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Does Financial Pressure Affect Sustainable Procurement in HEIs? Evidence from China

Xue Jin*, S. M. Ferdous Azam, Jacquline Tham
Graduate School of Management, Postgraduate Centre, Management and Science University, Shah Alam, Selangor, Malaysia
*Corresponding author: Xue Jin, PHD at Graduate School of Management, Postgraduate Centre, Management and Science University, Email: ashely_edu@yeah.net

Abstract*—Higher education institutions' sustainable purchasing behaviour is indeed influenced by financial pressure, and there were some conflicting conclusions. This study aims to explore whether financial pressure has a significant impact on public higher education institutions (HEIs) and provide evidence from China. In this study, a sample of 260 questionnaires from Chinese HEIs was obtained by snowball sampling with four-layer stratified recommendation and analysed using PLS-SEM. The results show that financial pressure influences purchasers' sustainable purchasing behaviours both directly and indirectly through the mediating link of sustainable purchasing intentions (VAF=41.71%). Meanwhile, the direct effect of financial pressure on sustainable purchasing behaviour shows no significant differences across different types of educational institutions, but significant disparities exist in the indirect effect. The practical implications of this study for higher education institutions are that they can leverage financial pressure to promote sustainable procurement, especially vocational institutions, which can transform cost pressure into procurement momentum. For policymakers, the implication is the need to recognize differences between undergraduate and vocational institutions and implement tiered policies to enhance the targeting of sustainable procurement policies. This approach aims not only to motivate budget-constrained institutions but also to guide resource-rich ones in overcoming institutional inertia.*

***Keywords*—** *Sustainability; Public procurement; Financial pressures; TPB; HEIs.*

I. Introduction

The 2030 Agenda for Sustainable Development centres on human well-being, ecological protection, and economic prosperity, constructing a global framework for synergistic social, economic, and environmental development (Bao et al., 2019). Realizing this ambitious goal requires multi-party collaboration and systemic innovation, in which HEIs play an irreplaceable and critical role (Leal Filho, Skouloudis, et al., 2019). As hubs of knowledge innovation and social change, HEIs not only promote theoretical breakthroughs through cutting-edge research, but also lead sustainable development as subjects of practice. Their unique advantages are reflected in three aspects: firstly, by virtue of their interdisciplinary knowledge integration ability, HEIs are able to solve complex sustainable development problems (Leal Filho et al., 2018); secondly, through systematic talent training, they can provide new forces with sustainable concepts for the development of society (Ankareddy et al., 2025); and lastly, they can form a demonstration effect through campus sustainable practices (e.g., sustainable procurement, etc.) to disseminate successful experiences and methods to the society (Leal Filho, Shiel, et al., 2019). Through such multi-dimensional systematic capacity building and targeted actions, HEIs are significantly increasing their contribution to the sustainable development goals, and strongly contributing to the global transition to a more equitable, resilient and low-carbon future.

Purchasing sustainable goods aims to promote the sustainable development of the supply chain by selecting products and services that are environmentally friendly, socially responsible and economically efficient. This purchasing model is reflected in all aspects of the procurement process, and the decision-making behaviour of purchasers directly affects the final sustainable results. This study adopts the integrative definition proposed by (Rodriguez-Plesa et al., 2022), which defines sustainable purchasing behaviour as a general term for a series of positive behaviours in which purchasers proactively introduce sustainable elements (e.g., environmental requirements, social responsibility criteria, sustainable decision-making methods, etc.) throughout the entire purchasing process, thereby guiding purchasing outcomes toward the desired sustainability goals. The definition does not break down specific types of behaviours, but rather emphasizes the systematic consideration of sustainable factors in the decision-making process of purchasing personnel.

