**Chia-Yu Chao**[1]

## A STUDY ON THE DEVELOPMENT OF COASTAL YACHT TOURISM IN KINMEN

***The purpose of this article is to study the development coastal yacht tourism in recreational fishing harbors, to find out the relations among the essentials for coastal yacht tourism, and to build the coastal yacht tourism model. Total 462 subjects are from Kinmen County, Taiwan, ROC; the structure equation modeling is applied to establish the model and estimate the parameters. The estimate of coastal yacht tourism model indicates the parameters of GFI and RMSEA being not good for the fit. The first modification deletes the observed variable y15 but does still not get the fit model. Then, the second modification connects the parameters, ε1-ε5, ε9-ε10, ε23-ε25, which match the fit of estimate. The analysis indicates 6 latent variables being correlated among η1 (visiting information), η2 (installations and equipments), η3 (safety), η4 (trends), η5 (tour interpretive services), and η6 (laws and regulations), where the correlations between η2 (installations and equipments) and η6 (laws and regulations) is the highest, followed by the correlations between η3 (safety) and η6 (laws and regulations). The recommendations for the government are to give more investments in the design, or apply the construction, operation, and transfer methods to setting up yacht tour companies, to make the different styles of harbors, to build harbors according to tourists needs, and to set the recreational harbor as the landmark of Kinmen.***

***Keywords:*** *Kinmen; structure equation modeling; the coastal yacht tourism model.*

**Цзя-Ю Чао**

## ДОСЛІДЖЕННЯ РОЗВИТКУ ПРИБЕРЕЖНОГО ЯХТОВОГО ТУРИЗМУ У КІНМЕНІ (ТАЙВАНЬ)

***У статті досліджено прибережний яхтовий туризм у гаванях рекреаційного рибальства, з'ясовано співвідношення основних умов розвитку прибережного яхтового туризму, побудовано модель прибережного яхтового туризму. 462 об'єкти дослідження знаходяться в області Кінмень, Тайвань; для побудови моделі і оцінювання параметрів застосовано моделювання структурним рівнянням. Оцінювання моделі прибережного яхтового туризму вказує на те, що параметри "якість індексу придатності" (GFI) і "середньоквадратична помилка наближення" (RMSEA) для неї не дуже добре підходять. Перша модифікація видаляє спостережувану величину y15, але модель не підтверджується. Друга модифікація зв'язує параметри ε1-ε5, ε9-ε10, ε23-ε25, які відповідають потрібним оцінкам. Аналіз показує, що 6 прихованих змінних корелюються між η1 (інформація про відвідування), η2 (установки і устаткування), η3 (безпека), η4 (тенденції), η5 (послуги усного перекладача в турі) і η6 (закони і правила), при цьому кореляції між η2 (установки і устаткування) і η6 (закони і правила) — найвищі, потім йдуть кореляції між η3 (безпека) і η6 (закони і правила). Розроблено рекомендації до уряду: виділяти більше інвестицій у розробку та застосовування методів будівництва, експлуатації і передачі власності для створення компаній яхтового туризму, створювати гавані різних стилів, обладнувати гавані відповідно до потреб туристів, а також зробити рекреаційні гавані туристичною відмінністю Кінменя.***

***Ключові слова:*** *Кінмень; моделювання структурним рівнянням; модель прибережного яхтового туризму.*

**Цзя-Ю Чао**

## ИССЛЕДОВАНИЕ РАЗВИТИЯ ПРИБРЕЖНОГО ЯХТЕННОГО ТУРИЗМА В КИНМЕНЕ (ТАЙВАНЬ)

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***В статье исследовано прибрежный яхтенный туризм в гаванях рекреационного рыболовства, выяснены соотношения основных условий развития прибрежного яхтенного туризма, построено модель прибрежного яхтенного туризма. 462 объекта исследования находятся в области Кинмень, Тайвань; для создания модели и оценки параметров применяется моделирование структурным уравнением. Оценка модели прибрежного яхтенного туризма указывает на то, что параметры "качество индекса пригодности" (GFI) и "среднеквадратичная ошибка приближения" (RMSEA) для нее не очень хорошо подходят. Первая модификация удаляет наблюдаемую величину y15, но модель не подтверждается. Вторая модификация связывает параметры ε1-ε5, ε9-ε10, ε23-ε25, которые соответствуют нужным оценкам. Анализ показывает, что 6 скрытых переменных коррелируются между η1 (информация о посещении), η2 (установки и оборудование), η3 (безопасность), η4 (тенденции), η5 (услуги устного переводчика в туре) и η6 (законы и правила), при этом корреляции между η2 (установки и оборудование) и η6 (законы и правила) — самые высокие, затем идут корреляции между η3 (безопасность) и η6 (законы и правила). Разработаны рекомендации для правительства: выделять больше инвестиций в разработку применения методов строительства, эксплуатации и передачи собственности для создания компаний яхтенного туризма, создавать гавани различных стилей, оборудовать гавани в соответствии с потребностями туристов, а также сделать рекреационные гавани туристическим отличием Кинменя.***

