

RESEARCH ARTICLE

FACTORS AFFECTING THE APPLICATION OF MODERN MANAGEMENT ACCOUNTING IN VIETNAMESE GARMENT ENTERPRISES

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ABSTRACT

This paper aims to investigate the determinants influencing the application of modern management accounting in Vietnamese garment enterprises. A quantitative research design was employed, with data collected via a questionnaire survey administered to 140 garment enterprises in Vietnam. Eight factors were selected to measure the application of management accounting through correlation and regression analyses. The empirical results indicate that all eight factors are positively associated with the degree of modern management accounting adoption, namely: Enterprise Size, Competitive Pressure, Production Technology, Opinion of Managers, Accountant Qualification, Enterprise Culture, Implementation Costs, and Education and Training. Notably, the Opinion of Managers exerts the highest impact, whereas Competitive Pressure has the lowest impact on the adoption of modern management accounting. The findings provide a foundational basis for state management agencies, the Vietnam Textile and Apparel Association (VITAS), and corporate managers to devise effective solutions to promote modern management accounting practices within Vietnamese garment firms. Furthermore, this study offers a comprehensive overview of modern management accounting structured around the IFAC framework.

Keywords: Factors, modern management accounting, Vietnamese garment enterprise.

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1. Introduction

Management accounting plays a critical role in corporate governance systems as it provides essential financial and non-financial information to assist managers in planning, controlling, and operating business activities, while concurrently forecasting and formulating long-term strategic development plans for enterprises. The successful application of modern management accounting methods is regarded as a major competitive advantage for firms in an increasingly fierce market environment.

According to Decision No. 1643/QĐ-TTg issued by the Prime Minister on December 29, 2022, one of the development objectives for the Vietnamese textile and garment industry toward 2030, with a vision to 2035, is to develop effectively and sustainably following a circular economy model by 2035; complete

domestic production value chains, participate effectively in global value chains, and establish regional and global brands. This overarching strategic goal has driven an urgent need to adopt modern management accounting systems within Vietnamese garment enterprises.

However, prior empirical studies by Nguyen (2021) and Nguyen et al. (2021) reveal that the vast majority of Vietnamese enterprises continue to rely predominantly on traditional management accounting. Consequently, this study is conducted to evaluate the determinants influencing the intention to adopt modern management accounting in Vietnamese garment enterprises.

2. Literature Review

In 1998, the International Federation of Accountants (IFAC, 1998) released a conceptual framework outlining the evolution of management accounting across four distinct stages:

- Stage 1 (Prior to 1950): Management accounting focused primarily on cost determination, product costing, and internal financial control. It was viewed purely as a technical activity facilitating predefined managerial goals.
- Stage 2 (1960–1965): The focus shifted toward providing information for corporate planning and control. At this stage, it evolved from a purely technical task into a basic management activity.
- Stage 3 (1965–1985): Management accounting focused on waste reduction in resource utilization, heavily influenced by the economic recession and oil crises of the 1970s and intense global competition in the 1980s driven by rapid technological advancement.
- Stage 4 (1995–Present): This stage marks the explosion of the Internet and globalization, generating severe competition and higher operational risks. Management accounting now centers on value creation through the effective deployment of organizational resources and the strategic integration of advanced technologies.

Traditional management accounting emerged and was widely applied prior to the 1980s, and arguably even before 1925 (Kaplan, 1984). Since the 1980s, in response to competitive challenges and the rapid rise of information technology, various new management theories emerged, collectively termed 'modern management accounting.' These advanced techniques include Activity-Based Costing (ABC), Target Costing, the Balanced Scorecard (BSC), Total Quality Management (TQM), Life Cycle Costing, and Lean Accounting, among others.

The implementation of management accounting is commonly examined across four core managerial functions: planning, control, evaluation, and decision-making (Nandan, 2010; Kosaiyakanont, 2011; Michael et al., 2012; Ahmad, 2012; Armitage & Webb, 2013; Le et al., 2021). Meanwhile, the determinants affecting the application of management accounting in general, and modern management accounting in particular, have been widely investigated by numerous authors globally and domestically. However, each study remains deeply embedded within specific socio-cultural, political, human, and economic development contexts. Thus, this study synthesizes prior research focusing specifically on the determinants affecting management accounting application within Vietnamese enterprises.

Among the studied determinants in Vietnam, enterprise size and competitive pressure are the two most frequently cited factors. Most researchers agree that a larger enterprise size exerts a positive influence on management accounting adoption (Tran, 2016; Nguyen & Le, 2018; Le et al., 2019; Nguyen et al., 2019; La et al., 2020; Nguyen, 2021). In fact, La et al. (2020) identified it as the most powerful driver. Similarly, competitive pressure has been shown to have a positive and highly significant effect on adoption (Tran, 2016; Thai, 2019; Nguyen et al., 2019; La et al., 2020; Ngo, 2021; Nguyen, 2021). The qualifications of

accounting staff and corporate leadership have also been integrated into multiple frameworks, demonstrating positive relationships with adoption (Tran, 2016; Thai, 2019; Nguyen et al., 2019; La et al., 2020; Nguyen, 2021; Ngo, 2021). Nonetheless, their relative impacts vary; for instance, while Nguyen et al. (2019) found managerial awareness to be the most critical factor among seven variables, La et al. (2020) reported it as having the lowest impact among five variables.

