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A new business model through servitization in automobile manufacturing industry

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Abstract

The manufacturing industry plays a major role in the growth of the domestic economy. Through service innovation in manufacturing. In the past, the issue of manufacturing service focused on Technical innovation model of service, analysis of success factors, supply chain integration services, technical processes and organizational changes, service performance, rarely discuss how to develop new business models through manufacturing service innovation. Therefore, this study aims to analyze how traditional manufacturers have changed the business model of “manufacturing and selling commodities” in the past and transformed to create new models of service innovation. This study is using famous vehicle manufacturing companies as research cases to explore the implications of service strategies and new business models based on innovations in manufacturing service innovation. This study is using case study research, we selected more than 20 representative cases and use Product Extension Service Model, Product Function Service Model and Integrated Solution Model to exploring the Servitization innovation strategy of each model, as well as the derived profitable business model. We found that Product Extension Service Model include continuous profitability through four methods: Traditional service, brand marketing, Experiential Marketing, After sales service; Product Function Service Model is divided into three ways: Sharing economy, finance service, Experiential Marketing; Integrated Solution Model are guided by finance service, brand marketing, total solution and Cross-border Cooperation. The results of this study provide manufacturers for the business model how to transformation model in practice. To create more competitiveness and benefit.

Keywords: Servitization, Service, Service innovation, Business model, Automobile manufacturing industry

1. Introduction

The manufacturing industry plays a major role in the growth of the domestic economy. However, due to the advent of globalization and the era of knowledge-based economy, the environment has undergone tremendous changes. Taiwan has long focused on the technical fields of product manufacturing and is facing the challenge of advanced technology in advanced countries and the low-cost production in emerging countries (Kinke& Maloca, 2009). In response to the difficulties of the manufacturing business environment, Ministry of Economic Affairs encourage the manufacturing industry to use a cross-cutting approach to integrate manufacturing into service elements (Fang, Palmatier & Steenkamp, 2008)!Through service innovation in manufacturing, Taiwan improves the competitive advantage of the manufacturing industry. However, the issue of manufacturing service in the past usually focused on Technical innovation model of service (Martinez, Bastl, Kingston, & Evans, 2010), analysis of success factors (Kinkel & Maloca, 2009), supply chain integration services (Oliva& Robert , 2003), technical processes and organizational changes (Johnston, 1994; Nelson, 1994), service performance (Murmman, 2003),

Rarely discuss how to develop new business models through manufacturing service innovation. From the industrial development up to now, if manufacturers simply rely on the sale of manufactured products, profits will only flow to one-time income (especially for manufacturers with long product life cycles, which are likely to fall into this predicament), leading to the inability of the industry to maintain continuous income. Therefore, in practice, many companies promote innovations in manufacturing services so that companies can continue to make profitable business models. For example, the new business model concept of "Internet +" creates new value for enterprises, not only selling one product, but overall, service. More better, by the service experience to become motivation of involve the brand and product. form this servicing innovational lope to creating multi-profit model. Therefore, the purpose of this study is to use famous vehicle manufacturing companies as research cases and to explore the implications of service strategies and new business models based on innovations in manufacturing service innovation. The profit cases are analyzed to understand how they have an endless stream of profits.

2. Literature review

2.1 Servitization

The concept of Servitization was first proposed by Vandermerwe and Rada (1988), referring to those who originally focused on the manufacturing of tangible products. By providing services to increase the added value of the products, it was transformed into a service-oriented business model. Today's manufacturing industry is entering a crucial period of transition. From the current trend of overall economic development and changes in consumer demand, it is more suitable to develop and apply the theory of service science (Chesbrough & Spohrer, 2006); and according to the analysis by Yu et al. (2014) summarized the common manufacturing transitions into the following three models: Product Extension Service, Product Function Service, and Integrated Solution.