***Ключевые слова:*** *Кинмень; моделирование структурным уравнением; модель прибрежного яхтенного туризма.*

**Introduction.** Many fisheries have turned from traditional fishing to recreational fishing in few years. All of them are encouraged, by Taiwan government, to change from local fishing village-based communities to tourism-oriented viewpoints. Residents' economic dependence, community participation, enterprises, yacht companies and local government play important roles for such fishing harbors (Huang, 2009). Both Bisha fishing harbor in Keelung and Fuge fishing harbor in Tamsui are famous for fresh fish and seafood meals in Northern Taiwan (Huang, 2009). Kinmen, as a small island near Xiaman in Mainland China, used to be the battle land during World War II. Kinmen is geographically shaped narrow in the middle and both Eastern and Western sides being wide with approximately 20 km from East to West, about 3 km in the central region, and between 3 km to 15 km from North to South because of the different shape, surrounded with islets and reefs. There are no big and long rivers in Kinmen terrain, but there are long and wide beach areas (Kinmen County Government, 2011). Since the implementation of Three Minor Communications, tourism in Kenmen County has bloomed, as people could take hourly ships to Xiaman. In Kinmen, tourists could arrange a two-day trip to visit Wind Lion God, battlefield relics like Guningtou Battle Museum, Colonel Li Kuang-Chien temple, and August 23rd Artillery battle museum, Hsienku temple, Victory Gate, and Hujingtou war museum, enjoying the leisure off-shore island life. There are about 20 estuaries in Kinmen, but only 3 fishing harbors are utilized for special purposes, including Shinhu harbor, Locho harbor, and Fukuotun harbor (Kinmen Fish Center, 2011), which can be developed as recreational harbors. The purpose of this study is to develop coastal yacht tourism in recreational fishing harbors, to find out the relations among the essentials for coastal yacht tourism, and to build the coastal yacht tourism model.

**Literature review.**

*1. Recreational fishing harbor.* Cheng (2011) indicated that recreational fishing harbors, also named as tourism harbors, or the ones with direct sales of fish or instant cooking of seafood were called tourism fish markets. According to the recreational activities, the citizens visiting such recreational fishing harbors cover one type of regional outdoor recreational activities and the other type of touring activities. The former is regarded as the major activities for the citizens visiting recreational fishing harbors, while the latter is relatively less. In general, tourism fishing harbors are officially defined as multifunctional harbors with fishery, leisure, tourism, and education. Referring to Regulations for Recreational Fishery, it is the industry offering fishing vessels for entertainment and catching aquatic products or touring on water. Such tourism activities refer to passengers taking fishing vessels to experience fishing operations or watching creatures and ecology in the sea. Instead of traditional harbors being merely utilized for supply, docking and producing fishery, as Huang (2011) clearly explained, recreational fishing harbors or tourism harbors become recreational by having recreational fishing vessels docking or recreational fish market. Hsu, Chuang & Chen (2009) concluded recreational harbors as a part of recreational fishery and defined recreational harbors as follows. (1) Broadly speaking, traditional fishery harbors were combined with leisure and education to become multi-functional harbors with fishery production, recreation, tourism, and education. (2) Narrowly speaking, recreational harbors provided traditional fishing vessels with operation bases, offering fishing vessels for people to catch aquatic products and watch fishing operations or creatures and ecology in the sea so that they could understand fishery industry, and further satisfying the needs of tourists in the sea activities. (3) With integration, traditional fishing harbors were combined with recreational functions, providing people the experiences of sea fishing, recreational fish markets, and seashore sightseeing that they became multifunctional harbors with fishery, leisure, tourism, and education. Fisheries Agency, Council of Agriculture, Executive Yuan (2010) announced on the web site that fishing vessels presented various functions of fishery, recreation and transportation in Taiwan; in consideration of present tourism development and regional distribution of population, tourism harbors, or recreational harbors, were divided into metropolitan, sea recreational, and local touring harbors, according to the development types, regional tourism resources, area of development, population distribution of neighboring counties and cities, and transportation.

