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Marketing information system online design for craftsmen small medium enterprises (case study: craftsmen ac)

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Marketing information system online design for craftsmen small medium enterprises (case study: craftsmen ac)

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Abstract. AC is small and medium enterprises which is engaged in the field of crafts. This SME (Small Medium Enterprise) didn't have an integrated information system for managing sales. This research aims to design a marketing Information system online as applications that built as web base. The integrated system is made to manage sales and expand its market share. This study uses a structured analysis and design in its approach to build systems and also implemented a marketing framework of STP (Segmentation, Targeting, Positioning) and 4P (Price, Product, Place, Promotion) to obtain market analysis. The main market target customer craftsmen AC is women aged 13 years to 35 years. The products produced by AC are shoes, brooch, that are typical of the archipelago. The prices is range from Rp. 2000 until Rp. 400.000. Marketing information system online can be used as a sales transaction document, promoting the goods, and for customer booking products.

Key word: *Marketing Information System, STP (Segmentation, Targeting, Positioning), 4P (Price, Product, Place, Promotion), (SME) Small Medium Enterprises*

1. Introduction

Internet has become part of everyday society, people can easily find various kinds of information desired. Various services and internet services has also been made easy for someone to access mobile Internet. One of the use Internet services by the people of Indonesia is websites of buying and selling online. The technology has evolved rapidly bring new business opportunities, particularly for small and medium enterprises that have limited capital.

Craftsmen *AC* is one of the small and medium enterprises that produce shoes and accessories that come from a variety of patchwork and ribbon embroidery. Since it was established, craftsmen not have good marketing information system. Marketing through social media has not been effective due to the lack of facilities and human resources owned by craftsmen.

The formulation of the problem are craftsmen AC didn't have an integrated information system for managing sales. Marketing strategy needs to be evaluated in support of broader marketing activities.

The purpose of this research is:

1. Marketing analysis with a framework STP (Segmentation, Targeting, Positioning) and 4 (Price, Product, Place, Promotion) to obtain market information.
2. Make marketing strategies for AC craftsmen.
3. Build a marketing information system online help craftsmen to manage the process of buying and selling the creation integrated marketing information systems to help entrepreneurs AC in marketing, ordering document and making sales transaction data.

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2. Literature review

Marketing according to Kotler & Armstrong (2012) is the process of social management and in which an individual and organization to get what they want to create and exchange value and get owned by other parties. The marketing strategy is a concept that is intended to build a good customer value and gain a mutually beneficial relationship to consumers. A company will determine the intended consumer (segmentation and targeting) and how to put the company on the consumer (Positioning). Marketing mix is a collection of tactical marketing tools that are used to generate the target market response as expected . Marketing mix can be done in any way that could boost the number of requests in its products. The ways to do is concluded into 4 P (Product, Price, Place, Promotion) (Kotler & Armstrong, 2012). SWOT (Strength, Weakness, Opportunity, Thread) Matrix and IE (Internal External) Matrix is used to make grand strategy. (David, 2007)

System development process is a set of activities, methods, best practices, ready for delivery and automated equipment used by stakeholders to develop and maintain information systems and software (Whitten, 2010).

There are many research about marketing information system. Gupta et al. (2015) made the model from information technology, marketing, and clinical research into a single framework to maximize efforts for recruitment, enrollment, engagement, and retention of participants. Potgieter et al. (2013) made an innovative marketing information system as a management tool for South African tour operators. Turk et al.(2014) made GIS (Geographic Information System) that can play significant roles in both marketing planning and the decision making process. Abeka (2012) made a relationship between user satisfaction and acceptance of web based marketing information system (MKIs) among micro- finance institutions in Nairobi Region, Kenya. Hanif et al. (2013) explore the Innovative Marketing Information System in Tourism industry of Pakistan. Kester el al. (2012) made contribution to the body of knowledge in the area of the application of Geographic Information Systems technology solutions to businesses, by developing a model for integrating Geographic Information Systems into existing Marketing Information Systems for effective marketing research. Kotni (2012) made the internal mechanism of marketing information system, identifying the opportunities with implementing marketing information system in organization, made marketing decision support systems offering recommendations to effective implementation of marketing information system. Hosami et al. (2012) made information for manager gathering in different way and provide it from formal and informal channels, for the organization senior managers and then the structure of article is like that, first presented the introduction then IT's role in marketing and other marketing information system. Nedeva (2004) made analysis the information systems used in the marketing business activities of the studied companies from 25 marketing information systems. The results were obtained and a concept for the building of a marketing information system of an integrated kind was proposed. Queiroz et al. (2014) analyzed the benefits of the marketing information system in companies that operate in the retail business. Freihat (2012) made the relationship between the major components of marketing information system, and the decision making in Jordanian shareholding medicines production companies. There result is a statistically significant relation between internal records, marketing research, marketing intelligence and decision-making.

3. Research Method

The study began with preliminary research, problem identification, literature review, the purpose of research, data collection, data processing, marketing analysis, systems development and then conclusions.

Marketing analysis is conducted by:

1. STP (Segmentation, Targeting, Positioning)
2. 4 P (Product, Price, Promotion, Physical Distribution)
3. IE Matrix, SWOT (Strength, Weakness, Opportunity, Thread) Analysis

Systems development method and construction of marketing information system is using waterfall strategy sequential (Whitten, 2010) with the following stage:

1. System Initiation
2. System Analysis
3. System Design
4. System Implementation

Research activity stages are stipulated into a research framework covering of marketing analysis and system development method. Below is the picture of research framework.

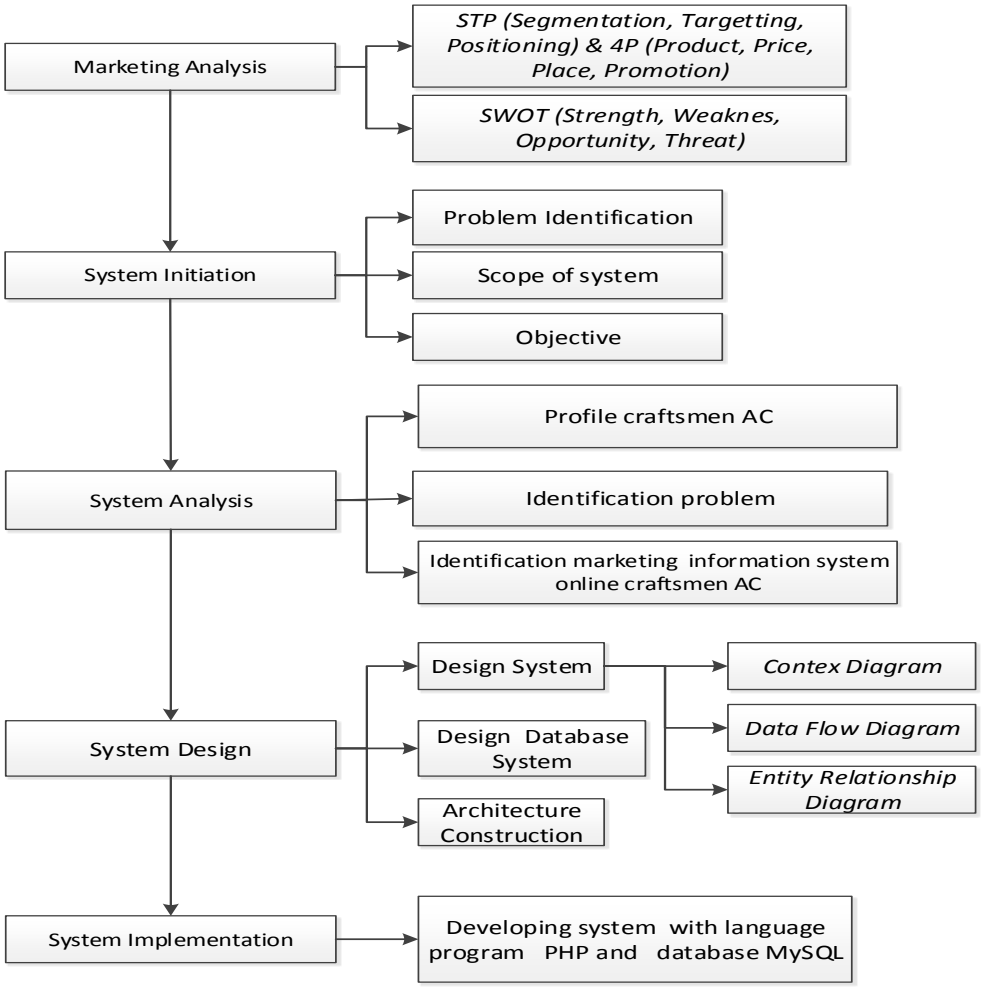

Figure 1. Research Framework

4. RESULT

4.1. Profile Craftsmen AC

Craftsmen AC is one of the craftsmen that focus on the creative industries. Handicraft craftsmen pioneering efforts ranging from the year 2012. At first craftsmen producing items such as brooches handicrafts, embroidered fabrics and various accessories such as necklaces and bracelets woman.