The evidence showed that sustainable purchasing behaviour was associated with financial pressures in Chinese public sectors (Zhu et al., 2013). The relationship between financial pressures and sustainable purchasing behaviours is also confirmed by Fang et al. (2020), who recognized that sustainable products and services are perceived to be more expensive than traditional methods. However, public purchasers encounter budgetary constraints in their quest for value for money, which leads to a tendency to adopt low-cost criteria when procuring goods and services (Leal Filho, Skouloudis, et al., 2019). Currently, research on the impact of financial pressures on sustainable purchasing focuses on direct influence mechanisms, and there were some conflicting conclusions. Some scholars also found that financial pressure does not have a significant impact on sustainable procurement behaviour, especially in large-scale institutions or those with high administrative ranks (Liu et al. 2019). Chinese educational institutions are classified into undergraduate and vocational types based on their training objectives. This classification reflects, to a certain extent, the differences in

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financial resource acquisition capabilities among higher education institutions. Thus, a question arises:
Q1: For higher education institutions with both educational and social attributes, does financial pressure have a significant impact on them?
Q2: What is the pathway through which financial pressure exerts its influence?
Q3: Will there be differential impacts of financial pressure on different types of educational institutions (undergraduate vs. vocational)?

To answer these questions, this study develops a mediation model within the framework of the Theory of Planned Behaviour. This study aims to reveal the black box of influence mechanisms between financial pressures and sustainable purchasing behaviour, as well as to explore the moderating role of types of educational institutions in this process. The proposed objective is to collect data by sending electronic questionnaires to employees of procurement centres in Chinese Higher Education Institutions (HEIs) and statistically validate the data analysis using PLS-SEM. This study offers significant contributions to the field of sustainable procurement. By integrating financial pressures into the Theory of Planned Behaviour framework, it uncovers the underlying mechanisms driving sustainable purchasing decisions. The findings will help businesses and policymakers design targeted strategies to promote sustainability. This work bridges a critical gap in understanding the interplay between financial influences, types of educational institutions, and sustainable actions.

The structure of this study was divided into 6 blocks. Section 1 describes the background of the study, the objectives and problems of the study, and the significance of the study. Section 2 describes the literature and theory review and presents the hypotheses. Section 3 details the research methodology and questionnaire design, while sections 4,5 show the results and discussion. Section 6 reveals the research implications and limitations.

II. Literature Review

2.1. Financial pressure

Financial pressure, in organizational behavioural studies, has been shown to have a direct effect on behavioural intentions. Fekih-Romdhane et al. (2024)conducted a web-based cross-sectional study on the relationship between financial pressure and turnover intentions among Lebanese teachers during the economic crisis. According to the findings, the greater the financial strain, the greater the desire to quit. In the field of sustainable procurement research, financial pressures have been shown to be a major factor influencing change-supportive intentions (Farooque et al., 2023). Ahsan & Rahman (2017) has proven financial barriers to be an important factor in the intent to implement of purchasing sustainable goods. This leads to hypothesis 1.

H_1: Financial pressure has a positive impact on sustainable purchasing intentions.

Brammer & Walker (2011) suggested that differences in sustainable purchasing decisions by local agencies can be explained by the financial pressure of organizations, as the purchase price of sustainable and sustainable goods is generally considered to be more expensive, and most organizations are reluctant to pay higher upfront costs for sustainable goods and services due to budget constraints and conflicting organizational management values. C. Wang et al. (2020) argued that local government purchasers in China hold a price-comparison concept that makes sustainable goods and services less suitable for government procurement. The limited financial budget of public organizations is also an important factor limiting the sustainable purchasing decisions of procurement officers.

H_2: Financial pressure has a positive impact on sustainable purchasing behaviours.

2.2. The theory of planned behaviour (TPB)

The theory of planned behaviour posits that behavioural intentions are the best way to predict and explain individual behaviour. The theoretical origins of planned behaviour can be traced back to the multi-attribute attitude theory (Ajzen & Fishbein, 1970). Multi-attribute attitude theory suggests that behavioural attitudes determine procurement intentions, and that expected behavioural outcomes and outcome assessments determine behavioural attitudes. Later, the theory of Reasoned Action considers behavioural intention as a direct determinant of behaviour, which is influenced by behavioural attitudes and subjective norms. To expand the scope of application of the theory, perceived behavioural control reflects the state of actual control conditions, so it can be used as a proxy measure for actual control conditions to directly predict the likelihood of behaviour occurring.