*2. Yachts.* Ritchie and Goeldner (2003) defined yacht tourism as a phenomena resulted from the interaction among tourists, tourism industry, governmental sectors in touring areas, and local host communities when appealing and hosting tourists and other visitors. Individual experiences of tourists were distinct in the phases of expectation and preparation before departure, on the way of a tour, the destination, on the way of return and memory (Clawson & Knetsch, 1966). The effects of the relations between tourists and the relative subjects, such as travel agents, airlines, hotels, or local citizens, on the activities and the touring areas were regarded as the major research topic (Chen, 2009). With luxurious equipment and considerable services, a yacht could take tourists to a certain place for sightseeing. Such water tourism resorts combine the activities on a yacht and on shore (Jung, 2010; Lu, 2008). In order to expand the market, yacht companies would combine the services with other suppliers

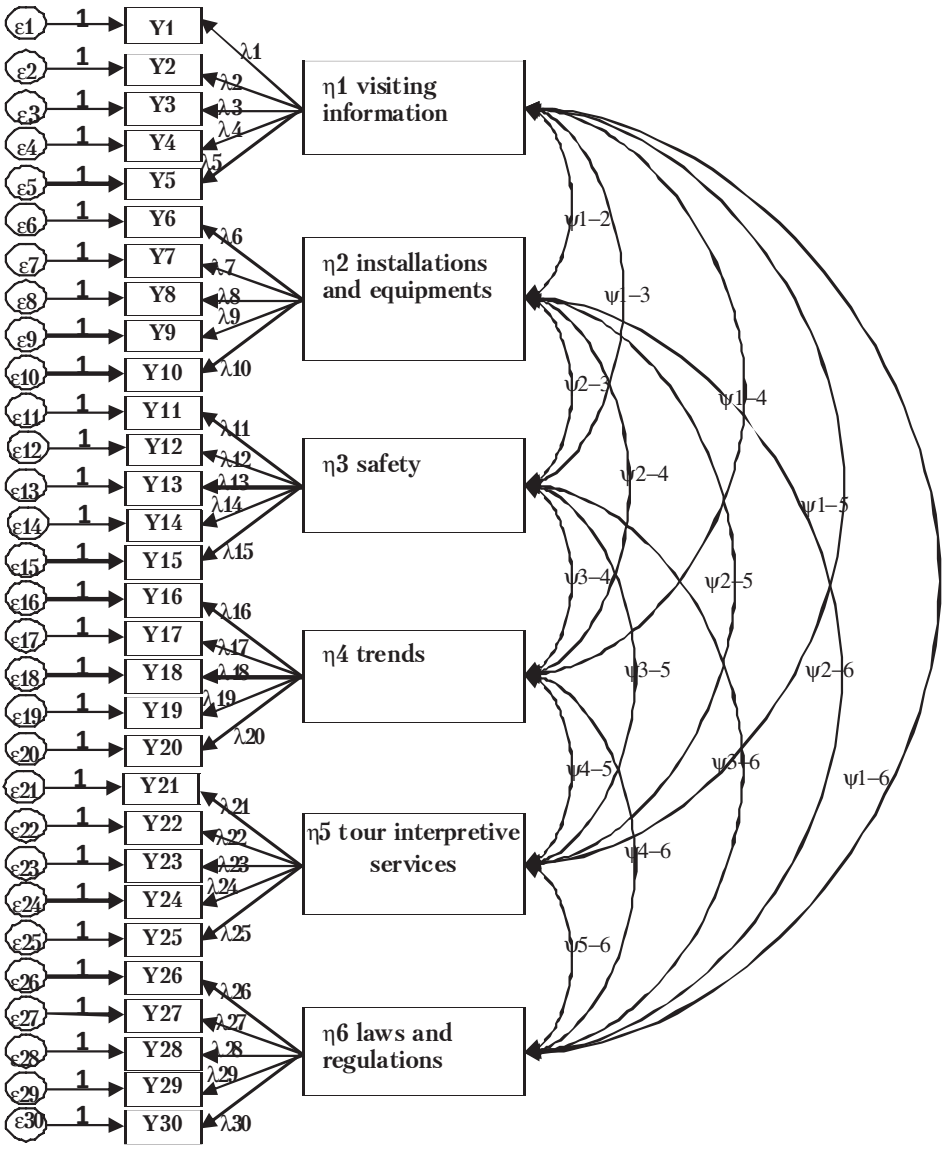
for package tours in which the meals are internationalized, the activities on a yacht are abundant and diverse, the shows are provided after dinner, and touring services around harbors are offered. Some large-scale yachts might not be able to dock at small harbors that tenders or lighters provided for on-shore tourism. With different shipping and passenger capacity, yachts could create multidirectional tourism. Yacht industry is regarded as a capital- and labor-intensive industry which development depends on the economy of a harbor and the integration of local industries and yacht industry. The construction of yacht businesses cover yachts and harbor cities, as yachts would make such cities bloom and develop. To enhance the interests of tourists and promote the service and efficiency, yacht companies have developed new tours by combining with relevant industries. The facilities and the relative measures in harbors used to cause unstable voyages in Taiwan, yacht industry was less competitive compared with Hong Kong and Singapore (Chou, 2006).