4.2. Marketing Analysis Using Marketing Mix STP & 4P

Marketing strategies need to be done as resources craftsmen compete with other. In conducting its business, one of the most important is how the business owner determine the direction or marketing strategy, because planning a marketing strategy and it will spearhead a major determinant of the success or failure of efforts craftsmen.

Marketing Mix is the important variables that will determine the marketing concept of business marketing strategies or business. The marketing mix consists of 4P yaitu Product, Place, Price dan Promotion. This is the segmentation, targeting, and positioning Craftsman AC effort.

- Segmenting: In the business segment, AC craftsmen set age group from teenagers to adults. The expected life span is about 13 years old to 35 years old. For terms of gender, products craftsmen AC skewed to women.
- Targetting: craftsmen AC will converge to the target of an active student and female workers.
- Positioning: AC craftsmen put yourself as an entrepreneur crafts characterized by typical Indonesia.

4P analysis craftsmen AC are:

- Product: AC craftsmen put herself as an entrepreneur crafts characterized by Indonesia. AC craftsmen to create a product that has a typical Indonesian accent. As in the shoes of applying ethnic batik cloth and fabric Ulos and a variety of traditional fabrics as the ethnic shoe motif. Utilization of patchwork was also used to generate creative crafts beautiful brooch. Praying cloth generated is also a craft that can be produced by craftsmen to meet the customers' needs to have praying cloth cool. This is a result of the utilization of Japanese fabric soft and airy typical Indonesia.
- Price: For brooch product price is offered range from Rp.2.000 - 50,000, whereas for Ethnic Footwear products price is offered 100,000 s / d Rp.400.000 and for products praying cloth Japanese Fabrics price offered is Rp.225.000 s / d Rp.275.000.
- Physical Distribution: Currently ordering of goods can be made by contacting the craftsman or a private network with visits to various social media networks owned by craftsmen.
- Promotion: Campaign carried out by this time by way of social media networking Broadcasting Blackberry Messenger, and also to make up networking account. In addition, producers are also active in participating in many events fairs are often held by a particular institution.

4.3. Marketing Analysis and SWOT Analysis is on AC Craftsmen

In order for craftsmen to compete with other, they need to manage their business carefully to maintain the member. The strategy require good business management and therefore the marketing analysis are done to generate the strategy for craftsmen.

4.4. SWOT Matrix AC Craftsmen

The SWOT matrix evaluates the craftsmen AC overall Strength (S), Weakness (W), Opportunity (O), and Threat (T). Strength defines any positive situation factor that help craftsmen to achieve their objectives. Weakness defines negative situational factor and limitation that interfere craftsmen business performance. Opportunity are any external factor that help craftsmen to increase their business performance. And Threat are any external factor that may prevent the craftsmen to achieve their objective.

The craftsmen should evaluate their strength and weakness to determine which opportunity can be best match to apply on their business environment. While evaluating their business environment the craftsmen should aware and minimizing their threat too.

The Strength and Weakness comes from within the craftsmen. Opportunity and Threat comes from their business environment. The internal and external factor is listed and evaluated using Internal Factor Evaluation and External Factor Evaluation. On this framework, the internal and external factor already listed and given rank based on analysis with their importance to business

performance. And total weighted score are generated from addition of overall weighted factor. Rank range from 1.0 – 4.0.

Below are described the internal factor evaluation on the AC.

Table 1. Internal Factor Evaluation

Internal Factor	**Weight**	**Rank**	**Weight x Rank**
Strength			
1. Have strong Indonesian unique	0,3	3	0,9
2. Affordable price	0,2	4	8
Weakness			
1. Long production time	0,25	2	0,5
2. Too many lost sales	0,25	2	0,5
Total	1		2,75

The table shown that the craftsmen have 2 Strength and 2 Weakness. The strength are coming from the authentic product of AC and also the price that offered by craftsmen. Another advantage from the craftsmen are about the system information being made. The weakness gathered from production time of craftsmen and the limitation of resource own by craftsmen. The long-time of production time makes craftsmen to extremely careful to inform the customer about the delay. And resource limitation make craftsmen to adapt the process. The table above shown the craftsmen got a total weighted score of 2,75.

The next table shown the craftsmen external factor evaluation:

Table 2. External Factor Evaluation

External Factor	**Weight**	**Rank**	**Weight x Rank**
Opportunity			
1. Join Bazar Event	0,2	3	0,6
2. An increasing interest of Indonesian people to handicraft	0,2	3	0,6
3. Many people using internet and internet mobile	0,2	3	0,6
Threat			
1. Easy to imitate			
2. Many competitor have sprung up	0,2 0,2	2 2	0,4 0,4
Total	2,6		

From the table above the craftsmen have a total weighted score of 2.6. There is 3 opportunity of craftsmen which is the craftsmen have the network of community handicraft. The community are a good place to share the experience and give a good understanding about the business environment. Another opportunity owned by craftsmen is about the customer behaviour that show an increasing interest to handicraft product. Beside opportunity own by craftsmen, next thing to discuss are about the threat that come business environment. It means any other craftsmen that have similar product like AC would be a threat to market.

Table 3. Internal External Matrix

IFE / **EFE**	High (3.0-4.0)	Average (2.0-2.99)	Weak (1.0-1.99
High (3.0-4.0)	I	II	III
Average (2.0-2.99)	IV	V AC	VI
Weak (1.0-1.99)	VII	VIII	IX

After the internal and external factor being evaluated, it can be seen from the internal and external matrix to define what position is the craftsmen now the score are inherited from the total score gain. The graphics shown that AC belong in cell number 5 which mean it is being growth. From the cell describe a strategy to conduct can be chosen. After finish internal and external evaluation, the SWOT analysis can be formulated. The TOWS matrix can be seen in table 4.

Table 4. TOWS Matrix

IFE / **EFE**	Strength : 1. Have strong Indonesian unique 2. Affordable Price	Weakness : 1. Long production time 2. Too many lost sales
Opportunity : 1. Join bazaar event 2. An increasing interest of Indonesian people to handicraft 3. Many people using internet and internet mobile.	Strategy SO 1. Launch a new authentic product 2. Offer special prize only on bazaar 3. Make marketing information system	Strategy WO 1. Open Pre-Order facility 2. Offer an overtime and bonus for worker
Threat : 1. Easy to imitate 2. Many competitors have sprung up	Strategy ST 1. Intensively advertise the product using internet 2. Special price for loyal customer	Strategy WT 1. Cooperate with other craftsmen 2. Register a license for product.

In order to maximize the strength and opportunity we can do something like making a new product of authentic traditional Indonesia. With a new variety and authentic product the customer would have a freedom to choose about the product. And also the craftsmen can promoted their

product with the special discounted product only on Craftsmen Bazaar. So the customer would come to visit their stand in any bazaar held.

In order to minimize their weakness and maximize opportunity the craftsmen have an option to open a new Pre-Order system. With this the craftsmen can gathered the customer first and manage their time allowance for production so the customer won't be disappointed. Next option are to giving the worker an overtime allowance for getting the scheduled right on time.

Next strategy are come from maximizing the strength and minimizing threat. First, the craftsmen can doing an intensive marketing promotion an intensive advertisement about their authentic product. Next are doing a discounted product for a second time of buying to keep the loyal customer coming.

And the last are from minimizing weakness and threat, the craftsmen should making a new cooperation with the other craftsmen to producing the product. So the craftsmen would never behind ordered schedule. And also the craftsmen should registered their popular product right license to prevent any spoilage that come from similar craftsmen.

4.5. System Design

On this stage, design started from drawing context diagram and then DFD (Data Flow Diagram) and ERD (Entity Relationship Diagram). Design process continue to develop a database from Physical Data Model which is inherited from ERD. First we should develop context diagram for craftsmen AC.

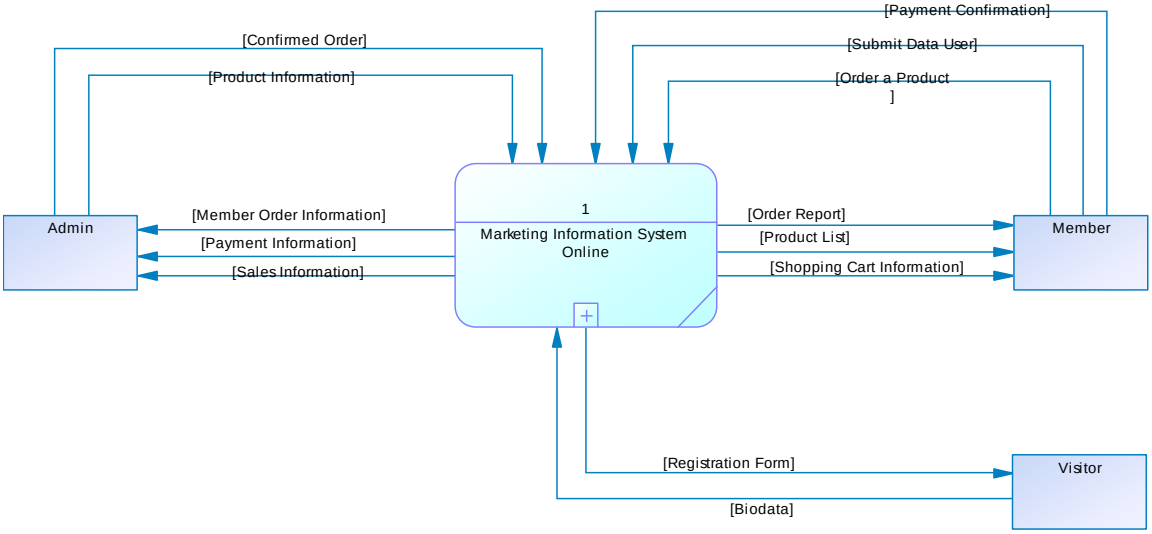

Figure 2. Context Diagram

From the graphic show we can understand marketing information system online have 3 external entity. First are Admin, on this entity admin can confirmed the order received and manage the product shown on system. Admin would like to check the payment information and sales information which is recorded by system. Second entity are member in which they can order a product, submit a data user and confirm a payment. Member receive an information from system about the product, shopping cart information and order report. Last entity are the visitor, visitor were best describe as potential customer. They surfing the internet to browsing their need and arrive on this system. They can browse the product and information about AC. The only differentiation made for visitor is they can not order a product. To order a product a visitor must register to the system and submit a subscription form.