The Theory of Planned Behaviour (Ajzen, 1991) argued that individual behaviours that are not fully controlled by an individual will are not only influenced by behavioural intentions, but also by actual control conditions such as the ability, opportunity, and resources of the individual who performs the behaviour and that behavioural intentions directly determine behaviour when actual control conditions are sufficient. Within the framework of the Theory of Planned Behaviour, behavioural intentions indicate a person's willingness to attempt a behaviour and how much the effort he puts forth will affect that behaviour. Generally speaking, the more likely it is that someone will engage in a behavior the stronger their behavioral intention (Ajzen, 1991). It is a direct predictor of behaviour and a link between antecedent constructs and behaviour.

H_3 Sustainable purchasing intention has a direct positive effect on sustainable purchasing behaviours

H_4 Sustainable purchasing intention plays a mediating role in the relationship between financial pressure and sustainable purchasing behaviours.

Figure 1 outlines the variable framework of this study.

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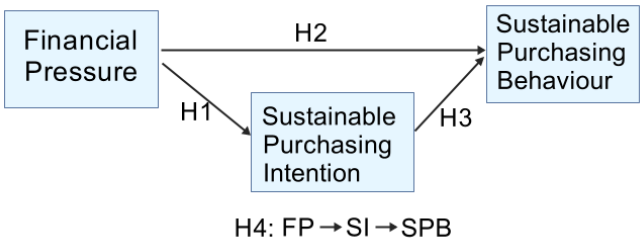

Figure 1. Conceptual framework

III. Research Methodology

3.1. Data collection

The survey primarily targets procurement staff with over 1 year of experience in Chinese HEIs. Given the scarcity and specialized nature of the target population, this study uses snowball sampling for recruitment (Sparrevik et al., 2018). The research integrates stratified elements of institutional hierarchy (undergraduate/vocational) and geographic tiers, adopting a four-tier referral mechanism to expand the sample gradually. Sampling ended at the fourth tier to ensure diversity in institution type and region.

Data collection took place between October 8, 2024, and November 28, 2024, yielding 260 valid responses for subsequent analysis.

The gender distribution of the sample (55.4% female and 44.6% male) is generally consistent with China's demographic statistics, and the proportion of higher education institution types (42.7% undergraduate and 57.3% vocational institutions) is close to the national level. Regarding educational attainment, 75.8% hold a bachelor's degree or higher (in line with the recruitment requirements of higher education institutions). These demographic characteristics not only enhance sample representativeness by matching the overall structure (reducing sampling bias) but also improve data accuracy and consistency due to the stable cognition of groups with high education levels and rich work experience (see Table 1 for complete details).

TABLE 1. Demographic Information

Variables	Definitions	Frequency	Percent %
Gender	Female=1	144	55.4
	Male=2	116	44.6
Education level	College diploma=1	63	24.2
	University undergraduate degree =2	170	65.4
	Postgraduate degree =3	27	10.4
HEIs Type	Undergraduate =1	111	42.7
	Vocational =2	149	57.3
Total		260	100

Source: Own elaboration

3.2. Common method bias

To mitigate potential common method bias, we conducted Harman's single-factor test as a statistical remedy, where an unrotated exploratory factor analysis of all items yielded multiple factors with eigenvalues exceeding 1.0, and critically, the largest factor accounted below the 50% threshold that would indicate no significant common method bias.

3.3. Non-response bias

To evaluate potential non-response bias in the survey data, we conducted a one-way analysis of variance (ANOVA) comparing early and late respondents across key variables. The analysis revealed no statistically significant differences between these groups (all p-values > 0.05). In accordance with the established criteria proposed by Armstrong & Overton (1977), these findings indicate that non-response bias does not pose a substantial threat to the validity of our survey results.

3.4. Measures

To mitigate potential respondent bias, we rigorously refined the survey instrument by ensuring all questions were specific, unambiguous, and concise. The measurement scales and theoretical constructs employed in this study were systematically derived from well-established instruments in prior literature, with contextual modifications carefully implemented to ensure alignment with the specific research setting while preserving the original constructs' psychometric properties. All items are on a 5-point Likert scale.