Chung (2009) stated the visitors' satisfaction with a recreational harbor in Hsinchu, the recreational factors were relaxation, leisure experience, seafood, and emotion interaction. The factors in expectation before visiting were the activities to attend, hardware equipment, management, dining consumption; and the results indicated the influence of dining consumption, hardware equipment, and management on satisfaction. Coastal yacht tourism development should pay attention to the environment, local humanistic spirit, information provision, installations, equipments, vessel safety, trend creation, tour explanation, and laws and regulations. Besides, tourists visiting recreational fishing harbors would prefer the vessels with new sailing equipment, professional environment and ecologically specialized illustration, and safe coastal yacht tour (Yilan Whale Watching Tour, 2011; Whale World, 2011). However, there are very important key points for building recreational fishing harbors. People can go fishing at the harbors, sightseeing, take coastal yacht touring, and enjoy seafood and some recreational activities. From the related literatures, Andrews, Tressler, and Mintzes (2008), Caccia (2008), Cao and Wong (2007), Ollervides and Farrell (2007) referred to the assessing of information, harbor, location, interpretation, status of coastal zone, safety, crafts and environmental understanding; Akiyama (2007) talked about the policy making process for creating the basic ocean laws and regulations; Chen (2010), Howard and Julie (2007), Higham (2005), Jon and Robert (2003), Silvia (2005) mentioned about social trend, diversifying fisheries into tourism, integrating the recreational sector into fishery management, and marine park; Liu, Wu, Jhan, and Ho (2011) indicated the role of local government in marine spatial planning, equipment, facility and management; and Stamieszkin and Gerber (2009) analyzed a marine protected area for sustainability and conflict resolution. The researchers finally concluded the essentials for coastal yacht tourism, as follows:

1. Visiting information provides all information related to yachts, such as notices, relevant activities, and schedule. 2. Installations and equipment contain communication and navigation equipment, engine/motor, and life-saving devices. 3. Safety refers to all necessary secure equipment from departure to return, including the voyage and relevant activities. 4. Trends refer to the promotions of yacht tourism. 5. Tour interpretive services offer professionals interpreting the schedule. 6. Laws and regulations refer to Touring Ship Management Regulations, in which the number, type, gross tonnage of yacht, time and voyage routes should follow the announcement in harbors.

**Methods.**

*1. Research Frame*




*Note:* η1- η6 are latent variables, y1-y30 are observed variables, ε1- ε30 are error of observed variables, λ1- λ30 are paths among latent variables and observed variables, φ1-6 are the relationships among η1-η6.

*Figure 1.* **The coastal yacht tourism model**

*3. Sample, statistics methods and building the model.* Convenience sampling was applied to collect the data; total 750 questionnaires were sent to the subjects in 5 townships in Kinmen on September 1, 2011 and collected on September 30, 2011.

There were 669 questionnaires collected, and total 462 (62%) valid questionnaires were coded in SPSS 12.0. Structural equation modeling (SEM) was applied to building the coastal yacht tourism model, with latent variables η1 (visiting information), η2 (installations and equipments), η3 (safety), η4 (trends), η5 (tour interpretive services), and η6 (laws and regulations) affecting each other.