In the next step we develop a DFD to shown us main process that compose overall system.

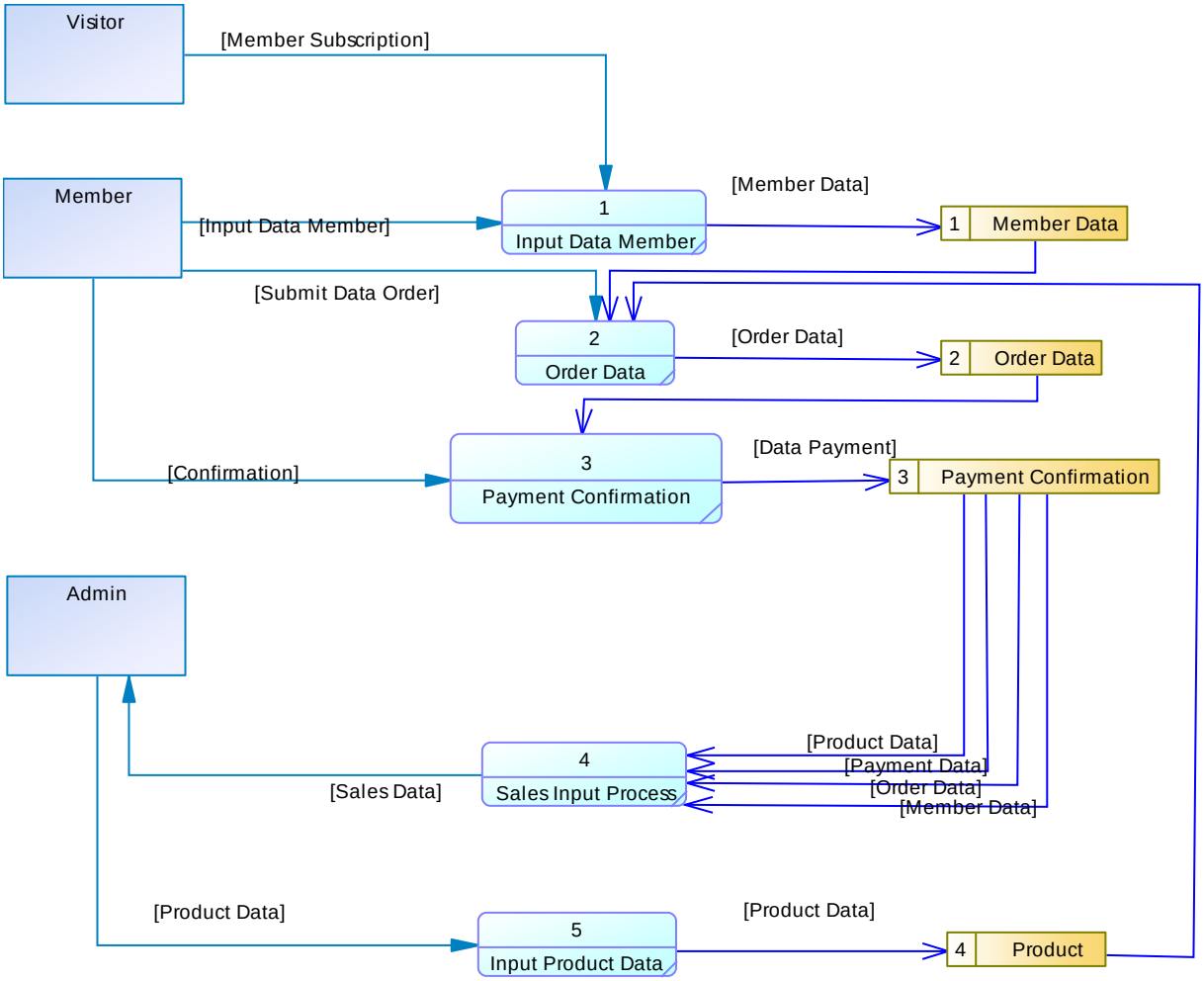

Figure 3. Data Flow Diagram

Based on the graphics above, the DFD giving a full detailed process from what we see on context diagram. There are 5 main process in this system. The process are input data member, order data, payment confirmation, sales input process, and input product data. Input data member process define the process of new subscription member to submit the form. Order data process record the information of order being made. Such as information amount of product order and the shipping address. Payment confirmation triggered by member who already transfer their payment via bank. After transfer the payment, customer must confirm it in system. Next are sales input process which is a process that produce a report of sales for admin. Last process are input product data which is triggered by admin to manage their shown product.

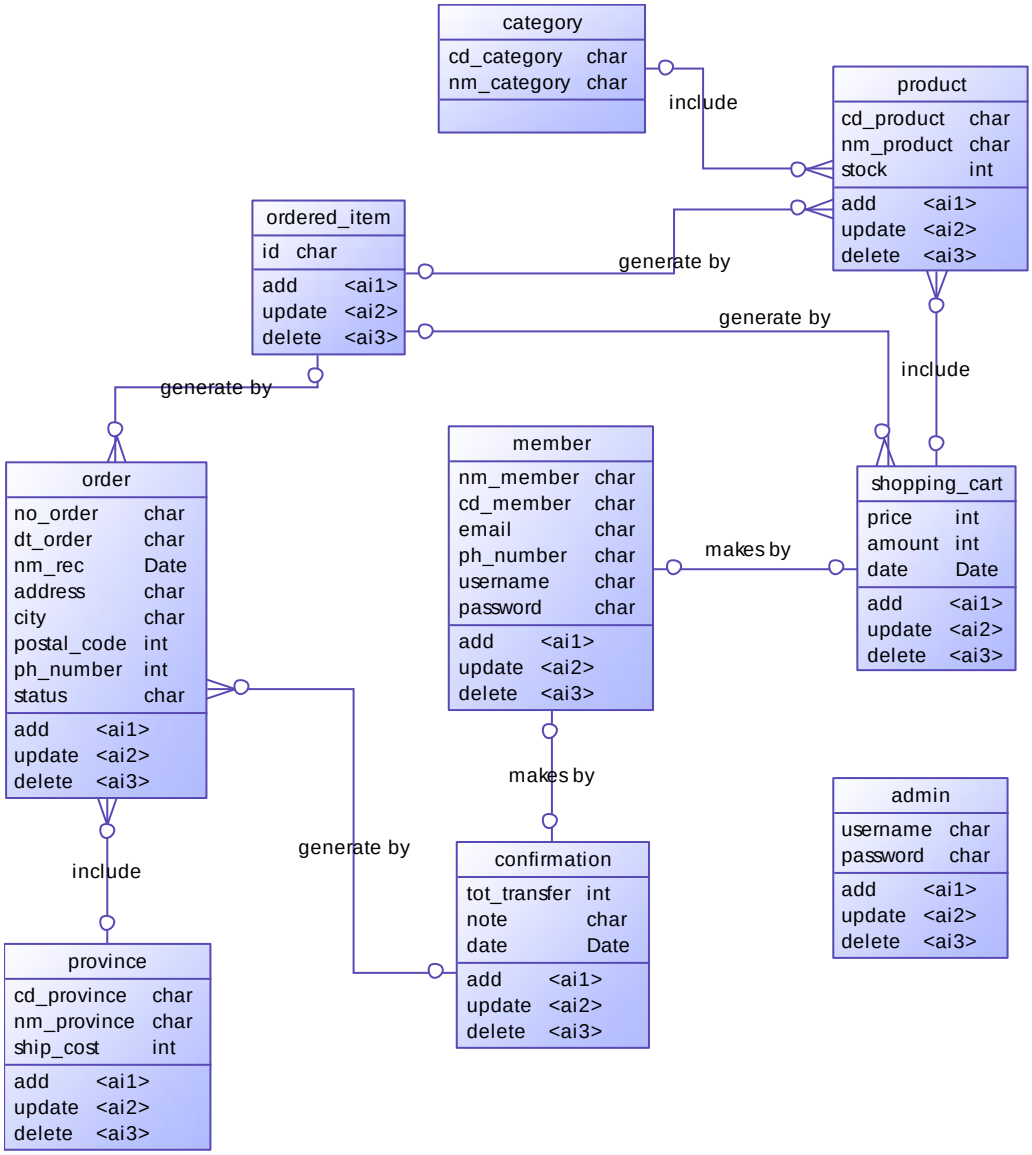

Figure 4. Entity Relationship Diagram

ERD is a group of entity that picture the system requirement and later for database construction. AC have at least 9 entity, the central entity are order entity which is have many relation with other entity.