Recent literature has also paid substantial attention to corporate culture. Quantitative findings reveal that a more developed corporate culture significantly enhances the likelihood of management accounting application (Tran, 2016; Le et al., 2020). Indeed, Le et al. (2020) established corporate culture as the strongest predictor among six analyzed variables. Implementation costs have also become increasingly prominent in recent discourse (Tran, 2016; Nguyen et al., 2019; Thai, 2019).

Beyond these primary variables, other determinants validated in prior research include production technology (Le et al., 2020), product characteristics (Le et al., 2020), management decentralization (Ngo, 2021), managerial information needs (Nguyen et al., 2021), and education and training (Nguyen & Ngo, 2023).

3. Research Methodology

3.1 Measurement Scales

The measurement scales in this study were constructed based on the research objectives and validated items from previous literature.

The dependent variable is 'Modern Management Accounting Application in Vietnamese Garment Enterprises,' measured via four operational items: application in planning, control, evaluation, and decision-making.

Regarding the independent variables, although garment firms in Vietnam are large in total number, they are predominantly small and medium-sized enterprises (SMEs). Consequently, they typically face financial limitations, are highly labor-intensive, experience constraints in technological innovation and equipment upgrading, and possess modest managerial and accounting capabilities, all while facing intense domestic and international competition. Most export-oriented garment firms operate under Cut-Make-Trim (CMT) arrangements, whereas those utilizing Original Brand Manufacturing (OBM) represent the smallest proportion and primarily serve the domestic market. Integrating these industry-specific characteristics with the literature review, eight independent factors affecting modern management accounting application are proposed and defined below:

- **Enterprise Size:** A fundamental prerequisite for corporate survival and management accounting development. Larger firms face higher operational complexity, requiring specialized management techniques, stronger financial capacities, and more complex costing/budgeting frameworks. The measurement items include number of employees, capital, and revenue.
- **Competitive Pressure:** To survive, garment firms must enhance their adoption of modern management practices. Given the nature of garment manufacturing (processing contracts or direct market sales), this factor is captured through three items: contract competition, recruitment competition, and sales competition.
- **Production Technology:** The implementation of advanced manufacturing systems (e.g., Advanced Manufacturing Technologies, TQM, Just-In-Time) profoundly influences accounting practices, necessitating corresponding investments in advanced accounting frameworks to maintain operational efficiency.

- **Opinion of Managers:** As primary decision-makers, managers heavily dictate accounting adoption. Accurate and timely financial/non-financial information ensures sound decision-making, whereas substandard records impair data quality. Furthermore, managers relying strictly on personal intuition or habits struggle to control costs effectively.
- **Accountant Qualification:** The proficiency and skill set of accountants directly govern system quality due to the vast volume of data and complex techniques involved. Highly qualified accounting teams produce superior advisory reports, prompting higher adoption rates.
- **Enterprise Culture:** Corporate culture establishes the operational environment and behavioral habits of employees, directly influencing the configuration and utilization of management accounting techniques. Modern cultures exhibit greater openness to diverse accounting tools.
- **Education and Training:** This factor directly impacts human resource quality. In Vietnam, where management accounting—especially modern techniques—has only recently been introduced into higher education curricula, formal education and professional training are critical drivers of organizational adoption.

Table. 1. Measurement scales

| Factors | Cod | Variables | Sources |
|-----------------------------|-----|--|--|
| 1. Enterprsize size | EZ1 | Total capital | Tran (2016), Ngo (2021), Le et al.(2021) |
| | EZ2 | Number of employees | |
| | EZ3 | Revenue | |
| 2. Competitive pressure | CP1 | Competition for contracts | Tran (2016), Doan (2016), Ngo (2021), Le et al.(2021), Nguyen & Ngo (2023) |
| | CP2 | Competition in recruiting employees | |
| | CP3 | Competition in selling products | |
| 3.Production technology | TP1 | Advanced manufacturing technology | Nguyen et al (2021), Le et al.(2021) |
| | TP2 | Total quality management system | |
| | TP3 | Just in time system | |
| 4. Opinion of managers | OM1 | The manager has knowledge of modern management accounting | Pham & Dao (2019), Nguyen et al (2021), Nguyen (2021), Tran (2016) |
| | OM2 | Managers appreciate modern management accounting | |
| | OM3 | Willing to adopt modern management accounting | |
| | OM4 | Managers need modern management accounting information for decision-making | |
| 5. Accountant qualification | AQ1 | Accountants have advanced qualifications (university degree or higher) | Nguyen et al (2021), |
| | AQ2 | Accountants have international professional certifications | |
| | AQ3 | The chief accountant has good knowledge and skills. | |
| 6. Enterprise culture | EC1 | Consensus on development goals | Tran (2016), Le et al.(2021), Nguyen & Ngo (2023) |
| | EC2 | Culture encourages innovation | |
| | EC3 | Culture of mutual support | |

