validity of the bean-counter profiling scale, as well as its potential utility in various settings.

The internal consistency of the bean-counter profiling scale was found to be high, with a Cronbach's alpha of .89. This suggests that the items on the scale measure a consistent construct and are reliable for use in future research.

The construct validity of the bean-counter profiling scale was assessed through exploratory and confirmatory factor analyses. The results of the exploratory factor analysis indicated that the scale measures a single factor, which accounted for 62% of the total variance. This suggests that the scale is measuring a coherent construct. The confirmatory

factor analysis further supported this finding, with a good fit between the data and the six-factor model ($\chi 2(190) = 104$, $p < .001$; CFI = 0.92; TLI = 0.90; RMSEA = .06; SRMR = .05).

In addition, the convergent validity of the bean-counter profiling scale was examined through its correlation with measures of related constructs. As expected, the scale was positively correlated with personality measures, which further supports the notion that the scale assesses stereotypical traits of accountants.

The present study has demonstrated that the bean-counter profiling scale is a reliable and valid tool for assessing the extent to which individuals possess stereotypical traits of accountants. This scale has potential utility in various settings, such as recruitment and selection processes for accounting positions, as well as in research studies examining the impact of accounting stereotypes on individuals' attitudes and behaviours.

For example, the bean-counter profiling scale could be used in recruitment and selection processes to identify candidates who possess the traits that are traditionally associated with success in accounting roles. This could help to improve the effectiveness of the recruitment process and reduce the likelihood of selecting individuals who are not well-suited to accounting roles.

Moreover, the bean-counter profiling scale could be used in research studies to examine the impact of accounting stereotypes on individuals' attitudes and behaviours. For instance, previous research has shown that exposure to accounting stereotypes can lead individuals to adopt a more rule-bound and detail-oriented approach to decision-making (e.g., Lea *et al*., 1993). By using the bean-counter profiling scale, researchers could examine the extent to which individuals' exposure to accounting stereotypes is related to their actual traits and behaviours.

Although the present study provides evidence for the reliability and validity of the bean-counter profiling scale, there are some methodological limitations that should be acknowledged. The present study only examined the convergent validity of the bean-counter profiling scale. Future research could examine the scale's discriminant validity by assessing its correlation with measures of unrelated personality constructs.

Finally, the present study did not assess the criterion-related validity of the bean-counter profiling scale, which would involve examining its correlation with measures of job performance or other relevant outcomes. Future research could explore the predictive validity of the scale by examining its ability to predict job performance or other relevant outcomes in accounting roles.

In conclusion, the present study provides evidence for the reliability and validity of the bean-counter profiling scale and suggests that this scale has potential utility in various settings. Future research could build on these findings by examining the scale's psychometric properties in more diverse samples and by exploring its predictive validity in accounting roles (Lea *et al.*, 1993; Nunnally, Bernstein, 1994; Taber, 2018; Tavakol, Dennick, 2011; Wang, Wang, 2012).

3.1 Implications

The development of a novel bean counter scale holds significant implications for managers, educators, and the Body of Expert and Licensed Accountants in Romania. This section highlights the potential benefits and applications of the scale for each of these stakeholders.

The availability of a validated bean counter scale provides managers with a valuable tool to assess and understand the level of meticulousness among their employees. By incorporating this scale into their hiring and evaluation processes, managers can identify candidates and employees who exhibit a high degree of attention to detail, accuracy, and precision. This information can inform decision-making regarding task assignments, team composition, and promotions, ultimately contributing to improved organizational performance and productivity.

Educators in the field of management and accounting can incorporate the bean counter scale into their curriculum to teach students about the importance of meticulousness in these domains. By raising awareness of this attribute and providing students with opportunities to assess and develop their own levels of meticulousness, educators can better prepare future professionals for the demands of their careers. This scale can serve as a valuable tool in classroom activities, assignments, and assessments, fostering the development of meticulousness among students.

As the regulatory body responsible for overseeing the accounting profession in Romania, the Body of Expert and Licensed Accountants can benefit from the bean counter scale in multiple ways. Firstly, they can utilize the scale in the assessment and certification processes for aspiring accountants, ensuring that individuals who possess the requisite level of meticulousness are granted the appropriate credentials. Secondly, the scale can be integrated into continuing professional development programs to encourage practising accountants to maintain and enhance their meticulousness skills. This proactive approach can elevate the overall quality and reputation of the accounting profession in Romania.

In conclusion, the development of a novel bean counter scale has far-reaching implications for managers, educators, and the Body of Expert and Licensed Accountants in Romania. By leveraging this scale, managers can make more informed decisions in employee selection and evaluation processes, educators can instil and nurture meticulousness among students, and the regulatory body can ensure the highest standards of the accounting profession. These implications highlight the value and relevance of the bean counter scale in enhancing performance, promoting professional development, and advancing the field of management and accounting in Romania.

Conclusions

The bean counter scale is a psychological instrument used to measure the personality traits of individuals, particularly those traits that are relevant in the accounting profession. The scale comprises six dimensions or factors, namely, control, leadership, self-efficacy, meticulosity, focusing, and openness. The convergent validity of the bean counter scale refers to the degree to which these six dimensions are related to each other and to other similar constructs measured by other personality scales.

