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# External marketing strategies and public relations for elementary schools in Central Taiwan

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**Abstract:** This study investigates the current external marketing strategies and school public relations for elementary schools in Taiwan and their correlation. The collected data were analyzed and processed using a Pearson's product-moment correlation, canonical correlation, and multiple regression statistical methods. The analysis results indicated the marketing strategy dimensions; teachers had the highest perceptions of price strategy, and the lowest perceptions of the course design-related product strategy. In the public relations dimensions, communication dissemination achieved the highest score, and the planning decisions dimension received the lowest score. Moreover, the external marketing strategy and public relations of schools showed a moderate correlation; and the place strategy, promotion strategy, and product strategy of a school's external marketing strategy can predict 57.5% of the variation in school public relations.

**Keywords:** Public Relations, School Marketing, External Marketing, Taiwan, Elementary School

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## 1. Introduction

With the globalization, diversification, and democratization trends of social reform, education policies have gradually shifted to a more liberal and multi-element model. Previously, students were allocated to elementary schools according to district, and the primary source of funding was government subsidies. However, with a decreasing birth rate and fiscal tightening, schools are facing increasing pressure and competition. If appropriate marketing strategies to earn the trust of parents within the community and acquire resource funding are not introduced, schools may close in the current education environment. In addition, the successful promotion of numerous new and innovative education reform measures and concepts, such as the Multiple Entrance Program, School-Based Curriculum, and Grade 1-9 Curriculum, requires parental understanding and cooperation. Therefore, schools should apply new concepts and approaches to actively develop external marketing, proactively explain education concepts to parents and communities, and seek support and recognition to achieve their education goals and pioneer sustainable management opportunities. Studies found that by applying marketing concepts to educational institutions, significant developments and efficacy can be achieved[7] [9]. Thus,

understanding the current developments and status of elementary schools' external marketing strategies was one of the motivations for this research.

Currently, Taiwan is experiencing a drastically reduced birth rate and consequently, a substantial imbalance between the number of students and schools. Schools are facing class reductions and even mergers or downsizing. The phenomenon of a low birth rate has also enhanced parents' focus on their children's educational problems. Article eight of the Educational Fundamental Act stipulates that "Parents are responsible for guiding their children during the period of national compulsory education, and have the right to select the form and content of education and to participate in the educational affairs of the school to ensure the wellbeing of their children in accordance with relevant laws and regulations." This indicates that with social changes, community participation in school education has gradually become institutionalized. As a dimension of public affairs, school education cannot be independent from the community and political environment. Schools establishing good public relations, conducting intercommunications with the public, participating and sharing resources within the community, and cooperating and supporting each other is critical to successful education reform. The current social emphasis on school public relations is the result of demands

regarding school output and performance, human rights and equality, social resource borrowing and utilization, and other influential background factors, which cause a mutual influence between school public relations and society. Subsequently, the development of good school public relations is an important aspect of contemporary school business management. Thus, the second factor motivating this research was to increase our understanding of public relations and their current implementation and operation in schools.

[19] asserted that when organizations promote strategic marketing, the organization's public relations must be increased, and that public relations are an important tool for schools to gain public support in an era of change. Schools facing difficulties resulting from Taiwan's low birth rate, low student enrollment rates, and insufficient community interaction. Reviewing domestic literature, we found that numerous theses and dissertations regarding school public relations or school marketing have been conducted. However, few studies investigated the external marketing strategies and public relations of elementary schools. We found one thesis each that examined the situation in Northern and Southern Taiwan, but research of Central Taiwan was lacking. Consequently, the results of this study have considerable research value. We expect to assist schools in developing suitable marketing strategies, establishing comprehensive public relations networks, and enabling school administrators to successfully promote external marketing strategies by applying the study results. This was also the third factor motivating this study.

Based on the previously described motivations, the objectives of this study were as follows:

- (1) To understand the status of the external marketing strategy and public relations for elementary schools in Central Taiwan.
- (2) To analyze the correlation between external marketing strategies and school public relations of elementary schools in Central Taiwan.
- (3) To explore the external marketing strategies of elementary schools in Central Taiwan and their predictive power for school public relations..