| | | | |
|--|-----|---|--|
| 7. Implementation costs | IM1 | Infrastructure investment costs | Tran (2016), Nguyen & Ngo (2023) |
| | IM2 | Accounting staff costs | |
| | IM3 | Cost of hiring a consultant | |
| 8. Education and training | ET1 | Modern management accounting is taught in educational and training institutions | Nguyen & Ngo (2023) |
| | ET2 | The company offers training programs in modern management accounting | |
| | ET3 | There are guidelines on modern management accounting | |
| 9. Modern management accounting applications | AP1 | Applying modern management accounting in planning | Nandan, 2010; Kosaiyakanont 2011; Michael và cộng sự, 2012; Ahmad, 2012, Armitage & Webb, 2013; Le et al, 2021 |
| | AP2 | Applying modern management accounting in control | |
| | AP3 | Applying modern management accounting in evaluation | |
| | AP4 | Applying modern management accounting in decision-making | |

(Source: Compiled by the author based on research results)

3.2 Conceptual Framework, Research Hypotheses, and Regression Equation

Based on the eight established determinants, the research model evaluates their direct effects on modern management accounting application. The specific hypotheses are defined as follows:

- Hypothesis H1: There is a positive relationship between enterprise size and modern management accounting application.
- Hypothesis H2: There is a positive relationship between competitive pressure and modern management accounting application.
- Hypothesis H3: There is a positive relationship between production technology and modern management accounting application.
- Hypothesis H4: There is a positive relationship between opinion of managers and modern management accounting application.
- Hypothesis H5: There is a positive relationship between accountant qualifications and modern management accounting application.
- Hypothesis H6: There is a positive relationship between enterprise culture and modern management accounting application.
- Hypothesis H7: There is a positive relationship between implementation costs and modern management accounting application.
- Hypothesis H8: There is a positive relationship between education and training and modern management accounting application.

Regression Equation:

$$APP_i = \alpha + \beta_1 ES_i + \beta_2 CP_i + \beta_3 PT_i + \beta_4 OM_i + \beta_5 AQ_i + \beta_6 EC_i + \beta_7 IC_i + \beta_8 ET_i + \varepsilon_i$$

Where: α represents the constant term; β_1 to β_8 denote the regression coefficients of the independent variables; ε_i represents the residual error term.

Independent variables: Enterprise Size (ES), Competitive Pressure (CP), Production Technology (PT),

Opinion of Managers (OM), Accountant Qualifications (AQ), Enterprise Culture (EC), Implementation Costs (IC), and Education and Training (ET).

Dependent variable: Modern Management Accounting Application (AP).

3.3 Research Process

This study adopts a mixed-methods approach. First, grounded in the literature review, initial determinants were compiled. In-depth qualitative interviews were conducted with five experts possessing profound expertise in modern management accounting within the garment sector to refine measurement items and ensure contextual relevance. Subsequently, a quantitative methodology utilizing structured questionnaires was deployed. The survey instrument comprised three distinct components: (1) introduction to the research topic, (2) corporate profile and demographic details of respondents, and (3) Likert-scale questions regarding the determinants influencing modern management accounting adoption.

The target population consisted of corporate managers, chief accountants, and general accountants in Vietnamese garment enterprises. A total of 140 valid questionnaire surveys were gathered between May 2025 and December 2025 using a dual distribution channel: hard-copy distribution directly at corporate premises and online distribution via electronic forms (Google Forms) transmitted through email and Zalo. Data analysis was executed via SPSS 26.0 software through four consecutive phases: (1) Scale reliability testing using Cronbach's Alpha (minimum threshold of 0.60; corrected item-total correlation > 0.30), (2) Exploratory Factor Analysis (EFA) to achieve dimension reduction, (3) Multiple Linear Regression analysis to test hypotheses, and (4) Residual diagnostics (Histogram, Normal P-P Plot, and Scatterplot) to ensure full compliance with classical linear regression assumptions.

4. Results and Discussion

4.1 Scale Reliability: Cronbach's Alpha Test Results

Reliability evaluation via Cronbach's Alpha coefficients was executed across all components. As summarized in Table 2, all scales demonstrated robust internal consistency, ranging from a minimum of 0.764 (Competitive Pressure) to a maximum of 0.937 (Modern Management Accounting Application), comfortably exceeding the 0.70 benchmark. Detailed item-level analytics provided in Table 3 further demonstrate that all corrected item-total correlation coefficients surpassed the 0.30 cut-off, justifying the retention of all 29 observed variables for subsequent exploratory factor analysis.