To assess financial pressure, 5 items were adapted from the scale (Zhu et al., 2013) which can better fit the topic of the study. The scale measures financial incentives for purchasing sustainable goods.

To assess sustainable purchasing intentions, 7 items were adapted from existing studies (Jaiswal & Kant, 2018). These items are strong indicators of individuals' level of commitment in preparing to implement these actions.

To assess sustainable purchasing behaviours, 9 resource-saving and emission-reduction projects related to the procurement of goods or service from a life-cycle perspective have been included (Zhu et al., 2013; Jaiswal & Kant, 2018).

3.5. Data analysis

We analyse the collected data by employing Partial Least Squares Structural Equation Modelling (PLS-SEM) in Smart-PLS 3.3.2. PLS-SEM maximizes the explained variance of endogenous constructs through iterative OLS regressions (Hair et al., 2011). Thus, PLS-SEM was the optimal method for analysing our complex model with constrained sample conditions.

IV. Results

4.1. Measurement model

The literature suggests measurement model assessment in terms of item loadings, Cronbach alpha, composite reliability (CR), average variance extracted (AVE), and discriminant validity (Hair et al., 2012, 2019; Shmueli et al., 2019).

4.1.1. Convergent validity

The initial default measurement model consists of 3 structures measured by 21 items. The CFAs of all reflective constructs were obtained by performing the PLS algorithm (300 iterations) in PLS-SMART 3.3.2. However, to ensure convergent validity for each variable, two items with loadings less than 0.7 were deleted, SI05, SI06. Finally, the adjusted model with 19 items was used to establish convergent validity and discriminant validity (see Figure 2).

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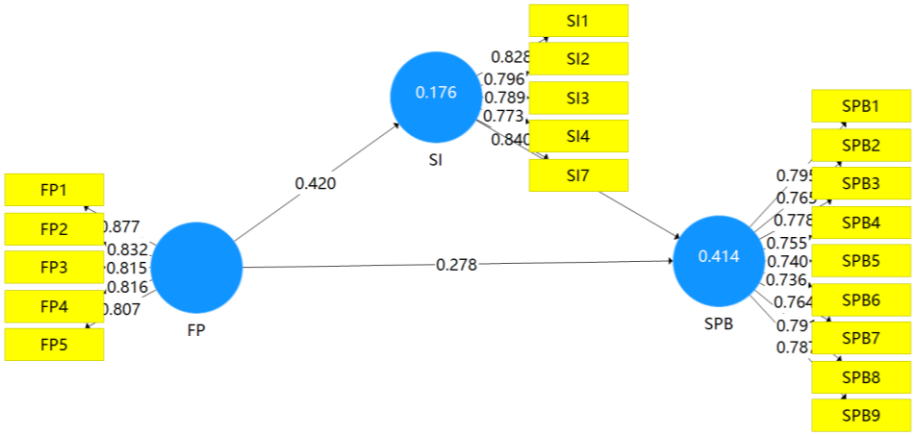

Figure 2. A measurement model

TABLE 2. Construct reliability and validity

Construct	Indicators	Loading	Alpha	CR	AVE
FP	FP 1	*0.877*	*0.887*	*0.917*	*0.688*
	FP 2	*0.832*			
	FP 3	*0.815*			
	FP 4	*0.816*			
	FP 5	*0.807*			
SI	SI 1	*0.828*	*0.864*	*0.902*	*0.631*
	SI 2	*0.796*			
	SI 3	*0.789*			
	SI 4	*0.773*			
	SI 7	*0.840*			
SPB	SPB 1	*0.795*	*0.913*	*0.928*	*0.608*
	SPB 2	*0.765*			
	SPB 3	*0.778*			
	SPB 4	*0.755*			
	SPB 5	*0.740*			
	SPB 6	*0.736*			
	SPB 7	*0.764*			
	SPB 8	*0.791*			
	SPB 9	*0.787*			