*4. Validity Test and Reliability Test.* The questionnaire for the essentials of coastal yacht tourism was developed, the validity of the questionnaire was referred to the related research and literature, such as Andrews, Tressler and Mintzes (2008), Caccia (2008), Cao and Wong (2007), Chung (2009) and Huang (2009), Ollervides and Farrell (2007) about the equipments, facilities, safety, and so on for recreational harbors and recreational fishing harbors; Akiyama (2007), Hualien County Government (2011), Kinmen County Government (2011), Kinmen Fish Center (2011), and TaiTung City Government (2011) about the touring information, safety, vision, and laws and regulations in recreational fishing harbors, and Chen (2010), Howard and Julie (2007), Higham (2005), Jon and Robert (2003), Liu, Wu, Jhan and Ho (2011), Northern Bluefin Tuna Festival (2011), Silvia (2005), Taiwan Fishman Wharf (2011), Whale World (2011), and Yilan Whale Watching Tour (2011) about whale watching tour, installations and equipment, trends, tour interpretive services.

The knowledge management in this study was based on the dimensions and questionnaire proposed by Liu, Wu, Jhan and Ho (2011). With factor analysis, the Cronbach α reliability of 6 dimensions appeared 0.90 (visiting information), 0.95 (safety), 0.92 (tour interpretive services), 0.85 (trends), 0.82 (installations and equipment), and 0.86 (laws and regulations). With principle component analysis and oblique rotation, the variance explained was 73.36%.

*Table 1.* **The factors, items, observed and latent variables of the pilot test**

| Factor (latent variables from η1 to η6) | Item (observed variables of SEM, from y1 to y25) | Factor loading | Eigen value | Percentage of variables | Cumulated percentage | б value |
|---|---|---|---|---|---|---|
| η1 visiting information | y1. Airport and harbor to get the recreational harbor information about sightseeing tour | 092 | 8.67 | 28.90 | 28.90 | 0.90 |
| | y2. The prices of sightseeing tour is my consideration | 083 | | | | |
| | y3. Map shows the information of the recreational harbor | 082 | | | | |
| | y5. The introduction of the sightseeing tour | 069 | | | | |
| | y4. Visiting centers introduce the recreational harbor | 068 | | | | |
| η3 safety | y11. The boats have prepared life vests | -097 | 3.77 | 12.58 | 41.48 | 0.95 |
| | y12. The boats show the emergency exit signs | -094 | | | | |
| | y15. The places show the evacuation direction signs | -091 | | | | |
| | y14. Crew members demonstrate lifesaving | -088 | | | | |
| | y13. Crew members point out the passageway directions | -082 | | | | |

**The End of** *Table 1*

| Factor (latent variables from η1 to η6) | Item (observed variables of SEM, from y1 to y25) | Factor loading | Eigen value | Percentage of variables | Cumulated percentage | α value |
|---|---|---|---|---|---|---|
| η5 tour interpretive services | y21. The tour provides interpretive services and explanation | 0.98 | 3.05 | 10.17 | 51.65 | 0.92 |
| | y22. The view points set the interpretive service | 0.84 | | | | |
| | y23. Provides the story and history interpretive service | 0.83 | | | | |
| | y25. Explain the boat structure | 0.75 | | | | |
| | y24. Issues the weather and wave explanations | 0.59 | | | | |
| η4 trends | y17. Show on Facebook about coast boat tour sightseeing | 0.82 | 2.61 | 8.70 | 60.35 | 0.85 |
| | y16. Tell friends about coast boat tour sightseeing | 0.80 | | | | |
| | y18. Coast boat tour sightseeing is the trend | 0.68 | | | | |
| | y20. Take some photos of coast boat tour sightseeing to share with friends | 0.64 | | | | |
| | y19. Upload the coast boat tour sightseeing to blog | 0.60 | | | | |
| η2 installations and equipment | y6. The transportation areas are easy to reach | 0.91 | 2.12 | 7.09 | 67.44 | 0.82 |
| | y7. Installations and equipments of the port are important | 0.74 | | | | |
| | y10. New equipment and electrical facility are important | 0.72 | | | | |
| | y9. The bigger and longer boats are better | 0.63 | | | | |
| | y8. The seats of the boats are comfortable | 0.62 | | | | |
| η6 laws and regulations | y26. The laws show the sail permission of sightseeing tour | 0.87 | 1.77 | 5.92 | 73.36 | 0.86 |
| | y28. Boat tour should ask to buy the compulsory insurance | 0.75 | | | | |
| | y27. The tour should set the laws of wearing life vests | 0.70 | | | | |
| | y29. The regulations ask the setting of recreational harbor | 0.60 | | | | |
| | y30. The laws provide the docking areas of boat companies | 0.56 | | | | |