## 2. Literature Review

### 2.1. School External Marketing Strategies

Traditional marketing concepts and methods are employed by profit-seeking organizations. However, since Kotler and Levy proposed the expanded marketing concept in 1969, many non-profit organizations, such as schools and government agencies, have adopted marketing concepts and techniques to effectively fulfill the organizational mandate. [8] maintained that education is a form of service that must possess a unique marketing orientation. Under this approach, students must be considered clients, and their interests and demands must be considered to have existing organizational value. Thomas proposed the service triangle in 1978,

dividing marketing into external marketing, internal marketing, and interactive marketing. School external marketing involves the school operators defining the organization's mission, analyzing the current situation, selecting target markets, drafting appropriate marketing strategies to gain community favor for the school, and exercising the necessary execution and control over marketing strategies and projects to achieve educational goals. A [11] asserted that school marketing refers to the marketing of an educational institution, which is categorized as non-profit marketing. Non-profit marketing can be divided into service marketing, people marketing, location marketing, concept marketing, and organizational marketing. School marketing is a type of service marketing. Schools should adopt suitable marketing strategies to attract consumers. [10] highlighted that a school's marketing strategy is mainly based on developing the school's public image and shaping the school's reputation, competing for educational resources, and demonstrating students' learning effectiveness.

Integrating the views of the scholars mentioned above, we defined school external marketing strategies as the planning, product utilization, price, promotion, and place marketing strategies set by a school according to customer demands to communicate education concepts, shape the school image through word-of-mouth (WOM), gain community support, and receive effective funding.

[15] contended that marketing strategies comprised product, price, place, and promotion, forming the 4Ps of marketing. [1] later extended this into the 7P theory, adding people, physical facilities, and process management. The majority of subsequent studies have adopted the 4Ps as a basis [5].

Although the names for these dimensions differ, a number of them could be combined into one dimension. The theme of this study involved school external marketing strategies, thus, we categorized product, price, promotion, and place strategies based on the content previously described. These strategies were then used as 4P marketing dimensions in this study, as described below.

- (1) Product strategy: refers to the courses, activities, and services provided by the school to satisfy customer demands, including core products, tangible products, and product extensions (e.g., school management concepts and diverse courses).
- (2) Price strategy: refers to the equal value services or products that customers are willing to pay for, including tuition, school lunch, and textbooks, as well as the provision of scholarship subsidies.
- (3) Promotion strategy: refers to school advertisement, promotion, and publicizing methods that are designed to increase school performance, satisfy customers with the provided services and products, and enhance school image and popularity.
- (4) Place strategy: refers to the transportation, Internet access, communications, and other convenient and effective methods employed by the school to

distribute educational products and services that customers can use conveniently and easily.

## **2.2. School Public Relations**

[17] asserted that public relations are a type of planned persuasion with the purpose of changing and/or strengthening public opinion, and school public relations is a knowledge of how a harmonious relationship between schools and the public is cultivated. This refers to the school's utilization of media communication, mutual services, cooperation and participation, and expanding mutual influence and balanced intercommunication between school members and organizations to establish a planned, persistent, and sincere interrelationship with community members. The purpose is to gain parental and community support and assistance to ensure that school education can adapt to community needs [13]. Consequently, this study defined school public relations as "the use of social welfare and services as the premise to effectively employ dissemination techniques and media and conduct a systematic, planned, and long-term intercommunication to achieve the following: resource reciprocation, mutual participation, internal and external support and trust for the school, enhanced school performance, and the accomplishment of education goals."

Because of differing research directions, researchers have explored different dimensions of school public relations. [3] indicated highlights the public relations operating process and includes research related to the procedure process dimension, Chen involving public opinion investigation, planning decisions, dissemination action, and assessment correction. Some researchers employed the public relations subject research dimension to identify the type of influence and effectiveness various public relations strategies have on different public relations subjects. Such as [16] emphasized the importance of a school's relationship with parents, the community, and the media. Extent studies have also proposed intra-school public relations, public relation concepts, public relations, and external school public relations [2] [21]. Some studies combined the procedure process and public relations subject as the research dimension, such as [22], regarding parent participation, planning decisions, plan execution, internal communication, parental communication, and public relations assessments. [6] proposed planning decisions, assessment feedback, intra-school public relations, and external school public relations.

Although the names of these dimensions differed, more consistent perspectives can be obtained by organizing the views of scholars. Consequently, this study merged resource investment and participation support as resource participation, and interactive opinion and message dissemination as communication dissemination. In other words, this study contends that school public relations include planning decisions, communication dissemination, resource participation, and assessment feedback dimensions. The study questionnaire was drafted using these four

dimensions as standards, which are described below.