Source: Own elaboration

Specific data reports are displayed in Table 2. Loads higher than 0.708 are recommended as they indicate that the construct explains more than 70% of the indicator variance and thus provide acceptable project reliability (Hair et al., 2019). We find that all the factor loadings constructed exceed the critical value of 0.708, supporting the reliability of the constructs. Then, the Cronbach's alpha values for all constructs in this study ranged from 0.864 to 0.913and the composite reliability ranged from 0.902 to 0.928 which exceeds the value of critical value of 0.7 which recommended by Hair et al. (2012). The convergent validity of the constructs was evaluated using the Average Variance Extracted (AVE). According to Hair et al. (2012), an AVE value of 0.50 or higher suggests that the construct accounts for at least 50% of the variance in its indicators, and AVE values of all constructs in this study demonstrated exceeding the 0.50 threshold.

4.1.2. Discriminant validity

There are three methods commonly used to test discriminant validity - cross-loading, the Fornell-Larcker criterion and the HTMT criterion (Hair et al., 2019). The present study passed the test of discriminant validity for all three methods, and for brevity, only the results for the HTMT are reported (see Table 3). Following (Henseler et al., 2015), an HTMT threshold of 0.85 was adopted. As presented in Table 3, all HTMT values were significantly below this criterion (range: 0.478–0.654), providing strong evidence of discriminant validity among the constructs.

TABLE 3. HTMT

	FP	SI	SPB_
FP			
SI	0.478		
SPB_	0.524	0.654	

Source: Own elaboration

4.2. Structural model

The structural model was evaluated based on multicollinearity, the coefficient of determination, predictive relevance, and model fit indices, following the guidelines proposed by Hair et al. (2019). Figure 3 illustrates the structural model.

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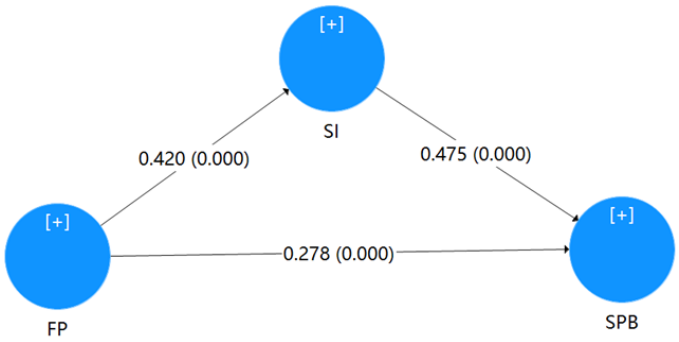

Figure 3. A structural model

4.2.1. Multicollinearity Assessment

As shown in Table 4, no multicollinearity issues were detected, as all constructs exhibited variance inflation factor (VIF) values below the threshold of 3.3 (Hair et al., 2019).

TABLE 4. Collinearity Statistics (VIF)

	FP	SI	SPB
FP		1	1.214
SI			1.214
SPB			

Source: Own elaboration

4.2.2. The coefficient of determination (R^2)

The model's predictive power was assessed using the coefficient of determination (R^2) (Hair et al., 2019). The results indicated moderate predictive power for construct SPB ($R^2 = 0.414$), as shown in Table 5. This means that FP, and SI together explain 41.4% of the variation in SPB.

TABLE 5. Coefficient of determination (R^2) and predictive relevance (Q^2)

Endogenous variables	R2 values	Threshold	Q2 values	Threshold
SPB	0.414	≥0.33 (moderate)	0.232	>0

Source: Own elaboration

4.2.3. Predictive Relevance (Q^2)

R^2 alone in PLS is of limited significance and needs to be judged in conjunction with the predictive correlation indicator (Q^2). Predictive relevance was evaluated via Q^2, where values greater than 0.000, 0.250, and 0.500 signify small, medium, and large effects, respectively (Hair et al., 2019). Both constructs demonstrated substantial predictive relevance: SPB ($Q^2 = 0.232$). As long as Q^2 is positive and follows the same trend as R^2, the explanatory power of the model is stable in the study;

4.2.4. Model Fit

SRMR is often used as measures of model fit. SRMR is an absolute measure of fit and values less than 0.08 are considered good fit (Hu & Bentler, 1998). A In this model, the values of SRMR is 0.061 as shown in Table 6, which proves that the model is well fitted. Additionally, the Normed Fit Index (NFI) in this model is one of the absolute fit indices for measuring the goodness of fit in structural equation modelling. An NFI value of 0.855 indicates an acceptable model fit.