2.2 Service Innovation

Innovation can be regarded as the main driving force for economic growth, and for the market demand, the original production methods, product specifications and packaging methods are improved. As the progress of times, from the early product innovation, innovative behaviour and entrepreneurial spirit, to the current service innovation (Panesar & Markeset, 2008). Tidd & Hull (2003) believes that service innovation creates additional value for customers by providing new or improved service experiences and provides more attractive opportunities to attract customers to consume services. Voss (1992) divides service innovation into three types. First is quality measurement. The result of service is better than the competition and service experience is more than the competition. The second is financial measurement. The lower cost is used to obtain higher profits. The third is competition. To measure, the company analyses the key competitiveness advantages, surpasses the original scheduled growth rate of customers, and exceeds the originally estimated market share target. Tax & Stuart (1997) believes that service innovation can be divided into two types: one is the change within the existing service system; the other is the change in the operation process and participants, and it can be known that the service innovation refers not only to the existing service and product. Improving with processes also includes applying science and technology to things that are valuable to society and industry to meet the needs of the market. Furthermore, service innovation has its degree of differentiation, including the introduction of new services, major changes in the provision or delivery of services, and minor restructuring or improvements in existing services (Gallouj & Weinstein, 1997). This study adopts a broader definition of innovation, as long as the service first created for the organization is defined as a service innovation event.

2.3 Business Model

Business model covers the structure of products, services, and information flows and can explain the source of profitability (Timmers, 1998). That is, the business model is a combination of value flows, revenue flows, and logistics flows between companies and their business partners and buyers. (Mahadevan, 2000). The business model emphasizes how the organization uses the resources it invests, transforms it into a valuable output, and makes consumers willing to purchase (McGrath & MacMillan, 2002). Afuah & Tucci (2003) views the business model as a way for a company to establish and use resources to provide better services to consumers and to achieve sustainable profitability. In addition, Yanxian (2005) pointed out that the business model is the unique strategic positioning of enterprises through the choice of business model and the combination of various resources and environmental opportunities to create a competitive advantage.

In order to construct a good business model, the constituent elements are the means and methods for an organization to explore how to create, communicate, and obtain value (Yuting Huang, 2015). In summary, the business model is a method for enterprises to use all resources and get profits. Manufacturing service and service innovation can be regarded as changes in the business model, the manufacturing industry to enhance self-added value, enhance competitiveness, in response to the market and services Changes in the environment, use all resources to create profits.

3. Method

3.1 Framework

The purpose of this study is to explore how manufacturing can develop new business models through the creation of service-oriented technologies. Case studies are also used to analyze the successful cases of the industry and to conclude that successful business models have been achieved. This research uses the manufacturing service model proposed by Yu et al. (2014) as the analysis framework, explores the innovative strategies of manufacturing services in each model, and derives the profitable business model and draws the following diagram:

Model 1: Product Extension Service Model

Manufacturers use the concept of product life cycle to provide customer value-added services in order to strengthen the relationship with customers. In this study, “The Extension Service” through the product ownership transaction, the manufacturers provide customer value-added services, vehicle maintenance and repair service, strengthen the relationship with customers to making an endless stream of profits.

Model 2: Product Function Service Model

The ownership of the product is still at the manufacturer, and the manufacturer provides the product function. The customer buys the product function rather than the product itself. “The Function Service” for this study provide the function: transportation related, finance etc. for all customer, through the functions providing, in order to strengthen the relationship with customers and to consume the product.

Model 3: Integrated Solution Model

The manufacturer provides a set of solutions/results that can cover three elements of services, products, and systems to ensure customer satisfaction. From the vehicle supply to vehicle function approach, then to transportation solutions. “Integrated Solution” of the cases in this study, through a set solutions/results providing to create a endless profit therefore without sell vehicle.

3.2 Data Collection and Analysis

This study will analyze the reasons for the cause of enterprise transformation and the business model of each successful case from the world famous vehicle manufacturer (BMW, Daimler). The scope of data collection is divided into three parts. The first part is sub-subsidiary data, including the official website of the case and the "Udndata.com". The second part is open to government agencies. Data; the third part is an expert interview. The above information is mainly based on the "Udndata.com". This database contains information such as It also includes United Daily News, Economic Daily News, United Evening News, Upaper, BusinessWeek, Global Views Monthly. The data analysis is based on Yin (2014), the methods of pattern-matching, explanation-building, time-series and program logic model. In the end, 33 cases were selected out of more than 200 cases collected from official website of the cases, magazines, books and news. An example of this analysis is the selection of servitization innovation to build a new business model. The company believes that many customers who buy a box for a long time use it, feel that it takes up a seat or buy a new box and it is broken once or twice. The schedule does not come, so the case has a whim, and if the guest's luggage is for rent, it can be a lot easier, so a luggage rental service was introduced. Rent instead of buying. This innovation strategy shifts from traditional manufacturing to mode 2 “Product Function Service Model”. Product ownership still belongs to the manufacturer, and consumers pay rent for use rights.