- (1) Planning decisions: School members have the opportunity to discuss and participate in stipulating school public relation plans, enabling maximum development effectiveness for school public relations.
- (2) Communication dissemination: School's use of various intercommunication channels for contacting and interacting with the public inside and outside the school and to obtain opinions. This includes the use of meetings, written information, oral communication, and electronic data dissemination media, which allow internal members and the external public to understand school performances and measures.
- (3) Resource participation: Schools carefully assess resources they can employ, support various cooperative activities with the public, provide tangible or intangible resources, build excellent interactive relationships, and jointly commit to developing the public relations and enhancing the efficacy of a school.
- (4) Assessment feedback: Schools organizing discussion meetings and offering feedback for correction and improvement according to results of internal members' self-assessments and review and public opinion. This also provides a reference for future public relations policy planning.

## **2.3. Research Related to the External Marketing Strategies and Public Relations of Schools**

Reviewing domestic literature, we found that numerous theses and dissertations on school public relations or school marketing had been conducted. However, the number of studies exploring the correlation between school external marketing strategies and public relations were limited; therefore, this study has considerable research value.

[18] targeted elementary school teachers in Taipei County, using a questionnaire survey method to analyze the performance strategies and public relations of schools. The results indicated that elementary school education personnel had positive perceptions of school marketing and public relations strategies. Additionally, their recognition level for marketing strategies exceeded that for public relations, and a significant positive correlation existed between the two. By contrast, [14] targeted elementary school teachers in Pingtung County to explore the correlations among the principle's leadership style, marketing management, and school public relations. The results showed that the principle leadership and marketing management style had a positively strong influence on school public relations. Furthermore, the relationship between a visionary and innovative leadership style and promotion strategies was the most significant.

Summarizing the above information, one study each, using elementary school teachers as the research subjects, was conducted for Northern and Southern Taiwan, whereas Central Taiwan lacked such a study. Both studies applied a

questionnaire survey. The results of these studies identified a positive and strong relationship between school marketing strategies and public relations [14] [18]. Previous researchers have established a solid foundation for school public relations or marketing strategy research. However, few studies have explored the correlation between external marketing strategies and public relations for elementary schools. Therefore, this study selected elementary school teachers as the research subjects.

### 3. Research Method

#### 3.1. Sample and Data Collection

After Taichung County and Taichung City were merged into one municipality on December 25, 2010, the Education Bureau, Taichung City Government, divided 29 administrative districts for a total of 228 elementary schools in Taichung City. Because of the large population, we randomly selected two schools each from the Taichung City District, Tun District, and the original Taichung County mountain region, coastal region, and Tun District, with an estimated 10 schools and 280 people.

#### 3.2. Definition and Measurement of Research Variables

After we referenced relevant literature review information, we completed a preliminary draft of a questionnaire for school external marketing strategies and public relations. The content included items for basic data, school external marketing strategies, and school public relations. After a pre-test, data processing and statistical analysis were conducted to assess the reliability and validity of the items, the results of which were revised into a formal questionnaire.

##### 3.2.1. Basic Data

Gender: male and female.

Service seniority: less than 10 years, 11-20 years, and over 21 years.

Highest education level: teachers' schools (including teachers' colleges), college (including a teaching degree), and graduate school and above.

Service duty: directors or unit leaders, and homeroom teachers or subject teachers.

##### 3.2.2. School External Marketing Strategies

After a literature analysis, the preliminary questionnaire was divided into product, price, promotion, and place strategy dimensions. A four-point Likert scale was employed to assess teachers' perceptions of school external marketing strategies. The scores were arranged sequentially from lowest to highest, with one to four respectively representing "completely inconsistent," "inconsistent," "somewhat consistent," and "completely consistent." Higher scores for the school external marketing strategies questionnaire indicated that the respondent better agreed with the assessment criteria and that the school performance in this dimension was excellent.

##### 3.2.3. School Public Relations

Using theory analysis as a basis, we summarized and screened items to draft a preliminary questionnaire. The questionnaire was divided into planning decisions, communication dissemination, resource participation, and assessment feedback dimensions. A four-point Likert scale was employed to assess teachers' perceptions of school public relations. The scores were arranged sequentially from lowest to highest, with one to four respectively representing "completely inconsistent," "inconsistent," "somewhat consistent," and "completely consistent." Higher scores for the public relations questionnaire indicated that the respondent better agreed with the assessment criteria and that school performance in this dimension was excellent.