**Analysis**

1. Analysis of the coastal yacht tourism model. The estimate of coastal yacht tourism model indicated the parameters of RMR, NCI, NFI, CFI and IFI fitting the suggestions. However, GFI was 0.87 and RMSEA was 0.060. The first modification model deleted the observed variable y15 (the value was the smallest) so that GFI was 0.87 and RMSEA 0.062. Then, the second modification connected e1-e5, e9-e10, e23-e25 so that RMR showed 0.043, RMSEA 0.049, NCI 2.10, NFI 0.93, GFI 0.90, CFI 0.96 and IFI 0.96. The parameters of the second modification fitted the estimate, Table 2. Figure 2 shows the model of the modification. Following the theories of SEM and comparing the parameters of the second modification with the suggestion values,

the coastal yacht tourism model was indicative of good fit (Bollen & Long, 1993; Hairs, Anderson, Tatham & Black, 1998; Joreskog & Sorbom, 1992; Kaplan, 2000).

*Table 2.* **Estimate of the coastal yacht tourism model**

| Fit of estimate | Suggestions | Original model | 1st Modification | 2nd Modification |
|---|---|---|---|---|
| $\chi^2$ | | 1047.40 | 1008.57 | 754.16 |
| df | | 390 | 362 | 359 |
| p | .05 | .000 | .000 | .000 |
| RMR | .05 | 0.043 | 0.043 | 0.043 |
| RMSEA | .05 | 0.060 | 0.062 | 0.049 |
| NCI | 3 | 2.68 | 2.78 | 2.10 |
| NFI | .9 | 0.90 | 0.90 | 0.93 |
| GFI | .9 | 0.87 | 0.87 | 0.90 |
| CFI | .9 | 0.94 | 0.94 | 0.96 |
| IFI | .9 | 0.94 | 0.94 | 0.96 |
| Conclusion | | | Deleted y15 | Connected ε1- ε5, ε9- ε10, ε23- ε25 |

*2. Correlations among essentials of the coast boat tour model.* The analysis indicated 6 latent variables being correlated among η1 (visiting information), η2 (installations and equipment), η3 (safety), η4 (trends), η5 (tour interpretive services), and η6 (laws and regulations). The correlation parameters above 0.50 were as following.

(1) η2 and η6 — 0.72.

(2) η3 and η6 — 0.69.

(3) η2 and η3 — 0.62.

(4) ε9 (y9 the bigger and longer boats are better) and ε10 (y10 new equipment and electrical facility are important) — 0.54.

*Table. 3* **Correlations among essentials of the coastal yacht tourism model**

| path | Estimate | Standard Error | Critical Ratio | p | Correlations |
|---|---|---|---|---|---|
| η1 visiting information - η 2 installations and equipment | 0.41 | 0.05 | 7.93* | .000 | 0.43 |
| η 1 visiting information - η 3 safety | 0.20 | 0.03 | 6.50* | .000 | 0.44 |
| η 1 visiting information - η 4 trends | 0.04 | 0.02 | 2.30* | .000 | 0.13 |
| η 1 visiting information - η 5 tour interpretive services | 0.28 | 0.05 | 5.32* | .000 | 0.27 |
| η 1 visiting information - η6 laws and regulations | 0.29 | 0.04 | 6.45* | .000 | 0.34 |
| η 2 installations and equipment - η 3 safety | 0.21 | 0.03 | 7.87* | .000 | 0.62 |
| η 2 installations and equipment - η 4 trends | 0.08 | 0.02 | 4.75* | .000 | 0.29 |
| η 2 installations and equipment - η 5 tour interpretive services | 0.27 | 0.04 | 6.41* | .000 | 0.35 |
| η 2 installations and equipments - η 6 laws and regulations | 0.47 | 0.04 | 10.99* | .000 | 0.72 |
| η 3 safety - η 4 trends | 0.03 | 0.01 | 3.59* | .000 | 0.26 |
| η 3 safety - η 5 tour interpretive services | 0.14 | 0.03 | 5.65* | .000 | 0.38 |
| η 3 safety - η 6 laws and regulations | 0.21 | 0.03 | 8.29* | .000 | 0.69 |