Table 2. Summary of Cronbach's Alpha results

| Items | ES | CP | PT | OM | AQ | EC | IC | ET | AP | Total |
|-----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Cronbach's Alpha | 0.829 | 0.764 | 0.840 | 0.811 | 0.821 | 0.888 | 0.778 | 0.813 | 0.937 | |
| Number of inspection observations | 03 | 03 | 03 | 04 | 03 | 03 | 03 | 03 | 04 | 29 |
| Number of observations accepted | 03 | 03 | 03 | 04 | 03 | 03 | 03 | 03 | 04 | 29 |
| Number of observations removed | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |

Source: Data analysis results from SPSS 26.0.

Table.3. Cronbach's Alpha coefficient.

| Items | Scale Mean If Item Deleted | Scale Variance If Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha If Item Deleted |
|-----------------------------------|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| Scale SZ; Cronbach's Alpha = .829 | | | | |
| ES1 | 8.04 | 3.804 | .644 | .806 |
| ES2 | 8.01 | 3.460 | .682 | .768 |
| ES3 | 8.14 | 2.958 | .747 | .704 |
| Scale CP; Cronbach's Alpha = .764 | | | | |
| CP1 | 5.77 | 2.321 | .632 | .647 |
| CP2 | 5.80 | 2.449 | .651 | .618 |
| CP3 | 4.77 | 3.314 | .534 | .757 |
| Scale PT; Cronbach's Alpha = .840 | | | | |
| PT1 | 6.60 | 2.501 | .713 | .771 |
| PT2 | 6.74 | 2.264 | .726 | .759 |
| PT3 | 6.61 | 2.598 | .679 | .803 |
| Scale OM; Cronbach's Alpha = .811 | | | | |
| OM1 | 12.07 | 5.736 | .602 | .778 |
| OM2 | 11.38 | 4.956 | .651 | .752 |
| OM3 | 11.36 | 4.938 | .640 | .757 |
| OM4 | 11.39 | 4.944 | .633 | .761 |
| Scale AQ; Cronbach's Alpha = .821 | | | | |
| AQ1 | 7.31 | 2.833 | .669 | .763 |
| AQ2 | 8.04 | 3.186 | .674 | .758 |
| AQ3 | 7.30 | 2.931 | .689 | .741 |
| Scale EC; Cronbach's Alpha = .888 | | | | |
| EC1 | 6.66 | 3.059 | .779 | .843 |
| EC2 | 6.66 | 2.858 | .780 | .842 |
| EC3 | 6.70 | 2.917 | .785 | .837 |
| Scale IC; Cronbach's Alpha = .778 | | | | |
| IC1 | 7.42 | 2.706 | .565 | .760 |
| IC2 | 6.33 | 2.855 | .711 | .609 |
| IC3 | 5.61 | 2.801 | .583 | .733 |
| Scale ET; Cronbach's Alpha = .813 | | | | |
| ET1 | 7.50 | 2.453 | .679 | .734 |
| ET2 | 8.26 | 3.059 | .653 | .758 |
| ET3 | 7.52 | 2.798 | .671 | .735 |
| Scale AP; Cronbach's Alpha = .937 | | | | |
| AP1 | 27.93 | 28.355 | .718 | .932 |
| AP2 | 27.87 | 29.034 | .738 | .931 |
| AP3 | 27.92 | 28.433 | .786 | .928 |
| AP4 | 27.86 | 27.764 | .748 | .931 |

Source: Data analysis results from SPSS 26.0.

The test results show that all scales have Cronbach's Alpha coefficient >0.5 and are quite high; the lowest is 0.764, and the highest is 0.937. In addition, the total variable correlation coefficients are >0.3 . Therefore, it can be confirmed that the scales of the study are reliable and can be used to analyze the discovery factor in the next step.

4.2. Exploratory Factor Analysis

EFA factor analysis for independent variables. Processing results from SPSS software for independent variables are as follows:

Table.4 shows that $KMO = 0.835 > 0.5$, so the factor analysis is appropriate. Sig. (Bartlett's Test) = 0.000 (sig. < 0.05) shows that the observed variables involved in the EFA analysis are correlated.

Table .4. Kaiser-Meyer-Olkin Measure and Bartlett's Test.

| | | |
|--|----------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .835 |
| | 1767.449 | 2914.135 |
| Bartlett's Test of Sphericity | 300 | 351 |
| | .000 | 0.000 |

Source: Data analysis results from SPSS 26.0.

Table.5 shows that there are 8 factors extracted based on Eigenvalue $1.013 > 1$ or 8 factors that summarize the information of 25 observed variables into EFA in the best way. The total variance of these factors extracted is $74.292\% > 50\%$. Thus, the 8 factors cited explained 74.292% of the data variation of 25 observed variables participating in EFA. The loading factor of the observed variables in the rotation matrix is >0.5 (Table. 6), or these observed variables are all significant contributors to the model.

Table.5. Total Variance Explained.

Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 7.695 | 30.781 | 30.781 | 7.695 | 30.781 | 30.781 | 2.542 | 10.166 | 10.166 |
| 2 | 3.098 | 12.391 | 43.172 | 3.098 | 12.391 | 43.172 | 2.483 | 9.932 | 20.098 |
| 3 | 1.740 | 6.959 | 50.131 | 1.740 | 6.959 | 50.131 | 2.361 | 9.443 | 29.541 |
| 4 | 1.432 | 5.728 | 55.859 | 1.432 | 5.728 | 55.859 | 2.341 | 9.362 | 38.903 |
| 5 | 1.308 | 5.231 | 61.090 | 1.308 | 5.231 | 61.090 | 2.319 | 9.276 | 48.179 |
| 6 | 1.203 | 4.812 | 65.902 | 1.203 | 4.812 | 65.902 | 2.254 | 9.015 | 57.193 |
| 7 | 1.085 | 4.338 | 70.240 | 1.085 | 4.338 | 70.240 | 2.167 | 8.670 | 65.863 |
| 8 | 1.013 | 4.052 | 74.292 | 1.013 | 4.052 | 74.292 | 2.107 | 8.429 | 74.292 |
| 9 | .708 | 2.834 | 77.125 | | | | | | |
| 10 | .653 | 2.613 | 79.738 | | | | | | |
| 11 | .555 | 2.219 | 81.958 | | | | | | |
| 12 | .537 | 2.147 | 84.104 | | | | | | |
| 13 | .509 | 2.037 | 86.141 | | | | | | |
| 14 | .432 | 1.728 | 87.870 | | | | | | |
| 15 | .391 | 1.563 | 89.432 | | | | | | |
| 16 | .387 | 1.549 | 90.981 | | | | | | |
| 17 | .378 | 1.514 | 92.495 | | | | | | |

| | | | | | | | | | |
|----|------|-------|---------|--|--|--|--|--|--|
| 18 | .318 | 1.271 | 93.766 | | | | | | |
| 19 | .311 | 1.243 | 95.009 | | | | | | |
| 20 | .282 | 1.127 | 96.136 | | | | | | |
| 21 | .237 | .947 | 97.083 | | | | | | |
| 22 | .218 | .870 | 97.953 | | | | | | |
| 23 | .196 | .783 | 98.737 | | | | | | |
| 24 | .179 | .717 | 99.453 | | | | | | |
| 25 | .137 | .547 | 100.000 | | | | | | |

Extraction Method: Principal Component Analysis.

Table 6. Rotated Component Matrix ^a.

Rotated Component Matrix^a

| | Component | | | | | | | |
|-----|-----------|------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| OM1 | .799 | | | | | | | |
| OM3 | .709 | | | | | | | |
| OM2 | .695 | | | | | | | |
| OM4 | .679 | | | | | | | |
| EC1 | | .843 | | | | | | |
| EC3 | | .816 | | | | | | |
| EC2 | | .808 | | | | | | |
| ES3 | | | .840 | | | | | |
| ES2 | | | .811 | | | | | |
| ES1 | | | .759 | | | | | |
| PT1 | | | | .841 | | | | |
| PT3 | | | | .806 | | | | |
| PT2 | | | | .753 | | | | |
| ET1 | | | | | .818 | | | |
| ET3 | | | | | .776 | | | |
| ET2 | | | | | .754 | | | |
| AQ3 | | | | | | .822 | | |
| AQ1 | | | | | | .800 | | |
| AQ2 | | | | | | .764 | | |
| IC2 | | | | | | | .813 | |
| IC3 | | | | | | | .767 | |
| IC1 | | | | | | | .702 | |
| CP1 | | | | | | | | .783 |
| CP3 | | | | | | | | .780 |
| CP2 | | | | | | | | .767 |

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 7 iterations.

EFA analysis for the dependent variable. The processing results from the SPSS software for the dependent variable are as follows:

Table.7 shows $KMO = 0.943 > 0.5$, so the factor analysis is appropriate. Sig. (Bartlett's Test) = 0.000 (sig. < 0.05) shows that the observed variables involved in the EFA analysis are correlated.

Table. 7. KMO and Bartlett's Test.

KMO and Bartlett's Test

| | | |
|--|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .943 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 866.636 |
| | df | 36 |
| | Sig. | .000 |

Source: Data analysis results from SPSS 26.0.

Table.8 shows that there is a factor extracted based on Eigenvalue $6.009 > 1$. The extracted variance is $66.767\% > 50\%$.

Table.8. Total Variance Explained.

Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 6.009 | 66.767 | 66.767 | 6.009 | 66.767 | 66.767 |
| 2 | .515 | 5.724 | 72.491 | | | |
| 3 | .506 | 5.625 | 78.116 | | | |
| 4 | .454 | 5.040 | 83.157 | | | |
| 5 | .372 | 4.138 | 87.295 | | | |
| 6 | .352 | 3.911 | 91.206 | | | |
| 7 | .311 | 3.453 | 94.659 | | | |
| 8 | .273 | 3.032 | 97.692 | | | |
| 9 | .208 | 2.308 | 100.000 | | | |

Extraction Method: Principal Component Analysis.

Source: Data analysis results from SPSS 26.0.