#### 3.3. Questionnaire Pre-Test

This study randomly selected 135 teachers as participants for the questionnaire pre-test population. Reliability and validity analyses were conducted on the collected data to provide a reference for revising the school external marketing strategies questionnaire and school public relations questionnaire. A total of 135 pre-test questionnaires were distributed and 135 were retrieved. After eliminating incomplete and fixed answer questionnaires, 133 valid questionnaires remained for an effective response rate of 98.5%.

##### 3.3.1. Analysis of the Pre-Test Results

*Item analysis.* School external marketing strategy: The questionnaire item cutoff values ranged between 5.23 and 14.15, achieving significance. Excluding Questions 4 and 6, which had correlation coefficients of less than .50 of the overall score, the remaining 22 questions had a correlation coefficient ranging between .51 and .72 in relation to the overall score. The  $\alpha$  coefficient did not differ significantly after the 22 questions were deleted; therefore, Questions 4 and 6 were deleted and the other 22 questions were retained.

School public relations: The questionnaire item cutoff values ranged between 5.66 and 9.82, achieving significance, and possessed a correlation coefficient ranging between .51 and .72 in relation to the overall score. The  $\alpha$  coefficient did not differ significantly after the 24 questions were deleted; therefore, all questions were retained.

*Factor analysis.* School external marketing strategy: Factor analysis was conducted on the retained questions of the item analysis results. The suitability of the pre-test scale items for factor analysis was determined using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. The greater the KMO value, the more common factors existed between variables, and the more suitable the variables were for factor analysis. This study applied principal axis factoring to extract factors, and employed the orthogonal varimax rotation method to perform factor rotation. An eigenvalue greater than 1.0 was established as the factor selection standard. After eliminating questions with a load below .4, a KMO value of .90 was obtained. The Bartlett's test of sphericity chi-square value was 1159.29,

and the degree of freedom was 153, achieving significance ( $p < .001$ ). This result indicated that the questionnaire was suitable for factor analysis. Four factors (i.e., price, promotion, place, and product strategies) were obtained after factor analysis; the eigenvalues of which were 7.44, 1.64, 1.31, and 1.15, respectively. Their explained variances were 22.31%, 14.12%, 13.96%, and 13.74%, respectively, and the cumulative explained variance reached 64.13%.

**School public relations:** The questionnaire employed principle axis factoring combined with the orthogonal rotation method to conduct factor analysis. Questions with a load of less than less than .40 were eliminated, and a KMO value of .89 was obtained. The Bartlett's test of sphericity chi-square value was 1604.27, and the degree of freedom was 190, achieving significance ( $p < .001$ ). This result indicated that the questionnaire was suitable for factor analysis. Four factors (planning decisions, assessment feedback, communication dissemination, and resource participation) were obtained after factor analysis; the eigenvalues of which were 8.46, 2.35, 1.32, and 1.22, respectively. Their explained variances were 20.32%, 16.99%, 16.04%, and 13.40%, respectively, with the cumulative explained variance reaching 66.75%.

**Reliability analysis.** School external marketing strategy: The Cronbach's  $\alpha$  for the questionnaire was .91, an excellent value. The reliability value was .74 for product strategy, .89 for price strategy, .82 for promotion strategy, and .74 for place strategy. Thus, the questionnaire achieved a satisfying reliability.

**School public relations:** The Cronbach's  $\alpha$  for the questionnaire was .93, an excellent value. The reliability value was .89 for planning decisions, .85 for communication dissemination, .78 for support participation, and .89 for assessment feedback. Thus, the questionnaire achieved a satisfying reliability.

## 4. Results and Discussion

### 4.1. Analysis of Current School External Marketing Strategies

The overall mean for the current external marketing strategies adopted by elementary schools in Central Taiwan was 3.42, between “*completely consistent*” and “*somewhat consistent*.” This indicates that Central Taiwan's elementary school teachers had medium-high perceptions of school external marketing strategies. The mean for the four dimensions was  $M = 3.20$  for product strategy,  $M = 3.23$  for place strategy,  $M = 3.38$  for promotion strategy, and  $M = 3.72$  for price strategy. Thus, their perceptions of the four dimensions all reached a medium-high level.