**The End of** *Table 3*

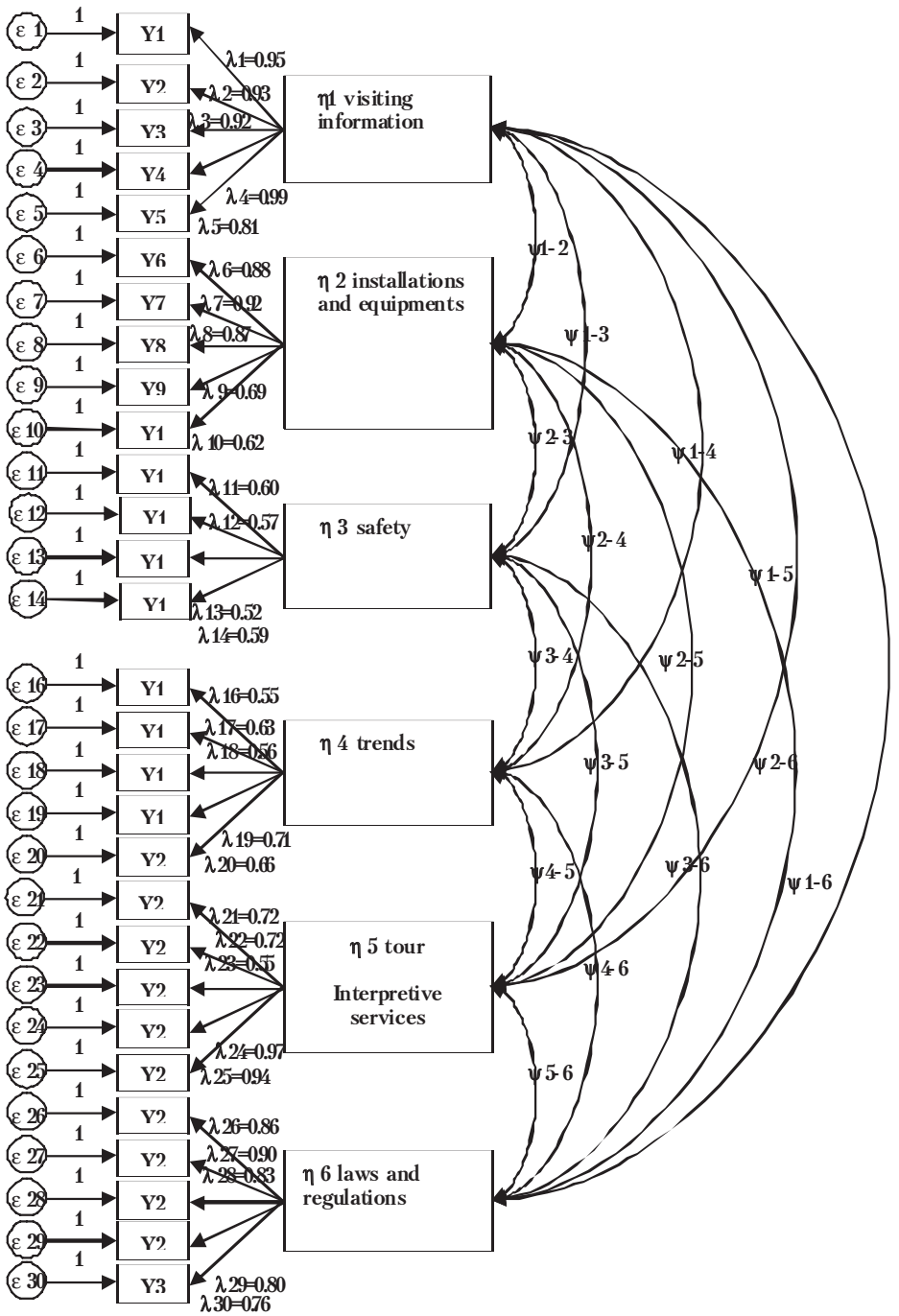
| path | Estimate | Standard Error | Critical Ratio | p | Correlations |
|---|---|---|---|---|---|
| η4 trends - η5 tour interpretive services | 0.05 | 0.02 | 2.89* | .004 | 0.16 |
| η4 trends - η6 laws and regulations | 0.07 | 0.01 | 5.01* | .000 | 0.31 |
| η5 tour interpretive services - η6 laws and regulations | 0.31 | 0.04 | 7.69* | .000 | 0.45 |
| ε1 - ε5 | 0.12 | 0.01 | 8.35* | .000 | 0.47 |
| ε9 - ε10 | 0.32 | 0.03 | 9.54* | .000 | 0.54 |
| ε23 - ε25 | 0.14 | 0.05 | 2.84* | .005 | 0.17 |