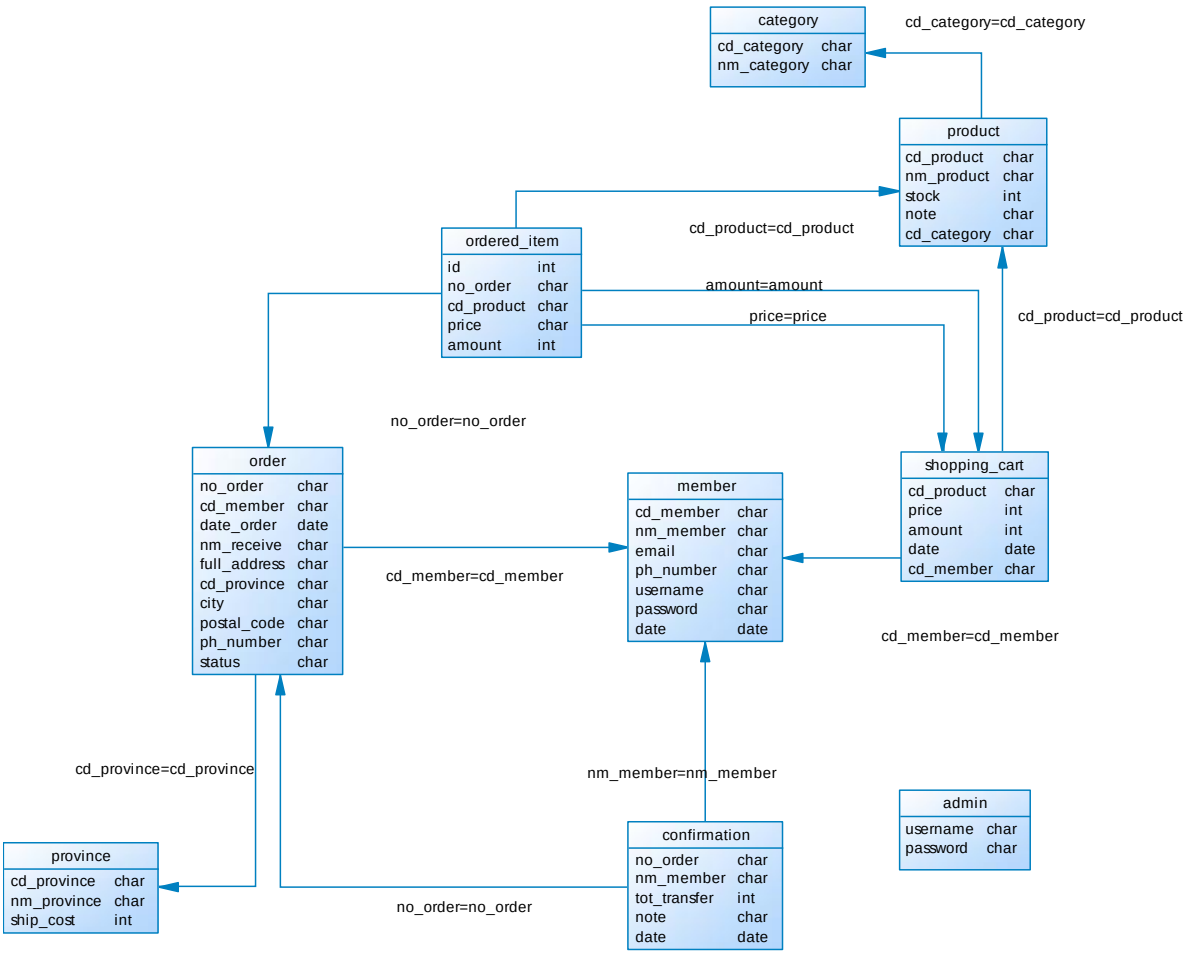

Figure 5. Physical Data Model

After an ERD for craftsmen are made, a Physical Data Model are developed based on ERD. On craftsmen AC, the PDM been made by 9 table that defines the system need.

4.6. System Output

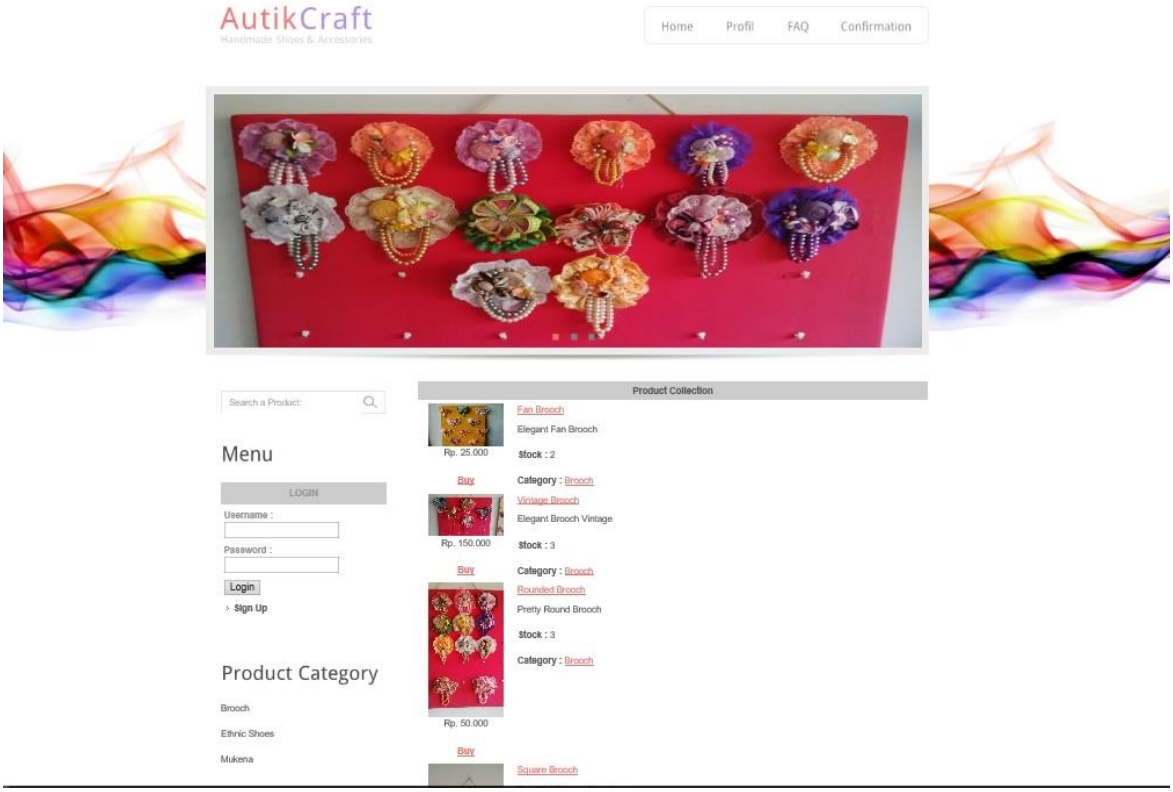

Figure 6. Main Menu

The picture above describe the system main menu. This page include the sign in option on the left column and a list of product offered on the main page. There are product collection, stock and category. This page are accessible for anybody who visit the web.

5. CONCLUSION

1. The products produced by craftsmen AC has a typical archipelago with price range starting from Rp. 2.000 s/d Rp. 400.000. The results of matrix Internal External produces output that artisans are in a position that is emerging in cell 5. With the results of the Internal Factor Analysis Summary of 2 and External Factor Analysis Summary results of 2.5.
2. It is required strategies to develop craftsmen. The selected option strategies are horizontally integrated strategy by creating better innovative products, and by pursuing new target consumer and to look for new geographical place. SWOT analysis is then performed to produce SO strategy to bring new products distinctively traditional Indonesian and presenting a special price on the bazaar. Then open the facility to WO strategy Pre - Order for prospective customers and give bonuses or overtime pay to workers. ST strategies to promote intensively highlight the characteristic products of craftsmen and do discounts for the purchase of a second. WT strategy to cooperate subcontract with other craftsmen and registering copyrights for superior product, design of marketing information systems online web based so that craftsmen can be accessed from remote locations.
3. Buy and sell activity documentation transaction has been computerized with the help of online marketing information system which enables craftsmen to manage practically, able to provide the information needed supplies quickly and accurately so that facilitate the search and retrieval

of information required by users. The information of customers or potential customers will be able to see more of the information that has been provided by craftsmen in the website then efficiency is also obtained from the documentation that is integrated by the proposed information system. This system will help a broader marketing and can also be accessed at any time in accordance with the wishes of the customer.