TABLE 6. A model fit

	Saturated Model	Estimated Model
SRMR	0.061	0.061
d_ULS	0.704	0.704
d_G	0.289	0.289
Chi-Square	427.261	427.261
NFI	0.855	0.855

Source: Own elaboration

4.3. Hypothesis testing

4.3.1. Direct effects

We evaluate the proposed 5 direct effects hypotheses. As depicted in Table 7, H1: FP positively related with SI (β=0.420; t=6.043, p=0.000) was supported; H2: FP positively related with SPB (β=0.278; t=4.441, p=0.000) was supported; H3: SI has significant positive effect on SPB (β=0.475; t=7.518, p=0.000).

TABLE 7. Hypothesis testing

No.	Relations	Beta	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values	Results
H1	**FP -> SI**	0.420	0.422	0.069	6.043	**0.000**	Supported
H2	**FP -> SPB**	0.278	0.278	0.063	4.441	**0.000**	Supported
H3	**SI -> SPB**	0.475	0.475	0.063	7.518	**0.000**	Supported
H4	**FP -> SI -> SPB**	0.199	0.201	0.046	4.301	**0.000**	Supported

Source: Own elaboration

TABLE 8. MGA

	Vocational				Undergraduate					
	Path	2.50%	97.50%	p	Path	2.50%	97.50%	p	Path diff	p new
FP -> SI	0.529	0.342	0.650	0.000	0.191	-0.236	0.395	0.162	0.338	0.021
FP -> SPB	0.269	0.159	0.378	0.000	0.264	-0.012	0.462	0.031	0.004	0.987
SI -> SPB	0.589	0.448	0.699	0.000	0.328	-0.243	0.494	0.010	0.261	0.034
FP -> SI -> SPB	0.312	0.185	0.423	0.000	0.063	-0.073	0.176	0.289	0.249	0.005

Note: path diff=vocational path-undergraduate path

Source: Own elaboration

4.3.2. Mediation

Mediating path hypothesis wase proposed in this study, namely H4: FP→SI→SPB. As shown in Table 7, H4 SI mediated the relationship between FP and SPB (indirect effect β=0.199; t=4.301, p=0.000). Mediation hypothesis was supported in this study.

The percentage of the mediation effect in the total effect is represented by the VAF, which indicates the proportion of the independent variable's influence on the dependent variable. the

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overall impact is mediated via the variable. In the H4 path, the direct effect, indirect effect, and total effect are all significant, indicating the partial mediating role of SI. From Table 7, the indirect effect of FP is 0.199, the total effect is 0.477, and VAF=41.72%, indicating a partial positive mediation effect.

4.3.3. Moderating effects

This study used multigroup analysis to examine path relationships between variables in Vocational and Undergraduate groups and compared differences in path coefficients between the two groups.

Prior to conducting the multigroup analysis (MGA), the measurement invariance of the constructs across vocational and undergraduate institutions was assessed using the Measurement Invariance of Composite Models (MICOM) procedure, following Hair et al. (2019) guidelines to ensure the reliability of subsequent group difference conclusions. The three stages of MICOM are equality of composite means and variances, compositional invariance, and configural invariance.

In the initial test, configural invariance (Step 1) was established, confirming that the factor structure of constructs (FP, SI, SPB) was conceptually comparable across the two groups. However, compositional invariance (Step 2)—which requires factor loadings of indicators to be invariant across groups—failed to hold for the initial structure of SI (sustainable procurement intention). Specifically, the factor loading differences of indicator SI4 between the two groups exceeded the critical threshold (Hair et al., 2017), leading to non-significant invariance ($p > 0.05$).

To address this, indicator SI4 was removed based on the largest factor loading discrepancy, as recommended for refining composite invariance (Hair et al., 2019). After adjustment, re-testing confirmed that all constructs (FP, adjusted SI, SPB) achieved compositional invariance (Step 2, $p < 0.05$) and equality of composite means and variances (Step 3, $p < 0.05$). This validation ensured that measurement differences between the two institutional groups were minimal, allowing meaningful interpretation of subsequent MGA results as reflecting substantive path differences rather than measurement artifacts.