Table.9 shows that the loading factor of the observed variables in the rotational matrix is >0.5 , or these observational variables are all significant contributors to the model.

Table. 9. Component Matrix^a.

Component Matrix^a

| | Component 1 |
|-----|----------------|
| AP3 | .836 |
| AP4 | .804 |
| AP2 | .796 |
| AP1 | .778 |

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Source: Data analysis results from SPSS 26.0.

From the results of exploratory factor analysis of toxic variables and dependent variables, the research has the groups of factors representing the following variables:

Enterprise Scale Factor—ES: ES1, ES2, ES3

Competitive Pressure Factor—CP: CP1, CP2, CP3

Production technology Factor—PT: PT1, PT2, PT3

Opinion of managers Factor—OM: OM1, OM2, OM3, OM4, OM5

Accountant qualifications Factor—AQ: AQ1, AQ2, AQ3, AQ4

Enterprise culture Factor—EC: EC1, EC2, EC3

Implementation Cost Factor—IC: IC1, IC2, IC3

Education and training factors—ET: ET1, ET2, ET3

Morden management accounting application factor—AP: AP1, AP, AP3, AP4

4.3. Correlation Analysis

Pearson correlation analysis was performed to examine the strong linear correlation between the dependent variable (AP) and the independent variables (ES, CP, PT, OM, AQ, EC, IC, and ET) and the early identification of the multicollinearity phenomenon when the independent variables are also strongly correlated with each other.

Regarding the correlation between dependent variables and independent variables, the Pearson correlation analysis table (Table 9) shows that the correlation coefficients are 1, 0.613, 0.458, 0.556, 0.706, 0.532, 0.523, 0.582, 0.471, or all 8 independent variables in the proposed model are strongly correlated with the dependent variable (Hoang & Chu, 2008).

Regarding the correlation between independent variables, Table.10 also shows that all sig. between independent variables are less than 0.05 minus sig. between variables CP and ET. However, the Pearson correlation coefficient between independent variables is less than 0.7. Therefore, it is not yet sufficient to conclude between variables that are likely to occur multicollinearity (Dormann et al. 2013).

Table.10. Pearson Correlation Analysis

Correlations

| | | AP | ES | CP | PT | OM | AQ | EC | IC | ET |
|----|---------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| AP | Pearson Correlation | 1 | .613** | .485** | .556** | .706** | .532** | .523** | .582** | .471** |
| | Sig. (2-tailed) | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| ES | Pearson Correlation | .613** | 1 | .426** | .345** | .519** | .214* | .258** | .270** | .176* |
| | Sig. (2-tailed) | .000 | | .000 | .000 | .000 | .011 | .002 | .001 | .037 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |

| | | | | | | | | | | |
|----|---------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| CP | Pearson Correlation | .485** | .426** | 1 | .363** | .402** | .211* | .238** | .247** | .089 |
| | Sig. (2-tailed) | .000 | .000 | | .000 | .000 | .012 | .005 | .003 | .297 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| PT | Pearson Correlation | .556** | .345** | .363** | 1 | .510** | .375** | .273** | .307** | .214* |
| | Sig. (2-tailed) | .000 | .000 | .000 | | .000 | .000 | .001 | .000 | .011 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| OM | Pearson Correlation | .706** | .519** | .402** | .510** | 1 | .312** | .302** | .369** | .247** |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | | .000 | .000 | .000 | .003 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| AQ | Pearson Correlation | .532** | .214* | .211* | .375** | .312** | 1 | .392** | .445** | .440** |
| | Sig. (2-tailed) | .000 | .011 | .012 | .000 | .000 | | .000 | .000 | .000 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| EC | Pearson Correlation | .523** | .258** | .238** | .273** | .302** | .392** | 1 | .477** | .535** |
| | Sig. (2-tailed) | .000 | .002 | .005 | .001 | .000 | .000 | | .000 | .000 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| IC | Pearson Correlation | .582** | .270** | .247** | .307** | .369** | .445** | .477** | 1 | .448** |
| | Sig. (2-tailed) | .000 | .001 | .003 | .000 | .000 | .000 | .000 | | .000 |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| ET | Pearson Correlation | .471** | .176* | .089 | .214* | .247** | .440** | .535** | .448** | 1 |
| | Sig. (2-tailed) | .000 | .037 | .297 | .011 | .003 | .000 | .000 | .000 | |
| | N | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

4.4. Multivariate Regression Analysis

The processing results from SPSS software are obtained as follows:

Table.11 shows the results of the conformity assessment of the multivariate regression model. $R = 0.758$ indicates a high degree of correlation. Adjusted R Square correction = 0.758 indicates that the independent variables included in the regression analysis explain 75.8% fluctuations of the dependent variable; the remaining 24.2% is due to variables outside the model and random error. This result also indicates the statistical value of the Durbin–Watson test = $2.139 \approx 2$, which is between 1 and 3, so the result does not violate the first-order self-correlation assumption (Field 2009).