Acknowledgments
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Marketing information system online design for craftsmen small medium enterprises (case study: craftsmen ac)

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Abstract. AC is small and medium enterprises which is engaged in the field of crafts. This SME (Small Medium Enterprise) didn't have an integrated information system for managing sales. This research aims to design a marketing Information system online as applications that built as web base. The integrated system is made to manage sales and expand its market share. This study uses a structured analysis and design in its approach to build systems and also implemented a marketing framework of STP (Segmentation, Targeting, Positioning) and 4P (Price, Product, Place, Promotion) to obtain market analysis. The main market target customer craftsmen AC is women aged 13 years to 35 years. The products produced by AC are shoes, brooch, that are typical of the archipelago. The prices is range from Rp. 2000 until Rp. 400.000. Marketing information system online can be used as a sales transaction document, promoting the goods, and for customer booking products.

Key word: *Marketing Information System, STP (Segmentation, Targeting, Positioning), 4P (Price, Product, Place, Promotion), (SME) Small Medium Enterprises*

1. Introduction

Internet has become part of everyday society, people can easily find various kinds of information desired. Various services and internet services has also been made easy for someone to access mobile Internet. One of the use Internet services by the people of Indonesia is websites of buying and selling online. The technology has evolved rapidly bring new business opportunities, particularly for small and medium enterprises that have limited capital.

Craftsmen *AC* is one of the small and medium enterprises that produce shoes and accessories that come from a variety of patchwork and ribbon embroidery. Since it was established, craftsmen not have good marketing information system. Marketing through social media has not been effective due to the lack of facilities and human resources owned by craftsmen.

The formulation of the problem are craftsmen AC didn't have an integrated information system for managing sales. Marketing strategy needs to be evaluated in support of broader marketing activities.

The purpose of this research is:

1. Marketing analysis with a framework STP (Segmentation, Targeting, Positioning) and 4 (Price, Product, Place, Promotion) to obtain market information.
2. Make marketing strategies for AC craftsmen.
3. Build a marketing information system online help craftsmen to manage the process of buying and selling the creation integrated marketing information systems to help entrepreneurs AC in marketing, ordering document and making sales transaction data.

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2. Literature review

Marketing according to Kotler & Armstrong (2012) is the process of social management and in which an individual and organization to get what they want to create and exchange value and get owned by other parties. The marketing strategy is a concept that is intended to build a good customer value and gain a mutually beneficial relationship to consumers. A company will determine the intended consumer (segmentation and targeting) and how to put the company on the consumer (Positioning). Marketing mix is a collection of tactical marketing tools that are used to generate the target market response as expected . Marketing mix can be done in any way that could boost the number of requests in its products. The ways to do is concluded into 4 P (Product, Price, Place, Promotion) (Kotler & Armstrong, 2012). SWOT (Strength, Weakness, Opportunity, Thread) Matrix and IE (Internal External) Matrix is used to make grand strategy. (David, 2007)

System development process is a set of activities, methods, best practices, ready for delivery and automated equipment used by stakeholders to develop and maintain information systems and software (Whitten, 2010).

There are many research about marketing information system. Gupta et al. (2015) made the model from information technology, marketing, and clinical research into a single framework to maximize efforts for recruitment, enrollment, engagement, and retention of participants. Potgieter et al. (2013) made an innovative marketing information system as a management tool for South African tour operators. Turk et al.(2014) made GIS (Geographic Information System) that can play significant roles in both marketing planning and the decision making process. Abeka (2012) made a relationship between user satisfaction and acceptance of web based marketing information system (MKIs) among micro- finance institutions in Nairobi Region, Kenya. Hanif et al. (2013) explore the Innovative Marketing Information System in Tourism industry of Pakistan. Kester el al. (2012) made contribution to the body of knowledge in the area of the application of Geographic Information Systems technology solutions to businesses, by developing a model for integrating Geographic Information Systems into existing Marketing Information Systems for effective marketing research. Kotni (2012) made the internal mechanism of marketing information system, identifying the opportunities with implementing marketing information system in organization, made marketing decision support systems offering recommendations to effective implementation of marketing information system. Hosami et al. (2012) made information for manager gathering in different way and provide it from formal and informal channels, for the organization senior managers and then the structure of article is like that, first presented the introduction then IT's role in marketing and other marketing information system. Nedeva (2004) made analysis the information systems used in the marketing business activities of the studied companies from 25 marketing information systems. The results were obtained and a concept for the building of a marketing information system of an integrated kind was proposed. Queiroz et al. (2014) analyzed the benefits of the marketing information system in companies that operate in the retail business. Freihat (2012) made the relationship between the major components of marketing information system, and the decision making in Jordanian shareholding medicines production companies. There result is a statistically significant relation between internal records, marketing research, marketing intelligence and decision-making.

3. Research Method

The study began with preliminary research, problem identification, literature review, the purpose of research, data collection, data processing, marketing analysis, systems development and then conclusions.

Marketing analysis is conducted by:

1. STP (Segmentation, Targeting, Positioning)
2. 4 P (Product, Price, Promotion, Physical Distribution)
3. IE Matrix, SWOT (Strength, Weakness, Opportunity, Thread) Analysis

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Systems development method and construction of marketing information system is using waterfall strategy sequential (Whitten, 2010) with the following stage:

1. System Initiation
2. System Analysis
3. System Design
4. System Implementation

Research activity stages are stipulated into a research framework covering of marketing analysis and system development method. Below is the picture of research framework.

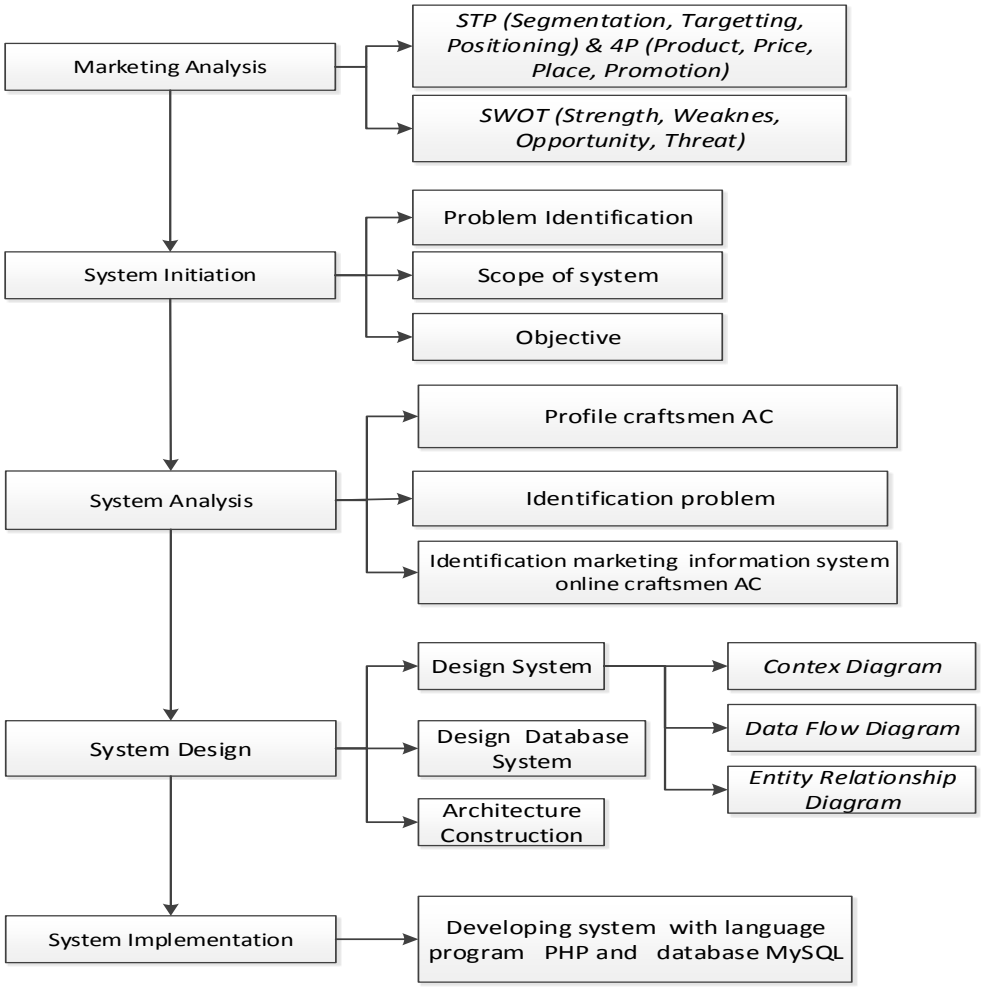

Figure 1. Research Framework

4. RESULT

4.1. Profile Craftsmen AC

Craftsmen AC is one of the craftsmen that focus on the creative industries. Handicraft craftsmen pioneering efforts ranging from the year 2012. At first craftsmen producing items such as brooches handicrafts, embroidered fabrics and various accessories such as necklaces and bracelets woman.