Results (Table8) showed that the differences between the two sets of data are mainly reflected in the FP->SI, SI->SPB, and FP->SI->SPB paths (with a stronger impact in the vocational education group), while there is no significant difference in the FP->SPB path.

For the FP→SI path, the Vocational group had a path coefficient of 0.529 (95% CI: 0.342–0.650, $p<0.001$), indicating a significant positive effect of FP on SI, while the Undergraduate group had a path coefficient of 0.191 (95% CI: –0.236–0.395, $p=0.162$) with a non-significant effect, and the difference in path coefficients between groups was 0.338 with new p 0.021, confirming that FP had a significantly stronger effect on SI in Vocations than in Undergrads. For the path SI→SPB, the Vocational group showed a path coefficient of 0.589 (95% CI: 0.448–0.699, $p<0.001$), reflecting a significant positive effect of SI on SPB, whereas the Undergraduate group had a path coefficient of 0.328 (95% CI: –0.243–0.494, $p=0.010$) with a significant effect, and the inter-group difference in path coefficients was 0.261 with new p value 0.034, confirming that SI had a significantly stronger effect on SPB in the Vocational group than in the Undergraduate group. Similarly, for the "FP→SI→SPB" mediation path, the Vocational group had an indirect effect of 0.312 ($p<0.001$) and the Undergraduate group had an indirect effect of 0.063 ($p=0.289$), with a significant group difference in indirect effects (difference 0.249, new $p=0.005$).

V. Discussion

This study aims to explore three key questions: (1) whether financial pressure has a significant impact on higher education institutions (HEIs); (2) what the influence pathway of financial pressure is; and (3) whether there are differences in this impact between different types of HEIs (undergraduate vs. vocational institutions). Based on the results of these four hypotheses, the three research questions initially proposed were examined.

The first question, which was the subject of Hypothesis 1 and 2, confirmed the significant impact of financial pressure on higher education institutions. The results of this study indicate that financial pressure has a significant positive effect on sustainable purchasing intention and behaviour. This is consistent with the findings of previous studies (Brammer & Walker, 2011; McMurray et al., 2014; Smith & Terman, 2016; C. Wang et al., 2020; Q. Wang et al., 2021), financial pressure can stimulate the innovative thinking and resource optimization ability of public procurement personnel to a certain extent. In the face of financial constraints, procurement personnel are more inclined to look for cost-effective, long-term return significant procurement program, and sustainable procurement can often meet this demand.

The solution to the second question depends on hypothesis 3, and 4, which explore that financial pressure not only has a direct impact on sustainable purchasing behaviour, but also has an indirect impact mechanism linked to psychological factors. Hypothesis 3 was based on the relationship between sustainable purchasing intentions and behaviours. The results of this study support the positive effect of sustainable purchasing intentions on behaviours. This finding is consistent with the Theory of Planned Behaviour(Ajzen, 1991), suggesting that intentions are a direct predictor of behaviour. Hypothesis 4 was based on the mediation effect of sustainable purchasing intentions. sustainable purchasing intentions mediated the relationship between financial pressure and sustainable purchasing behaviours (indirect effect $\beta=0.199$; $t=4.301$, $p=0.000$) with VAF (41.72%).

The third research question was revealed in the results of the multi-group analysis. In the FP→SI pathway (the impact of financial pressure on sustainable purchasing intentions), vocational education institutions show a significant positive influence compared to undergraduate education institutions, reflecting that vocational education institutions' sustainable purchasing intentions are more sensitive to financial pressure. From the perspective of resource dependence theory(Hillman et al., 2009), vocational education institutions typically rely more on industry collaboration and short-term skills training programmes, thereby facing stricter cost constraints. Financial pressure directly triggers their intention to adopt sustainable

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procurement (e.g., by reducing operational costs through energy-efficient equipment) to maintain institutional sustainability. In contrast, undergraduate institutions, which have more diversified funding sources (such as government grants and endowment funds), are less likely to link financial pressure to the immediate implementation of sustainable procurement intentions. This aligns with the observations of (Lee & Thosuwanchot, 2025) in their study on institutional resilience in response to financial shocks.