These results indicated elementary school teachers have a positive perception of school external marketing strategies. A possible reason for these results could be the popularization of marketing concepts in recent years, and the increased emphasis that the education field has placed on marketing. The Central Taiwan government has also

continually promoted the “caring for the disadvantaged and leveling the playing field” education policy, and provided textbooks and school lunch fees subsidies to low-income or indigenous students as well as other disadvantaged student groups. Schools also utilize various resources to assist students in applying for scholarships; therefore, the majority of Central Taiwan's elementary school teachers had high perceptions of pricing strategy in school external marketing strategies. However, the implementation of course design (product), propaganda and advertisement (promotion), and school software/hardware and space planning (place) can be improved.

### 4.2. Analysis of Current School Public Relations

Analysis of Central Taiwan's elementary schools' current public relations strategies showed a mean of 3.05, ranging between “*completely consistent*” and “*somewhat consistent*.” This indicates that Central Taiwan's elementary school teachers had medium-high perceptions of the current school public relations. Excluding communication dissemination ( $M = 3.38$ ) and resource participation ( $M = 3.23$ ), which received medium-high scores, the dimensions of assessment feedback ( $M = 2.90$ ) and planning decisions ( $M = 2.78$ ) presented scores lower than the overall mean.

These results indicated that elementary school teachers had positive perceptions of school public relations. This may be because current education policies and reforms tend toward multi-element communication, and schools often use parents' day, sporting events, the Internet, and other channels to deliver educational information to teachers and parents. Consequently, the mean for the communication dissemination dimension was the greatest. Regarding establishing public relations plans, because of numerous school affairs, public relations activities do not adhere to a strict planning process. A “will implement” but not always “have a plan” situation typically occurs. Subsequently, perceptions of this item are insufficient, resulting in the “plan decision” dimension having the lowest mean.

### 4.3. Analysis of the Correlation between School External Marketing Strategies and Public Relations

To understand the correlation between school external marketing strategies and public relations, the Pearson's product-moment correlation method was employed for analysis; Table 1 indicates that a positive correlation exists between the overall and individual school external marketing strategy dimensions and the overall and individual school public relations dimensions. This correlation reached significance ( $r = .72$ ,  $p < .001$ ), indicating that the two dimensions were closely correlated. A study in reference [3] stated that a correlation coefficient ranging between .10 and .39 denoted a low correlation, a coefficient between .40 and .69 denoted a moderate correlation, and a coefficient between .70 and .99 denoted a high correlation. As shown in data, a medium level of correlation existed between each dimension.

The promotional and place strategy dimensions of school external marketing strategies exhibited the highest correlation with each school's overall public relations ( $r = .65, p < .001$ ). However, the communication dissemination dimension in school public relations exhibited the highest correlation ( $r = .71, p < .001$ ) with the school's overall external marketing strategy.

Further comparison of related literature showed that the results of this study were identical to those reported by [14] and [18], indicating a positive correlation between the

promotion of school external marketing strategies and school public relations performance. When schools actively promote external marketing strategies and establish excellent WOM, a mutual understanding between schools and communities can be promoted, the effectiveness of school public relations can be increased, the occurrence of misunderstandings and conflict can be reduced, and resource reciprocity and shared education philosophies can be achieved.

Table 1. Pearson's correlation analysis results

Factor dimensions	Product strategy	Price strategy	Promotion strategy	Place strategy	overall
Plan decision	.43***	.24***	.47***	.52***	.52***
Communication dissemination	.52***	.49***	.66***	.57***	.71***
Resource participation	.51***	.42***	.54***	.52***	.62***
Assessment feedback	.47***	.30***	.53***	.57***	.58***
Overall	.57***	.42***	.65***	.65***	.72***

\*\*\*  $p < .001$

Table 2. Canonical correlation analysis

Control variable	$\chi_1$	$\chi_2$	Criterion variable	$\eta_1$	$\eta_2$
Product strategy	-.748	.057	Planning decisions	-.710	.596
Price strategy	-.627	-.616	Communication dissemination	-.904	-.294
Promotion strategy	-.884	-.183	Resource participation	-.798	-.022
Place strategy	-.828	.332	Assessment feedback	-.788	.487
Extracted variance (%)	60.475	13.153	Extracted variance (%)	64.48	16.971
Overlap (%)	37.925	1.093	Overlap (%)	40.44	1.410
			$\rho^2$	.627	.083
			$\rho$	.792***	.288***

\*\*\* $p < .001$

4.4. Canonical Correlation Analysis of School External Marketing Strategies and Public Relations

This study used the four dimensions of school external marketing strategies as control variables and the four dimensions of school public relations as the criteria variables to conduct canonical correlation analysis.