4. Result & discussion

This article explores how manufacturing can create business models that in addition to selling products also can continue to profit from subsequent services. The following is a model derived from the multi-case induction (Table 1).

4.1 Product Extension Service Model

In this study, "The Extension Service" through the product ownership transaction, the manufacturers provide customer value-added services, vehicle maintenance, and repair service. Not only the maintenance and components marketing. The case of this study using the brand value and the experience marketing to increase purchase intention. Automobile manufacturer strengthens the relationship with customers to making an endless stream of profits.

4.1.1 Traditional service

Car Service

In addition to the product itself, consumables that are not low in price and need to be replaced on a regular basis are important means for vehicle manufacturers to earn profits. Many hardware devices equipped with removable accessories or consumable products are suitable for exercising this model. vehicle maintenance and repair service is the basic maintain profit after selling income way.

4.1.2 Brand marketing

The value of the product itself is limited, so the manufacturer gives more value to the brand. Because the brand image has increased, Improved by brand recognition, Product than the hardware itself, such as fashion, culture, fashion, art, etc. It can not only increase the price of the product but also increase the demand for the consumer to create Unlimited Business Opportunities. Giving example of "lifestyle collections, BMW museum Daimler museum"

BMW museum and Daimler museum,

The service introducing the history, Corporate image, experience, and contemporary popular culture. To more understanding brand image for more strengthening of customers relationship. lifestyle collections, BMW and Benz Passing the brand image Communicate to customer by brand collections product.

4.1.3 Experiential Marketing

BMW M town

By ownership of M performance cars. The service giving attend events. And quickly get information and purchasing right of the new M models: Lottery terms and special conditions.

4.1.4 After sales service

Addition to selling products, the manufacturers rely on post-sale maintenance or after-sales services to obtain profits other than the products themselves. And this move can also increase contact with customers and strengthen the customer's adhesiveness.

OMNI plus,

"A carefree journey for commercial vehicles" this is what passengers and drivers want. Daimler present a car- car service for the emergency situation. Mercedes-Benz and Setra bus service brands offer Europe's largest multi-level service network. Due to the wide range of profesional services and personalized solutions. All support is fast, professional and unofficial. Under the umbrella of OMNI plus, there is a comprehensive system for smooth bus operations - whether it is a shuttle service, regular service or long-distance travel. OMNI plus ensures customers stay safe: 24-hour service with tailored service contracts, Service Cards and remote diagnostic Among other things, bus services include repairs and repairs, original spare parts, vehicle repairs, fault assistance and mobile services.

Truck Store

According to the truck user habit. The components maintain supply is the most issue for the commercial truck service. Daimler serve the "TruckStore" service to the commercial truck customers. TruckStore is Europe's largest used truck operator and is responsible for the professional operations of the international used truck business. The range includes 7.5 to 40 tons of all vehicles of any brand or age, as well as any bodywork. TruckStore also accepts partial exchanges of all other brands of trucks, including individual vehicles and complete fleets.

4.2 Product Function Service Model

The customer buys the product function rather than the product itself. “The Function Service” for this study provide the function: transportation-related, finance etc. for all customer, through the functions providing, in order to strengthen the relationship with customers and vehicle product. In the study, we find these automobile manufacturers provide the vehicle and maintenance service transform the strategy to provide the related service. Instead of profiting directly from trading, it benefits from indirectly related trading activities. Also through the function Service provide. Renting, sharing and experience marketing. these all the service in this model obtains considerable profits. in the end, raise the vehicle marketing value.