Table.11. Model Summary^b**Model Summary^b**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|---------------|
| 1 | .878 ^a | .772 | .758 | .32623 | 2.139 |

a. Predictors: (Constant), ET, CP, PT, ES, IC, AQ, EC, OM

b. Dependent Variable: AP

The ANOVA analysis (Table.12) indicates the relevance of the regression equation to the data. The test results show that $F = 55.367$, $\text{sig.} = 0.000 < 0.05$ and prove that R square is non-zero overall. This means that the linear build regression model is suitable.

Table.12. ANOVA^a**ANOVA^a**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|-----|-------------|--------|-------------------|
| 1 | Regression | 47.140 | 8 | 5.892 | 55.367 | .000 ^b |
| | Residual | 13.942 | 131 | .106 | | |
| | Total | 61.081 | 139 | | | |

a. Dependent Variable: AP

b. Predictors: (Constant), ET, CP, PT, ES, IC, AQ, EC, OM

Correlation coefficient analysis (Table 13) shows that the value of sig. of all variables is < 0.05 , or these variables are statistically significant and all affect the dependent variable. All eight theories are accepted. Regression coefficients (B and β) in all 8 independent variables are positive, meaning that all 8 independent variables have a positive effect on the dependent variable.

In addition, VIF variance magnification coefficients of all independent variables in the model were < 2 , indicating that the data did not violate the multicollinearity assumption or that multicollinearity between independent variables occurred (Hair et al. 2009).

Table 13. Coefficients a.**Coefficients^a**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | Sig. | Collinearity Statistics | |
|-------|------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
| | | B | Std. Error | Beta | t | | Tolerance | VIF |
| 1 | (Constant) | -.474 | .197 | | -2.412 | .017 | | |
| | ES | .180 | .038 | .241 | 4.707 | .000 | .666 | 1.502 |
| | CP | .092 | .042 | .107 | 2.200 | .030 | .732 | 1.365 |
| | PT | .099 | .045 | .113 | 2.199 | .030 | .662 | 1.510 |
| | OM | .279 | .050 | .309 | 5.580 | .000 | .568 | 1.761 |
| | AQ | .119 | .041 | .148 | 2.910 | .004 | .671 | 1.491 |
| | EC | .086 | .042 | .108 | 2.036 | .044 | .614 | 1.629 |
| | IC | .144 | .044 | .171 | 3.277 | .001 | .637 | 1.571 |
| | EC | .099 | .044 | .118 | 2.232 | .027 | .620 | 1.614 |

a. Dependent Variable: AP

Source: Data analysis results from SPSS 26.

4.5. Analysis of Residuals

Regarding the test of the standard distribution assumption, looking at Figure 2, it could be seen that the normalized residue is distributed according to the bell curve, or the shape of the standard distribution. In addition, the mean is 1.20×10^{-15} (approximately = 0), and the standard deviation is 0.971 (approximately = 1). In addition, the Normal P-P Plot (Figure 3) shows that the observed values and expected values are all around the diagonal with no major deviations from the diagonal.

This shows that the normalized residue approximates the normal distribution. Thus, it is assumed that the standard distribution of the balance is not violated.

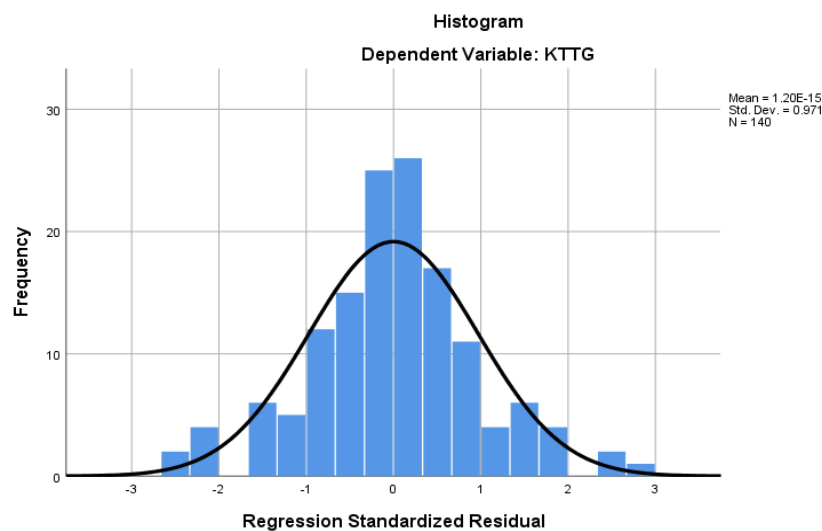


Figure 2. Histogram. Source: Data analysis results from SPSS 26.