For the SI→SPB path (sustainable purchasing intention to behaviour), the stronger effect in vocational institutions stems from their organizational characteristics. Guided by institutional theory, vocational institutions operate with more centralized decision-making and industry-aligned goals, enabling faster translation of sustainable intentions into procurement actions. This aligns with Hinterhuber & Khan (2025) argument that organizations with clear operational goals exhibit higher intention-behaviour consistency.

In summary, financial pressure has a significant positive impact on HEIs, which is consistent with the conclusions of existing studies that it stimulates resource optimisation and promotes sustainable procurement. In terms of its impact path, sustainable procurement intentions positively drive behaviour, which is consistent with the expectations of intention-predicted behaviour in planned behaviour theory, and intentions play a mediating role between financial pressure and behaviour, reflecting the synergy of direct and indirect effects. Differences exist among different types of HEIs. Financial pressure significantly influences sustainable procurement in vocational institutions but not in undergraduate institutions, possibly due to tighter budgets in the former and more abundant resources in the latter. The overall results align with theoretical expectations and practical logic.

VI. Conclusion

The results of this study show that financial pressure has a significant positive impact on HEIs' sustainable purchasing intentions; it has a positive effect on sustainable purchasing behaviour, and sustainable purchasing intentions positively drive behaviour (in line with the theory of planned behaviour), and plays a mediating role between the two; there are differences between different types of institutions, with financial pressure having a significant impact on purchasing intentions in vocational institutions, but not in undergraduate institutions. These results support the relevant hypotheses proposed in the study and respond to the core research questions.

The theoretical implications of this study provide empirical evidence for the design of differentiated policies: For higher education institutions (HEIs), the dual nature of financial pressure should be acknowledged—vocational colleges can establish a cost-sustainability linked procurement mechanism, transforming budget constraints into motivation for selecting cost-effective green products, such as prioritizing energy-efficient equipment through life-cycle cost accounting models. Undergraduate institutions, conversely, should focus on breaking institutional inertia by exploring mandatory sustainable procurement quotas integrated into institutional performance evaluations, accompanied by cross-departmental procurement committees to dismantle hierarchical barriers.

For policymakers, it is necessary to construct a layered policy tool system to enhance the effectiveness of sustainable procurement in higher education. For budget-sensitive institutions, a policy combining fiscal subsidies and green procurement credit can be implemented to reduce initial investment costs. Specifically, these institutions can receive special subsidies of the procurement amount for green products, coupled with low-interest green credit with an interest rate reduction. For resource-adequate institutions, the policy focus is on establishing a dynamic assessment mechanism that links procurement performance in the dimensions of Environmental, Social, and Governance (ESG) with the allocation of funds for the Double First-Class Initiative. In the meantime, cross-institutional experience-sharing platforms should be built to promote the dissemination of best practices in green procurement. This policy design forms an implementation loop that integrates pressure adaptation, capacity building, and institutional innovation, ultimately enhancing the overall effectiveness of sustainable procurement policies across the higher education system.

This study has sample limitations. The study used snowball sampling to collect samples. This non-probability sampling method helps to reach specific groups, but may lead to selection bias. The sample may not adequately represent the target population in terms of demographic characteristics and organisational attributes, thereby weakening the generalisability of the study results. Future studies could employ probability sampling methods (such as stratified sampling or random sampling) to construct a representative sample framework, thereby enhancing the generalisability of the research findings. Additionally, this study compared institutions based on training objectives (undergraduate vs. vocational education), but higher education institutions can also be categorised into public and private types based on funding sources. Future research should comprehensively compare the differences between public and private institutions in terms of sustainable procurement behaviour and influencing factors to expand the scope of the study.

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Abbreviations Introduction

HEIs: Higher Education Institutions
FP: Financial Pressure
SI: Sustainable purchasing intention
SPB: Sustainable purchasing behaviour

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