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4.2. Marketing Analysis Using Marketing Mix STP & 4P

Marketing strategies need to be done as resources craftsmen compete with other. In conducting its business, one of the most important is how the business owner determine the direction or marketing strategy, because planning a marketing strategy and it will spearhead a major determinant of the success or failure of efforts craftsmen.

Marketing Mix is the important variables that will determine the marketing concept of business marketing strategies or business. The marketing mix consists of 4P yaitu Product, Place, Price dan Promotion. This is the segmentation, targeting, and positioning Craftsman AC effort.

- Segmenting: In the business segment, AC craftsmen set age group from teenagers to adults. The expected life span is about 13 years old to 35 years old. For terms of gender, products craftsmen AC skewed to women.
- Targetting: craftsmen AC will converge to the target of an active student and female workers.
- Positioning: AC craftsmen put yourself as an entrepreneur crafts characterized by typical Indonesia.

4P analysis craftsmen AC are:

- Product: AC craftsmen put herself as an entrepreneur crafts characterized by Indonesia. AC craftsmen to create a product that has a typical Indonesian accent. As in the shoes of applying ethnic batik cloth and fabric Ulos and a variety of traditional fabrics as the ethnic shoe motif. Utilization of patchwork was also used to generate creative crafts beautiful brooch. Praying cloth generated is also a craft that can be produced by craftsmen to meet the customers' needs to have praying cloth cool. This is a result of the utilization of Japanese fabric soft and airy typical Indonesia.
- Price: For brooch product price is offered range from Rp.2.000 - 50,000, whereas for Ethnic Footwear products price is offered 100,000 s / d Rp.400.000 and for products praying cloth Japanese Fabrics price offered is Rp.225.000 s / d Rp.275.000.
- Physical Distribution: Currently ordering of goods can be made by contacting the craftsman or a private network with visits to various social media networks owned by craftsmen.
- Promotion: Campaign carried out by this time by way of social media networking Broadcasting Blackberry Messenger, and also to make up networking account. In addition, producers are also active in participating in many events fairs are often held by a particular institution.

4.3. Marketing Analysis and SWOT Analysis is on AC Craftsmen

In order for craftsmen to compete with other, they need to manage their business carefully to maintain the member. The strategy require good business management and therefore the marketing analysis are done to generate the strategy for craftsmen.

4.4. SWOT Matrix AC Craftsmen

The SWOT matrix evaluates the craftsmen AC overall Strength (S), Weakness (W), Opportunity (O), and Threat (T). Strength defines any positive situation factor that help craftsmen to achieve their objectives. Weakness defines negative situational factor and limitation that interfere craftsmen business performance. Opportunity are any external factor that help craftsmen to increase their business performance. And Threat are any external factor that may prevent the craftsmen to achieve their objective.

The craftsmen should evaluate their strength and weakness to determine which opportunity can be best match to apply on their business environment. While evaluating their business environment the craftsmen should aware and minimizing their threat too.

The Strength and Weakness comes from within the craftsmen. Opportunity and Threat comes from their business environment. The internal and external factor is listed and evaluated using Internal Factor Evaluation and External Factor Evaluation. On this framework, the internal and external factor already listed and given rank based on analysis with their importance to business

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performance. And total weighted score are generated from addition of overall weighted factor. Rank range from 1.0 – 4.0.

Below are described the internal factor evaluation on the AC.

Table 1. Internal Factor Evaluation

Internal Factor	Weight	Rank	Weight x Rank
Strength			
1. Have strong Indonesian unique	0,3	3	0,9
2. Affordable price	0,2	4	8
Weakness			
1. Long production time	0,25	2	0,5
2. Too many lost sales	0,25	2	0,5
Total	1		2,75

The table shown that the craftsmen have 2 Strength and 2 Weakness. The strength are coming from the authentic product of AC and also the price that offered by craftsmen. Another advantage from the craftsmen are about the system information being made. The weakness gathered from production time of craftsmen and the limitation of resource own by craftsmen. The long-time of production time makes craftsmen to extremely careful to inform the customer about the delay. And resource limitation make craftsmen to adapt the process. The table above shown the craftsmen got a total weighted score of 2,75.

The next table shown the craftsmen external factor evaluation:

Table 2. External Factor Evaluation

External Factor	Weight	Rank	Weight x Rank
Opportunity			
1. Join Bazar Event	0,2	3	0,6
2. An increasing interest of Indonesian people to handicraft	0,2	3	0,6
3. Many people using internet and internet mobile	0,2	3	0,6
Threat			
1. Easy to imitate			
2. Many competitor have sprung up	0,2 0,2	2 2	0,4 0,4
Total	2,6		

From the table above the craftsmen have a total weighted score of 2.6. There is 3 opportunity of craftsmen which is the craftsmen have the network of community handicraft. The community are a good place to share the experience and give a good understanding about the business environment. Another opportunity owned by craftsmen is about the customer behaviour that show an increasing interest to handicraft product. Beside opportunity own by craftsmen, next thing to discuss are about the threat that come business environment. It means any other craftsmen that have similar product like AC would be a threat to market.

Table 3. Internal External Matrix

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IFE / **EFE**	High (3.0-4.0)	Average (2.0-2.99)	Weak (1.0-1.99
High (3.0-4.0)	I	II	III
Average (2.0-2.99)	IV	V AC	VI
Weak (1.0-1.99)	VII	VIII	IX

After the internal and external factor being evaluated, it can be seen from the internal and external matrix to define what position is the craftsmen now the score are inherited from the total score gain. The graphics shown that AC belong in cell number 5 which mean it is being growth. From the cell describe a strategy to conduct can be chosen. After finish internal and external evaluation, the SWOT analysis can be formulated. The TOWS matrix can be seen in table 4.

Table 4. TOWS Matrix

IFE / **EFE**	Strength : 1. Have strong Indonesian unique 2. Affordable Price	Weakness : 1. Long production time 2. Too many lost sales
Opportunity : 1. Join bazaar event 2. An increasing interest of Indonesian people to handicraft 3. Many people using internet and internet mobile.	Strategy SO 1. Launch a new authentic product 2. Offer special prize only on bazaar 3. Make marketing information system	Strategy WO 1. Open Pre-Order facility 2. Offer an overtime and bonus for worker
Threat : 1. Easy to imitate 2. Many competitors have sprung up	Strategy ST 1. Intensively advertise the product using internet 2. Special price for loyal customer	Strategy WT 1. Cooperate with other craftsmen 2. Register a license for product.

In order to maximize the strength and opportunity we can do something like making a new product of authentic traditional Indonesia. With a new variety and authentic product the customer would have a freedom to choose about the product. And also the craftsmen can promoted their

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product with the special discounted product only on Craftsmen Bazaar. So the customer would come to visit their stand in any bazaar held.

In order to minimize their weakness and maximize opportunity the craftsmen have an option to open a new Pre-Order system. With this the craftsmen can gathered the customer first and manage their time allowance for production so the customer won't be disappointed. Next option are to giving the worker an overtime allowance for getting the scheduled right on time.

Next strategy are come from maximizing the strength and minimizing threat. First, the craftsmen can doing an intensive marketing promotion an intensive advertisement about their authentic product. Next are doing a discounted product for a second time of buying to keep the loyal customer coming.

And the last are from minimizing weakness and threat, the craftsmen should making a new cooperation with the other craftsmen to producing the product. So the craftsmen would never behind ordered schedule. And also the craftsmen should registered their popular product right license to prevent any spoilage that come from similar craftsmen.

4.5. System Design

16

On this stage, design started from drawing context diagram and then DFD (Data Flow Diagram) and ERD (Entity Relationship Diagram). Design process continue to develop a database from Physical Data Model which is inherited from ERD. First we should develop context diagram for craftsmen AC.

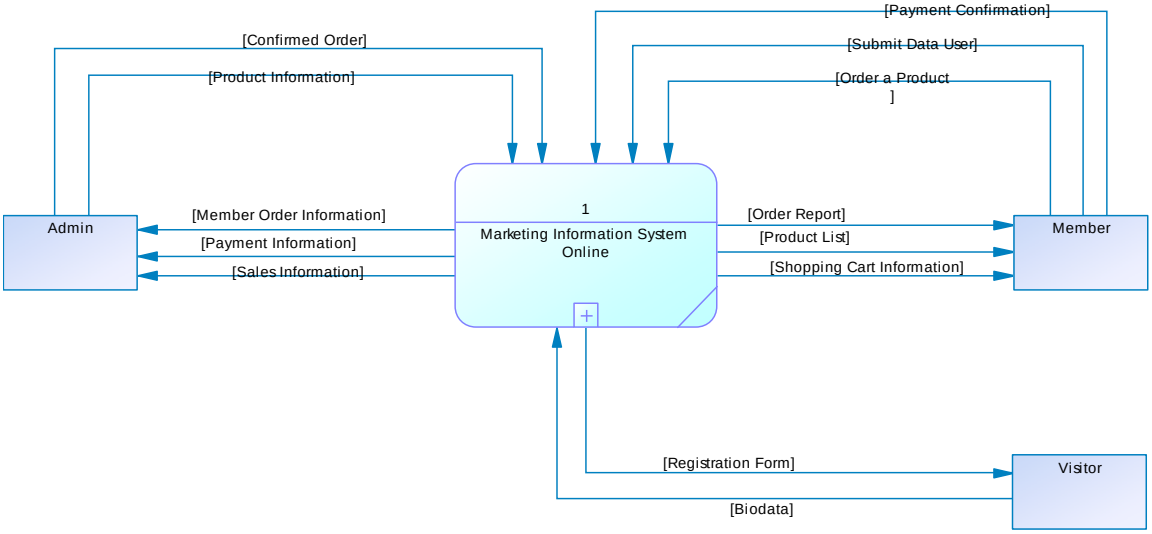

Figure 2. Context Diagram

From the graphic show we can understand marketing information system online have 3 external entity. First are Admin, on this entity admin can confirmed the order received and manage the product shown on system. Admin would like to check the payment information and sales information which is recorded by system. Second entity are member in which they can order a product, submit a data user and confirm a payment. Member receive an information from system about the product, shopping cart information and order report. Last entity are the visitor, visitor were best describe as potential customer. They surfing the internet to browsing their need and arrive on this system. They can browse the product and information about AC. The only differentiation made for visitor is they can not order a product. To order a product a visitor must register to the system and submit a subscription form.