4.2.1 Sharing economy

The term sharing has also become increasingly popular. The emergence of sharing makes existing business models more diversified. This model can increase the utilization rate of idle resources, which can benefit more consumers and businesses at the same time to increase profit value. At present, the sharing model is prevalent. As long as there are shared groups on the platform, the business model can be operated. Car sharing is an important pillar within the mobility strategy for the automobile manufacturer. Also the first step of transform main service of main product. Both of BMW and Daimler develop the car rent service with app system support. By the self-produced vehicle service. Also raise the brand adhesion. Giving an example of “DRIVE NOW and Reach now, Car2go, Mytaxi, Smart ready to”

DRIVE NOW and Reach now

DriveNow and ReachNow are the car sharing service, harnessing technology to shape the future of urban mobility. DriveNow car sharing is the mobility concept from BMW and MINI that enables you to drive at low rates and remain flexible. With a fleet of the latest BMW and MINI models. Renting DriveNow cars, park in any public parking spot free of charge. DriveNow car sharing is available at Germany in Munich, Berlin, Hamburg, Düsseldorf and Cologne. Also in Vienna, Brussels, Milan, Copenhagen, Lisbon, Helsinki and London. And ReachNow launched in 2016 serving members at Seattle and Portland in the U.S.A.

Car2go

The world's leading free-floating car sharing provider currently operates in 26 locations in eight countries on three continents. More than 3 million customers can use Smart and Mercedes-Benz's 14,000 vehicles. In 2016, These vehicles are branded "JiXing". car2go opened its first Asian branch in Chongqing, China. The demand for 600 smart for two car2go vehicles is now very high. Users can subscribe to nearby vehicles through application inquiries, and they are not limited to the delivery location shorten the processing time for each user.

Mytaxi

An app is revolutionizing car-sharing service. Compare with Uber, Daimler present mytaxi with Self-produced car. Through the cashless payment. Mytaxi is the largest company of this type in Europe. With 70 million passengers and 108,000 registered taxi drivers in more than 50 towns and cities in ten European countries. Order a taxi by the app and see it live on the digital map. A push message informs passengers when the driver arrives outside your door. Every taxi journey can be paid for directly with the smartphone. Smart ready to "The ready to" package connects the smart to the internet so that the users can access their smart's vehicle functions via their smartphones. In addition, “ready to share” private car sharing via an app or “ready to drop” the delivery of DHL parcels in the trunk of the smart.

4.2.2 Finance service

The financial service provides three points of service. by the maintain vehicle, the insurance provides. Giving the right to use the products, and the ownership of the products belongs to the company. Services guarantee is giving customers a high level of financial flexibility with the installment and leasing finance providing. This business model can significantly increase the time and frequency of profitable products. The company directly provides the core functions of the product to meet the basic needs of the customer, through the financial marketing way. also thus obtains considerable profits. Giving an example of “Daimler finance-Cars installment, Daimler finance-Cars insurance, Daimler truck finance, CharterWay. ”

Daimler finance-Cars installment

The service is to help customers for own the vehicle. Two different customer preferences (lease and traditional ownership) solutions are available. Rent or buy a variety of financing plans for new or used cars at competitive prices. Allowing customers to pay for the use of the vehicle instead of the purchase. Monthly payments are based on agreed mileage, maintenance package selection, contract duration and, in some cases, special one-time lease payments. At the end of the contract period, the customer can decide to change to a new model or switch to a new model.

Daimler finance-Cars insurance

The service is to serve for car protecting a comprehensive plan, including Wheel and Tire Protection, Paintless Dent Repair, Windshield Protection, Term Protection, Key Protection, Guaranteed Auto Protection (GAP), Lease Protection and Interior and Exterior Protection. This aims to increase customer satisfaction and dealer loyalty for aftermarket products.

Daimler truck finance

The service is serve for financial part, including Loans, Leases and Commercial Vehicle Protection insurance. Dealing tailor financial program to meet for different business patterns and save bank lines operating requirements. Including owner-operators and small businesses, fleets, vocational businesses and municipalities. Specially for co-operating with government municipal financing.

CharterWay

By opting for this complete solution, customers are able to minimize the time and effort spent on vehicle management, enjoy maximum financial flexibility and reduce the operator risks. Also the close links between the vehicle manufacturer and the manufacturer's bank mean that the advantages. Mercedes-Benz and FUSO trucks and trailers. According to customer requirements, vehicles can be rented for a short period of time within 24 hours or within weeks or months. Tenants benefit from the largest service network of all manufacturers across the country and across Europe. Freight forwarders and transport companies can also visit CharterWay in other European countries. Customers receive vehicles that are configured to their specifications, meeting all requirements, from procurement and vehicle management to repair and maintenance, and even returning vehicles with guaranteed residual value, with a single Agreement and a fixed rate monthly payment.