**Discussion and Suggestions.**

**Discussion.**

*1. Analysis of the coastal yacht tourism model.* The estimates of RMR, NCI, NFI, CFI and IFI fitted the suggestions in the original structure model, while GFI and RMSEA did not match the fit. Following the theories of structure equation modeling, the modification tended to find out the observed variables, to check the λ value for comparing with other λ values, and to delete the small λ value's observed variables. If the estimate of fit still did not match the suggestion parameters, it was connected with latent variables or observed variables (Bollen & Long, 1993; Hairs, Anderson, Tatham & Black, 1998; Joreskog & Sorbom, 1992; Kaplan, 2000). The first modification deleted the observed variable y15 (λ value was smallest), but GFI and RMSEA did not match. The second modification connected ε1-ε5, ε9-ε10, ε23-ε25 and compared the parameters with the suggestion values. All of the parameters fitted the estimate that the coastal yacht tourism model was indicative of good fit.

*2. Correlations of the coastal yacht tourism model.* 6 latent variables of coastal yacht tourism model were correlated among η1 (visiting information), η2 (installations and equipments), η3 (safety), η4 (trends), η5 (tour interpretive services), and η6 (laws and regulations). Since 6 latent variables showed close correlations, the model of coastal yacht tourism was constructed, where the essentials included tourists who wanted to get the information about yacht tourism, the installations and equipment were very important for sailing, the safety was usually taken into consideration, and the safety tour was required no matter the sightseeing was fantastic or ordinary. On the other hand, some experiences became the trends in this society and people wanted to do something which had not been done by their friends so that the off-island coastal yacht tourism would become trend. However, people wanted to know the landscapes and sightseeing tour interpretive services when getting on vessels, which was the key point of yacht tourism. Finally, the most important emphasis was the laws and regulations for yacht tourism. Akiyama (2007) also mentioned about the policy and ocean laws; however, Liu, Wu, Jhan and Ho (2011) indicated that local governments should pay attention to marine spatial planning and management for yacht sightseeing and tourism. The compulsory insurance regulations were very important for the tourists as they were asked to wear the life vests.




*Note:* Deleted y15, and Connected ε1- ε5, ε9- ε10, ε23- ε25.

*Figure 2.* **Modification of the coastal yacht tourism model**

The highest correlation was between η2 (installations and equipment) and η6 (laws and regulations), followed by the correlations between η3 (safety) and η6 (laws and regulations) and between η2 (installations and equipment) and η3 (safety). These relations indicated that harbor and vessel installations and equipment should be assured being safe and abide by the laws and regulations. When yacht tourism-related installations and equipment followed the laws, safety would be considered. Cao and Wong (2007) put their attentions to the status of coastal zone; Chen (2010) diversified the fisheries into tourism in Taiwan; and Howard and Julie (2007) showed the way to approach harbors as marine parks, no matter how new the equipment and facilities were. All the matters should follow the laws and regulations and conform to the security so that the tour could be opened up for tourists. The correlations between ε9 (y9 bigger and longer boats are better) and ε10 (y10 new equipment and electrical facility are important) was also close, indicating that the passengers wanted to take bigger and longer vessels and needed new electrical facilities and equipment on a vessel. However, everyone would like to enjoy a tour and felt the grand of the landscape and the ocean wave. From the meaning in the connection between ε9 and ε10, the boat size, equipment, facility, and safety were important in yacht tourism. Chung (2009) talked about visitor's satisfaction with a recreational harbor, in which the results and key points were attendance of water activities, convenience of transportation, equipment and facility, and the landscape. All of them showed the essentials for recreational harbors.

**Suggestions.**

*1. Essentials for coastal yacht tourism*. Since there were significant relations among visiting information, installations and equipment, safety, trends, tour interpretive services, and laws and regulations, the recommendations for the government are to invest more in design, to make different styles of harbors, to build harbors according to tourists' needs, to set the recreational harbor as the landmark of Kinmen. On the other hand, the recommendation is to invite enterprises or apply the construction, operation, and transfer methods to setting up yacht tourism companies. However, the safety, installations and equipment, laws and regulations should be focused, no matter the vessels are small or big.

*2. Recreational harbor.* With yacht tourism, people can travel to half of the islands in Kinmen, or go to the legal maritime space between Mainland China coasts and Kinmen sea areas. The government should try to find out the laws and regulations, make yacht companies come to Kinmen, and also negotiate the sailing area with Mainland China. When tourists have the recreational places to go, they would love the yacht sightseeing trend. Yacht companies can evaluate the population taking tours and how to manage the schedules and run the companies in the future.

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