The results show that two canonical correlation coefficients achieved the level of significance. The first canonical correlation coefficient  $\rho_1$  was .792 ( $p < .001$ ). The second canonical correlation coefficient  $\rho_2$  was .288 ( $p < .001$ ). The four control variables influence the criteria variables mainly through the two sets of canonical factors.

For the first canonical correlation coefficient set, the first canonical factor ( $\chi_1$ ) of the control variables can explain 62.7% of the first canonical factor's total variance for the criteria variables. The criteria variables' first canonical factor ( $\eta_1$ ) can explain 64.480% of the criterion variables' variance. The overlap between the control variables and criteria variables was 40.436%. In other words, by applying the first set of canonical factors ( $\chi_1$  and  $\eta_1$ ), school external

marketing strategies can explain 40.436% of the total variance for school public relations.

For the second canonical correlation coefficient set, the control variables' second canonical factor ( $\chi_2$ ) can explain 8.3% of the total variance for the criteria variables' second canonical factor ( $\eta_2$ ). The criteria variables' second canonical factor ( $\eta_2$ ) can explain 16.971% of the variance for the criteria variables. The overlap between the control variables and criteria variables was 1.410%, which can explain 1.410% of the total variance for school public relations.

The variance analysis results showed that the overlap between the control variables and the criteria variables was 41.85%. In other words, the four control variables of school external marketing strategies can be used to explain the 41.85% total variance of the four criteria variables in school public relations by applying the second set of canonical factors.

As described previously, we found that two sets of canonical equations achieved significant standards. Considering the results, [4] highlighted that a significant correlation coefficient typically exceeds or equals .3. Correlation coefficients that exceed or equal .5 indicate a

high level of correlation. For the first set of canonical factors, the four control variables of product strategy (-.748), price strategy (-.627), promotion strategy (-.884), and place strategy (-.828) all exceeded .5, indicating a highly negative correlation with the first set of canonical factors ( $\chi_1$ ). The school public relation criteria variables of planning decisions (-.710), communication dissemination (-.904), resource participation (-.798), and assessment feedback (-.788) also showed a highly negative correlation with the first set of canonical factors. The structural analysis of the first set of canonical factors showed that schools' product, price, promotion, and place strategies influenced the planning decisions, communication dissemination, resource participation, and assessment feedback dimensions of school public relations. Because the correlation coefficient was negative, the less a school values external marketing strategies, the worse its public relations will be. Conversely, the more a school values external marketing strategies, the better its public relations will be.

In the second set of canonical factors, only the price (-.616) and place strategies (.332) of school external marketing strategies had an absolute value greater than .3. Among the criteria variables for school public relations, the planning decisions (.596) and assessment feedback (.487) variables exceeded .3. Structural analysis of the second set of canonical factors showed that school price and place strategies influenced public relations planning decisions and assessment feedback dimensions. In other words, if a school values the place strategy rather than the price strategy, its public relations planning decisions and assessment feedback will be superior. This may be because public elementary schools are included in compulsory education, receive government subsidies, and provide tuition prices that are commonly accepted by parents. However, by focusing on transportation, Internet access, communication, and other place strategies, schools can conveniently and effectively deliver educational products and services. This allows

customers to use school services and products conveniently while providing school staff with more opportunities to participate in and discuss public relations planning decisions. Schools can use staff self-evaluations and reviews or reference public opinion to achieve the optimum effectiveness of school public relations.

The first group's canonical factors play a significant role in the amount of overlap between the two groups' canonical correlation. This indicates that the four control variables of school external marketing strategies influence the four criteria variables of school public relations through the first group of canonical factors. Consequently, the more the four dimensions of school external marketing strategies (i.e., product, price, promotion, and place strategies) are emphasized, the higher the four dimensions (planning decisions, communication dissemination, resource participation, and assessment feedback) of schools public relations will be.