4.2.3 Experiential Marketing

The automobile manufacturer focuses on the "functionality" of the product. Also the meaning of buying a car from the driving experience. The company directly provides the core functions of the product to meet the needs of the customer, providing the experience, and thus obtains considerable profits. By the Experiential marketing way, through this service more understand the performance, enthuse the vehicle quality value and for the business purchasing opportunity. Giving an example of "BMW driving experience"

BMW driving experience

The BMW Driving Experience offers a five training option for individually develop driving skills with a professional guide. As BMW Academy Experience, BMW M Experience, BMW Tour Experience, BMW Winter Experience. and BMW Professional Driver Experience in U.S.A, Korea, Austria, Sweden, Germany.

4.3 Integrated Solution Model

The manufacturer provides a set of solutions/results that can cover three elements of services, products, and systems to ensure customer satisfaction and profit feedback. From the vehicle supply to vehicle function approach, then to transportation solutions. "The Integrated Solution" of these case study. When automakers define merchandise as a solution to traffic problems, they need to be achieved through support systems and brand marketing. Instead of providing automotive-related services to increase car profit, the Integrated Solution Model is this study. Instead, it uses innovative services as a new and innovative layout.

4.3.1 Finance service

The change and innovation of automobile manufacturer. The finance service from the support service of the vehicle, but it still belongs to the vehicle-related service. In the innovation of service.

The manufacturer provides surmount vehicle supply to vehicle function approach. Base on the financial business. Then a banking service gave an endless profit without sell vehicle. Giving example of “BMW credit card, BMW bank, Daimler finance-investment, Mercedes-Benz bank, Daimler truck dealer finance.”

BMW credit card,

This financial service is the derivative product of "drive now". Discover modern mobility with DriveNow: Hire and rent cars for all occasion. With using credit card service Gasoline, insurance, parking fees in the price per minute included. Take advantage of the free registration and open upto- date BMW and MINI models with BMW Credit Card.

BMW bank

BMW Group Financial Services includes merchandise funding and financing stock-keeping of the automobile and replacement parts for the BMW and MINI retailers. Also including: Financing services, credit cards, real estate loans, vehicle purchases and loans, insurance and vehicle insurance, etc.

Daimler finance-investment

Daimler providing financial investment service is different. Investing with basic required investment (USD\$10,000 or more). With no minimum duration of investment, The dollar amount available for withdrawal immediately. And convenient online account management with an online service advisor.

Mercedes-Benz bank

Daimler providing financial investment, savings business, Credit card, leasing, financing, vehicle insurance, vehicle rental fee, and fleet solutions service for the finance user.

Daimler truck dealer finance

Daimler Truck Financial offers dealer financial and insurance services supporting their dealer partners. Serving truck dealer for the financing and ensuring vehicle inventories, the assisting in the acquisition of equipment also the supporting facility improvement and expansion. with the service to dealer, raise the vehicle selling profit.

4.3.2 brand marketing

Design works

An automotive industry must have high-caliber design talents for high quality. Relatively, it's a big cost for company. With a deep-seated brand understanding. Through the implementation of the first two models, the influence of the brand has been established. Profit is from brand identity and standards. Designworks of BMW offering consistent experiences and service across platforms for brands with the key process and team. Transferring costs to customers and getting more profits.

4.3.3 Total solution

In the transformation of the times, many traditional manufacturers are moving toward transformation or service. They no longer rely solely on selling products to survive, but instead, providing a complete supply chain solution to enhance their competitiveness. With the changes of the times and the development of the IOT, E-commerce is booming, and many traditional manufacturers have transformed with this trend. In the transformation of the times, many traditional manufacturers are moving toward transformation or service. They no longer rely solely on selling products to survive, but instead they provide a complete supply chain solution to enhance their competitiveness. With the evolution of the times, vehicle products are no longer the things that manufacturers need to think about, especially for electronic supply system for vehicle products. The business model of hardware and software complements each other and can increase each other's sales and value. Giving example of “Parkmobile, Charge now, Charge now, Moovel, FleetBoard, Connect business, Bus Rapid Transit (BRT). ”

Parkmobile

BMW presents a smart way of parking. With million spots and 3,000 locations around North America. ParkMobile will help get travel faster. The Parkmobile Group is founding in 2000, the leading provider in the world for on-demand mobile payments for on- and off-street parking. We make parking smarter, simple and accessible for drivers & operators. The free app makes it easy to find and pay for parking without running back to feed the meter.