In the next step we develop a DFD to shown us main process that compose overall system.

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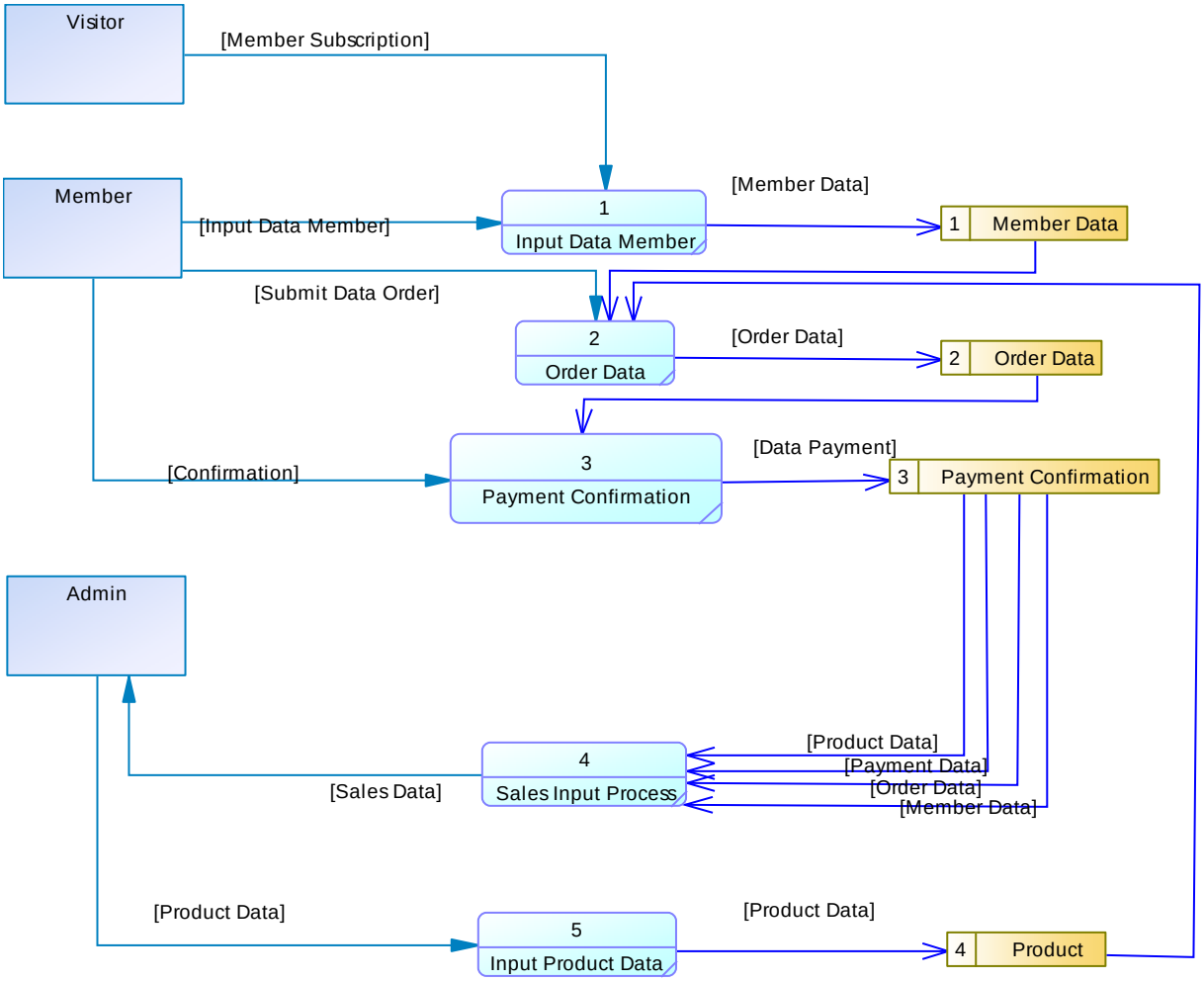

Figure 3. Data Flow Diagram

Based on the graphics above, the DFD giving a full detailed process from what we see on context diagram. There are 5 main process in this system. The process are input data member, order data, payment confirmation, sales input process, and input product data. Input data member process define the process of new subscription member to submit the form. Order data process record the information of order being made. Such as information amount of product order and the shipping address. Payment confirmation triggered by member who already transfer their payment via bank. After transfer the payment, customer must confirm it in system. Next are sales input process which is a process that produce a report of sales for admin. Last process are input product data which is triggered by admin to manage their shown product.

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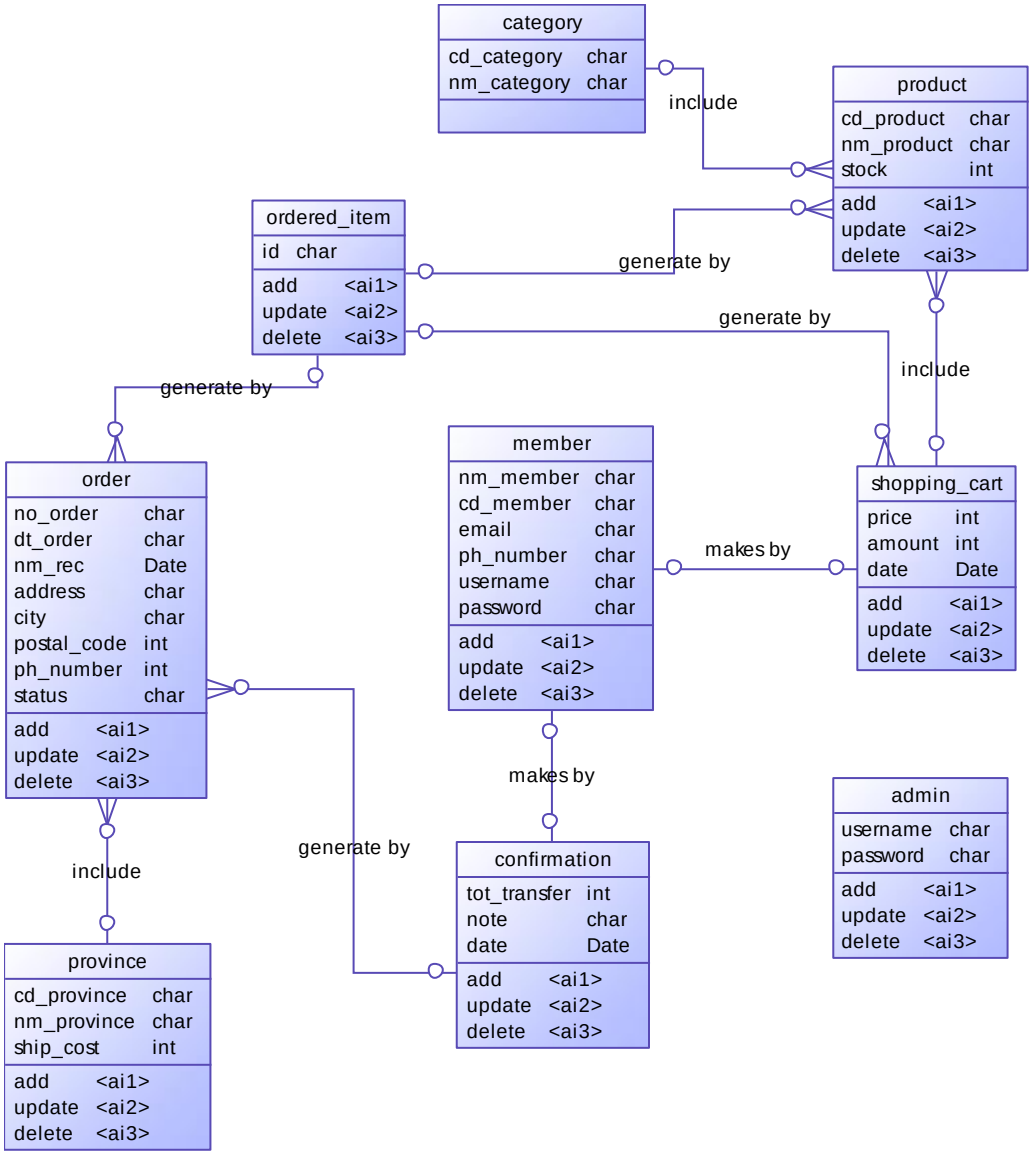

Figure 4. Entity Relationship Diagram

ERD is a group of entity that picture the system requirement and later for database construction. AC have at least 9 entity, the central entity are order entity which is have many relation with other entity.