#### 4.5. Predictive Power Analysis on School External Marketing Strategies for School Public Relations

This study employed the four dimensions of school external marketing strategies as predictor variables and the four dimensions of school public relations as criteria variables for stepwise multiple regression analysis.

Table 3 shows that for school external marketing strategies, the dimensions that can effectively predict school public relations are, in sequential order, place, promotion, and product strategies. The overall explainable variance in school public relations was 57.5%. Of which, place strategy had the greatest predictive power, with an individual explanatory power of 42.6%. This was followed by promotion strategy, with an explanatory power of 10.5%, and product strategy, with an explanatory power of 4.5%. The final standardized regression equation was as follows:

School public relations = .352 x place strategy + .311 x promotion strategy + .252 x product strategy.

Table 3. Stepwise multiple regression analysis

input variables	R	R <sup>2</sup>	$\Delta R^2$	F	$\beta$
Place strategy	.652	.426	.426	202.261***	.352***
Promotion strategy	.728	.530	.105	153.586***	.311***
Product strategy	.758	.575	.045	122.321***	.252***

\*\*\*p < .001

Considering the standardized regression coefficient, the  $\beta$  coefficient values for the three predictor variables included in the regression equation were positive, indicating that they had a positive influence on school public relations. The larger the standardized coefficient value, the greater its importance, and the greater its influence level. Table 3 showed that the  $\beta$  values for the place, promotion, and product strategies in school external marketing strategies were .352, .311, and .252, respectively. Of which, the place strategy had the greatest explanatory power for school public relations. [14] found that marketing management had

predictive power for overall school public relations, which partially agrees with the findings of this study. Therefore, emphasizing external marketing strategies, especially in the place strategy dimension (e.g., enhancing school software and hardware facilities, beautifying and greening school scenery, and providing a barrier-free environment and smooth and secure route), can enhance school public relations. The promotion and product strategies also positively influence school public relations; thus, they should be continually promoted.

## 5. Conclusion and Recommendations

We summarized the findings of this study into a conclusion. Then, based on the conclusion, we provide recommendations and reference for elementary schools implementing external marketing strategies and public relations.

In this study, the teachers confirmed the efforts schools have devoted to promoting external marketing and community public relations.

The study results also indicated that the performance of the current external marketing and public relations strategies adopted by elementary schools in Central Taiwan achieved a medium-high mean. In the marketing strategy dimensions, teachers had the highest perceptions of price strategy, and the lowest perceptions of the course design-related product strategy. Encourage teachers to form innovative teaching teams and jointly develop diverse and active teaching courses. According to the research results, the course design-related product strategy dimension of school external marketing strategies had the lowest score. We recommend that schools form innovative teaching teams, establish shared teaching platforms, and regularly conduct teaching exchanges and sharing to develop school service quality.

In the public relations dimensions, communication dissemination achieved the highest score, and the planning decisions dimension received the lowest score. Incorporate public relation plans in school development plans, and regularly review and improve these plans according to the performance results. The scores for the planning decision dimension of school public relations tended to be low, indicating that schools had not comprehensively implemented public relations plans. We recommend that schools include public relation plans in the overall school development plan, gradually implement short-, medium-, and long-range plans, and conduct regular reviews and improvements to enhance the development of school public relation .

School external marketing strategies and public relations exhibited a moderate correlation. Based on the Pearson's correlation analysis results, a significant moderate and positive correlation existed between school external marketing strategies and public relations. The dimensions between these two items also achieved significance. This indicated that school external marketing strategies and public relations are inseparable. Actively promoting external marketing strategies can enhance school public relations.

Moreover, the canonical correlation analysis results showed that school external marketing strategies and public relations had a significant canonical correlation. By placing greater emphasis on the four dimensions (i.e., product, price, promotion, and place strategies) of external marketing, the four dimensions (planning decision, communication dissemination, resource participation, and assessment feedback) of school public relations can be enhanced. The place, product, and promotion strategies in school external marketing strategies can predict 57.5% of the variation in school public relations.

Finally, because of the limited research time, only Central Taiwan elementary school teachers were recruited as research subjects; thus, the inferences based on the study results are limited. We recommend that future research expand the research scope (i.e., expand to other counties or cities and increase the sample population) to understand national variations. For individual identity, researchers can expand their investigations to principals, student parents, and community members to examine differences among their perceptions and, thus, enhance the research content.

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