Charge now

For the E-motor market, BMW presents a support service for e-motor exploration goal. it is easy to access (find, charge, pay) the largest public charging station network, with more than 192,000 charging points worldwide. Charging stations operated by various providers in the Charge Now network will be displayed in the car navigation system, or displayed via the BMW/MINI Connected app or the Charge Now app - making it easy to quickly find public charging points. with the BMW credit cards are used for activation and no cash payment.

Moovel

The Daimler subsidiary moovel serves the solution for using new technologies to simplify the services be intelligently networked. With the three products moovel App: moovel transit, moovel on-demand, offering a unique, all app networked offer for urban mobility.

FleetBoard

This is an example of a support system by Daimler. Regardless of whether for long-haul, shortradius distribution or construction site traffic. Fleetboard uses digital services to network a company's logistics system and provides comprehensive data on the driver, fleet and order. For example, the vehicle's condition, the driving style, and the driver's current activities. A digital solution in order to optimize logistics processes. not only increase the sales amounts but also receive big data for further autopilot execution.

Connect business

For the commercial vehicle market. Fleet responsible manages their fleet based on real-time data in the "connect business" portal. Optimizing the car commercial using relevant KPIs and reliable mileage can be accessed. The electronic logbook provides comprehensive tax and benefits for the user. Passing continuous condition monitoring ensure a safe operating condition for the vehicles and proactively control the fleet.

Bus Rapid Transit (BRT)

With the bus manufacturer department, Daimler presents the bus transport system as Bus Rapid Transit (BRT) provides. Daimler Buses was one of the pioneers of such systems. The UNO expects will increase 70% of people's mobility requirements are increasing with a growing world population in 2050. The independence of the urban vehicles from other traffic events not only ensures high carry ability, but also a high degree of reliability, convenient and cost-effective mobility. The BRT system provides a solution to traffic. The bus build to resolve the traffic problem. and the BRT system star from a system side to give the solution. by this project the bus requires will be raised with the income. The element of a BRT system is the separate bus lanes which ensure congestion-free operation with short intervals between buses. Also with the data and experience received. For the next step, Provides advice all over the world to further development of BRT systems. from bus to system to turn-key transfer, achieve the unlimited profit.

4.3.4 Cross-border Cooperation

At the same time as the manufacturers' self-transformation, there are also companies that are undertaking cross-industry cooperation to challenge new areas. Proposing a solution for crossindustry and border cooperation and open up new business opportunities. For this study, the manufacturer pass the support system establishing and vehicle supply purpose transforming. combining each company's service and the supporting service. giving transportation solutions to urban and national levels. Giving two example BMW & BOSCH and BMW & Daimler for discussing:

BMW & BOSCH

Daimler as the giant of vehicle cooperate with another giant of automobile components, Bosch. Bosch is one of the world's largest suppliers of automotive parts. Offering a shuttle service with automated vehicles on selected routes in a Californian metropolis. This crossing cooperate isn't the first time for transportation solution. The Coup project of Bosch and gogoro. Bosch's "Coup" on the electric scooter "eScooter" equipped with a new electric car sharing service system has officially started in Berlin. Bosch and Daimler are accelerating the development of fully automated and driverless driving. With car-sharing (car2go), ride-hailing (mytaxi) and multimodal platforms (moovel) can be intelligently connected to shape the future of mobility.

BMW & Daimler

The top two auto-manufacturer, BMW and Daimler. Both companies are each to hold fifty percent of the shares in the joint venture for the transport solution. Staying away from the niche market of vehicle trading, devoted to urban transport service. For offering customers a holistic ecosystem of mobility services in Berlin. Subject to review and clearance by the relevant competition authorities, both companies plan to merge and strategically expand their existing ondemand mobility offerings in the car-sharing, ride-sailing, parking, charging and multi-modality fields.