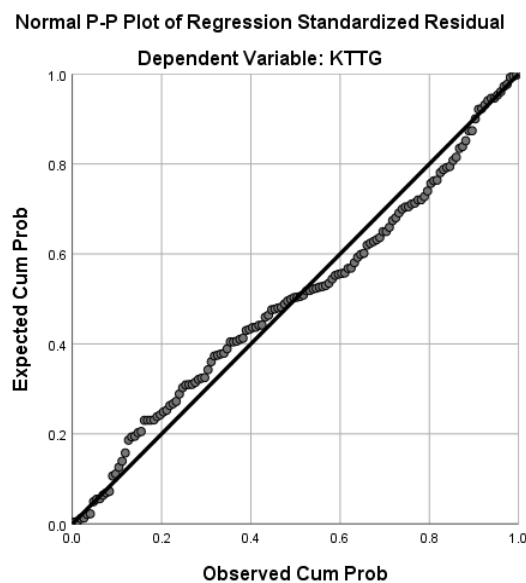


Figure 3. Normal P-P Plot of Regression Standardized Residual

Source: Data analysis results from SPSS 26.

Regarding the test of linear contact and constant variance consumptions, to test these assumptions, the study used the Scatterplot scatter chart. Looking at Figure 4, it could be seen that the data points are concentrated around the zero point and tend to form a straight line. Thus, the assumptions of linear contact and constant variance of residual are not violated.

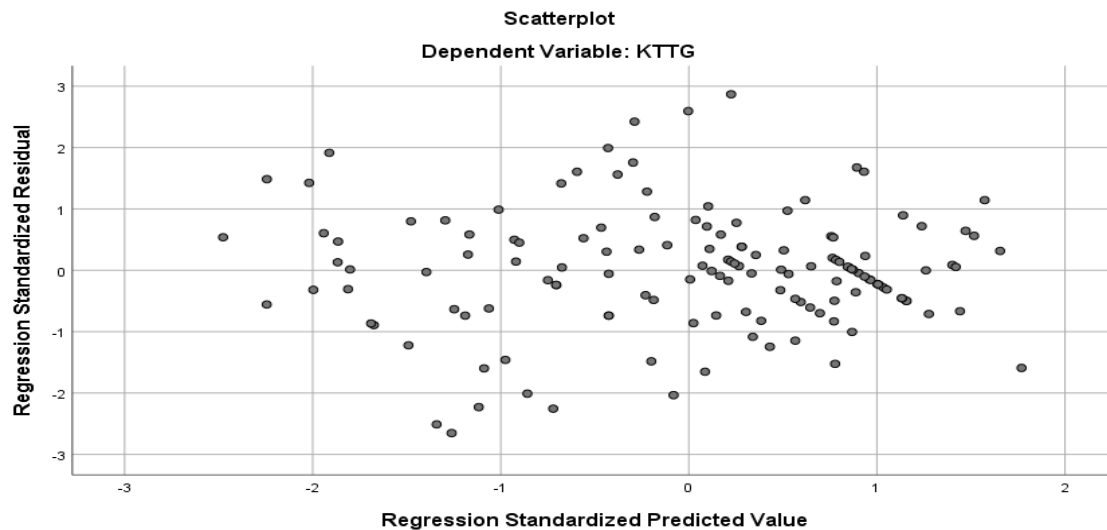


Figure 4. Scatterplot scatter chart.

Source: Data analysis results from SPSS 26

The research results show that the regression equation relationship reflecting between independent variables and dependent variable is presented as follows:

$$AP = 0.241 * ES + 0.107 * CP + 0.113 * PT + 0.309 * OM + 0.148 * AQ + 0.108 * EC + 0.171 * IM + 0.118 * ET$$

In other words, all the variables Enterprise size (ES), Competitive pressure (CP), Production technology (PT), Opinion of managers (OM), Accountant qualifications (AQ), Enterprise culture (EC), Implementation cost (IC) and Education and training (ET) have a positive impact on Morden management accounting application.

Opinions of managers have the strongest impact on the application of modern management accounting. Managers who have knowledge of modern management accounting, managers who appreciate modern management accounting, managers who are willing to adopt modern management accounting, and managers who need modern management accounting information for decision-making all positively influence the decision to adopt modern management accounting in Vietnamese garment enterprises.

Enterprise size is the second most influential factor on Morden management accounting application. All variables (Capital, Number of employees and Revenue) of this factor positively influence the decision to apply modern management accounting in Vietnamese garment enterprises.

The third most influential factor on Morden management accounting application is Accountant qualification. Similar to the two factors above, the variables of this factor (Accountants have advanced qualifications, Accountants have international professional certifications, and the chief accountant has good knowledge and skills) all have a positive influence on Morden management accounting applications in Vietnamese garment enterprises.

Similarly, the remaining factors and their variables also have a positive influence on Morden management accounting applications in Vietnamese garment enterprises, in order from strongest to weakest: Implementation costs (Infrastructure investment costs, Accounting staff costs, and Cost of hiring a consultant), Education and training (Modern management accounting is taught in educational and training institutions, The enterprise offers training programs in modern management accounting, There are guidelines on modern management accounting), Production technology (Advanced manufacturing technology, Total quality management system, Just-in-time system), and Enterprise culture (Consensus on development goals, Culture encourages innovation, Culture of mutual support).

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