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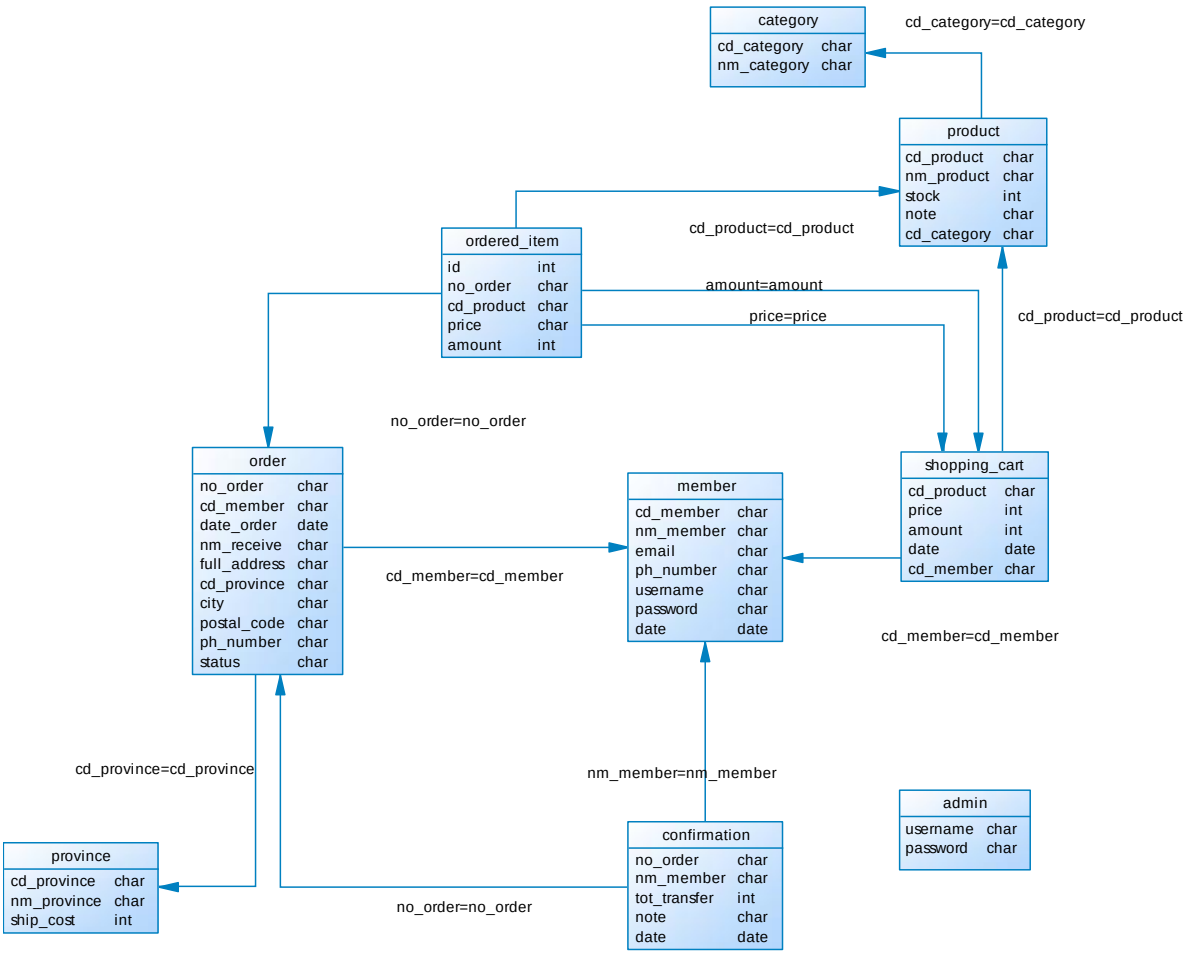

Figure 5. Physical Data Model

After an ERD for craftsmen are made, a Physical Data Model are developed based on ERD. On craftsmen AC, the PDM been made by 9 table that defines the system need.

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4.6. System Output

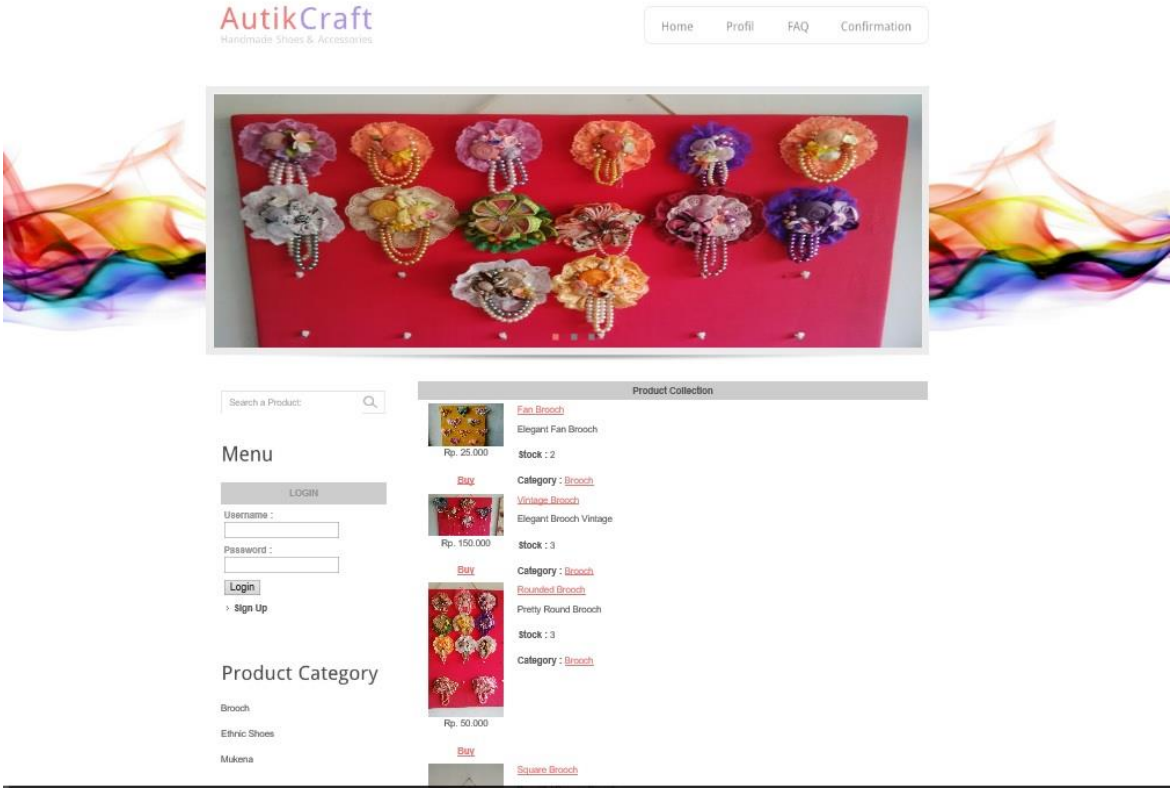

Figure 6. Main Menu

The picture above describe the system main menu. This page include the sign in option on the left column and a list of product offered on the main page. There are product collection, stock and category. This page are accessible for anybody who visit the web.

5. CONCLUSION

1. The products produced by craftsmen AC has a typical archipelago with price range starting from Rp. 2.000 s/d Rp. 400.000. The results of matrix Internal External produces output that artisans are in a position that is emerging in cell 5. With the results of the Internal Factor Analysis Summary of 2 and External Factor Analysis Summary results of 2.5.
2. It is required strategies to develop craftsmen. The selected option strategies are horizontally integrated strategy by creating better innovative products, and by pursuing new target consumer and to look for new geographical place. SWOT analysis is then performed to produce SO strategy to bring new products distinctively traditional Indonesian and presenting a special price on the bazaar. Then open the facility to WO strategy Pre - Order for prospective customers and give bonuses or overtime pay to workers. ST strategies to promote intensively highlight the characteristic products of craftsmen and do discounts for the purchase of a second. WT strategy to cooperate subcontract with other craftsmen and registering copyrights for superior product, design of marketing information systems online web based so that craftsmen can be accessed from remote locations.
3. Buy and sell activity documentation transaction has been computerized with the help of online marketing information system which enables craftsmen to manage practically, able to provide the information needed supplies quickly and accurately so that facilitate the search and retrieval

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of information required by users. The information of customers or potential customers will be able to see more of the information that has been provided by craftsmen in the website then efficiency is also obtained from the documentation that is integrated by the proposed information system. This system will help a broader marketing and can also be accessed at any time in accordance with the wishes of the customer.

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