Model	Method	Service
Product Extension Service Model	Traditional service	Car service
	Brand marketing	Lifestyle collections, BMW museum, Daimler museum
	Experiential Marketing	BMW M town
	After sales service	OMNI plus, Truck Store
Product Function Service Model	Sharing economy	DRIVE NOW, Reach now, Car2go, My taxi, Smart ready to
	Finance service	Daimler finance-Cars installment, Daimler finance-Cars insurance, Daimler truck finance, Charter Way
	Experiential Marketing	BMW driving experience
Integrated Solution Model	Finance service	
	Brand marketing	
	Total solution	
	Cross-border Cooperation	

Table 1. Multi-case induction of servitization business model

4.4 Discussion

The case of this study is discussed in the automotive industry. The goods in this industry are cars. In currently society development. The degree of customer ownership of the car is gradually decreasing. and the demand for the car brand and the use of the car has also changed.

By the result of this study, from ownership to leasing to transportation solutions. The three categories can be understood (Product Extension Service Model, Product Function Service Model & Integrated Solution Model).

The study was discussed from the perspective of automakers. The product Extension Service Model benefiting from car repair and follow-up maintenance services. Then, through brand marketing and experience marketing, the user's brand loyalty is increased. Through the brand awareness and thus get a considerable profit.

From the degree of user ownership, the product function service Model giving the innovation service. the concept of sharing a car and experiential marketing service. The ownership of the product is still at the manufacturer, and the manufacturer provides the product function. Sharing service providing the transportation solution and driving experience giving the joy and experience of driving. The customer buys the function rather than buying a vehicle.

Getting a customer's willingness to purchase through these cheaper costs. Also because of the change in ownership from this study cases of the product function service Model. The car Integrated Solution

Model Method Service

Belongs to the characteristics of durable treasury products and develops financial services such as lease contract installment payments. At the same time, through financial services, funds are raised to develop diversified financial products. In addition to providing services to car owners, it is relatively extended to financial services such as dealers and parts suppliers, and other financial services related to the industry. The brand image develops the brand experience marketing model, and the user experience is packaged into an experience marketing service, which enables customers to increase their purchase intention and brand adhesion. The integrated solution model of this study. The manufacturer provides a set of solutions/results that can cover the three models form services, products to the system for ensuring customer satisfaction. Solving traffic problems, supporting service system, cross- financial services, brand marketing services. as well as crosscompany collaborate and cooperate services.

"Service more" Expanding those service for the first two models. From the vehiclerelated finance service to the whole Business Ecosystems of the vehicle. not only support chain also banking service. By the sharing economic products and the ownership meaning transform, developing supporting service: app, system, etc. These total solution service not only provide solutions to the existing traffic problems but also mobility and flexibility system for other automobile manufacturers. In the end, these two magnate company of this study cooperated to provide the cross-company services. Transforming transportation solutions to urban and national levels. Passing these model services. To lay the foundation for future business innovation and thus get a considerable profit.

5. Conclusion

The study found that Product Extension Service Model include continuous profitability through four methods: Traditional service, brand marketing, Experiential Marketing, After sales service; Product Function Service Model is divided into three ways: Sharing economy, finance service, Experiential Marketing; Integrated Solution Model are guided by finance service, brand marketing, total solution and Cross-border Cooperation. The results of this study provide manufacturers for the business model how to transformation model in practice. To create more competitiveness and benefit. The manufacturing industry plays a major role in the growth of the domestic economy. Taiwan has long focused on the technical fields of product manufacturing and is facing the challenge of advanced technology in advanced countries and the low-cost production in emerging countries. In response to the difficulties of the manufacturing business environment, Ministry of Economic Affairs Taiwan encourage the manufacturing industry to use a cross-cutting approach to integrate. By manufacturing into Servitization, improves the competitive advantage of the manufacturing industry. This study aims to analyze how traditional manufacturers have changed the business model of "manufacturing and selling commodities" in the past and transformed to create new models of service innovation. Using Product Extension Service Model, Product Function Service Model, Integrated Solution Model to exploring the Servitization innovation strategy of each model, as well as the derived profitable business model. And to learn more about how it creates a continuous source of profitability.

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