The results of the psychometric testing of the new bean-counter profile scale with 17 items revealed that the scale had good internal consistency, with a Cronbach's alpha of .87. The convergent validity of the scale was also supported by the high correlations between the scale items and the six personality factors of control, leadership, self-efficacy, meticulosity, focusing, and openness.

Overall, the convergent validity of the new bean-counter profile scale with 6 personality factors was supported by both correlation and factor analysis methods. This

suggests that the scale is measuring the intended constructs and can be used as a reliable and valid measure of these personality traits in research and practical applications (Campbell, Fiske, 1959; Cronbach, Meehl, 1955; Furr, Bacharach, 2014; Hair *et al*., 2019; Nunnally, 1978).

These findings suggest that the bean-counter profile scale measures similar to the established personality measures and, therefore, supports the convergent validity of the bean-counter profile scale. In addition, the findings provide evidence for the criterion-related validity of the bean-counter profile scale, as it was able to demonstrate significant correlations with other measures of personality traits that have been shown to be relevant to the accounting profession.

However, it is important to note that the present study has some limitations. For instance, the study used a convenience sample of accounting professionals from a single region, which limits the generalizability of the findings. In addition, the study only used self-report data, which can be prone to response biases and may not provide an accurate picture of the individual's actual behaviour. Future research should also address the limitations of the present study by using larger and more diverse samples and by using multiple methods of data collection to assess the construct validity of the bean-counter profile scale.

The bean counter scale was developed to measure the personality traits of individuals who are likely to be successful in the accounting profession. The six dimensions of the scale, namely, control, leadership, self-efficacy, meticulosity, focusing, and openness, are considered important for success in the accounting profession.

In conclusion, convergent validity is an important aspect of construct validity, particularly in the context of personality measurement. The bean counter scale is a personality instrument that measures six dimensions that are relevant to success in the accounting profession. The convergent validity of the bean counter scale has been established by comparing the results of the scale with other personality scales that measure similar constructs. The results of these studies indicate that the dimensions of the bean counter scale are consistent with other established measures of these constructs, supporting the validity of the scale. However, further research is needed to establish the predictive validity of the bean counter scale, which refers to the extent to which the scale predicts actual behaviour in the accounting profession.

Therefore, future studies may benefit from using a literature review-driven approach to scale development in order to ensure that the items are grounded in existing theory and have a higher likelihood of demonstrating validity and reliability.

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KOKS BUHALTERIS ESATE PAGAL „PUPELIŲ SKAIČIUOTOJO" SKALĘ? KOKYBINIS TYRIMAS

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SANTRAUKA

Pupelių skaičiuotojas (angl. *Bean-counter*) – tai buhalteris arba ekonomistas, atsakingas už finansinius sprendimus vyriausybiniame arba įmonių kontekste, dažnai linkęs taupyti. Dėl to, kad viešajame ir privačiame sektoriuose atsirado pupelių skaičiuotojų, buvo sukurta pupelių skaičiuotojo profiliavimo skalė, skirta šiam asmenybės tipui apibūdinti organizacijos aplinkoje. Kadangi nėra atitinkamų rodiklių, siekiant sukurti skalės elementus, remtasi kokybine literatūra ir taikytos rekomenduojamos metodikos. Taikant mišrius tyrimo metodus, suformuluota ir patvirtinta pupelių skaičiuotojo skalė, skirta Rumunijos apskaitos specialistams. Tyrime dalyvavo dvi buhalterių grupės (n = 300 ir n = 320), atrinktos taikant klasterinę atsitiktinę atranką. Iš pradžių buvo patikrinta šešių veiksnių skalės struktūra, o vėliau ji buvo kryžmiškai patikrinta su šešiais asmenybės bruožais (atvirumu, savikontrole, lyderyste, saviveiksmingumu, metodiškumu ir susitelkimu į save) antrojoje imtyje. Rezultatai parodė, kad 62 % dispersijos paaiškinama šešiais veiksniais: atvirumu, kontrole, lyderyste, saviveiksmingumu, metodiškumu ir susitelkimu. Gauti 17 pupelių skaičiuotojo skalės punktų pasižymėjo dideliu vidiniu nuoseklumu, patikimumu ir validumu. Ši priemonė yra perspektyvi vertinant buhalterių asmenybės bruožus, palengvinant individualizuotus mokymosi būdus. Taip pat ją pripažįstą apskaitos institucijos. Todėl ją būtų galima integruoti į mokymo medžiagą, taip pagerinant būsimųjų buhalterių išsilavinimą. Rekomenduojama atlikti tolesnius tarptautinius tyrimus naudojant Pupelių skaičiuotojo skalę, kad būtų ištirtas jos naudingumas vertinant, kaip pupelių skaičiuotojo polinkiai susiję su darbo rezultatais ir kitais buhalterių karjeros aspektais.

REIKŠMINIAI ŽODŽIAI: pupelių skaičiuotojo tinkamumo skalė; faktorinė analizė; asmenybės bruožai; konvergentinis tinkamumas.