MOBILE VIRTUAL NETWORK OPERATOR (MVNO) IN INDONESIA: COMPETITIVE BUSINESS ANALYSIS USING PORTER 5 FORCES MODEL

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ABSTRACT

In this paper, the competitive business analysis of MVNO implementation in Indonesia using Porter 5 Forces Model is proposed. Porter 5 forces model is one of the most often used as business strategy tools and has proven its usefullness on numerous ocassione. The model of pure competition implies that risk-adjusted rates of return should be constant across firms and industries. However, numerous economic studies have affirmed that different industries can sustain different levels of profitability; part of this difference is explained by industry structure. The analysis consist of the intensity of rivalvy among existing player, threat of new entrant, bargaining power of supplier, bargaining power of buyer and threat of substitution. The analysis is needed in order to formulate strategy to face existing micro environment condition within the mobile industries in Indonesia.

By using porter 5 forces analysis for MVNO implementation in Indonesia, the results show that the competitive profit in MVNO business in Indonesia is low. Several strategies need to be proposed in order to achieve the better competition positioning for Indonesia's telecommunication industry. The decreasing bargaining power and subscribers of mobile network operator need to be proposed for MVNO developing in Indonesia.

Keyword: Mobile Virtual Network Operator (MVNO), Porter 5 Forces Model, Telecommunication Business

I. INTRODUCTION

A Mobile Virtual Network Operator (MVNO) is a mobile operator that does not own its own spectrum and usually does not have its own network infrastructure [1]. And now, MVNO is a new trend for mobile (celluler) business model. Many are familiar with simple resellers of telecom services such as long distance, local exchange, and mobile network services. In contrast, MVNO's typically add value such as brand

appeal, distribution channels, and other affinities to the resale of mobile services [2]. Successful MVNO's are those that position their operations so that customers do not distinguish any significant differences in service or network performance yet offer some special affinity to their customers.

The major benefit to traditional mobile operators cooperating with MVNO's is to broaden the customer base at a zero cost of acquisition. It is likely that incumbent mobile operators will continue to embrace MVNO's as a means of deriving revenue to offset the enormous cost of building 3G networks. As more MNVO's expand in the marketplace, they are likely to first target prepaid customers as a means of low cost market entry themselves. Most regulating bodies are in favor of MVNO's as a means of encouraging competition, which would ultimately lead to greater choice and lower prices. With the advent of the MVNO, many incumbent mobile operators will evaluate the opportunity to offer supplementary MVNO services of their own. To do so, exiting mobile operators will use their established branding, service knowledge, and supplier relationships to complete against independent MVNO's [3]. In Indonesia, MVNO is not implemented yet [4].

Competitive Strategy is the basis for much of modern business strategy [5]. In this classic work, Michael Porter in his book presents his five forces and generic strategies, then discusses how to recognize and act on market signals and how to forecast the evolution of industry structure. He then discusses competitive strategy for emerging, mature, declining, and fragmented industries. The covers strategic decisions related to vertical integration, capacity expansion, and entry into an industry. The book concludes with an appendix on how to conduct an industry analysis [6].

In this paper, the competitive business analysis of MVNO implementation in Indonesia using Porter 5 Forces Model is proposed. The model of pure competition implies that risk-adjusted rates of return should be constant across firms and industries. However, numerous economic studies have affirmed that different industries can sustain different levels of profitability; part of this difference is explained by industry structure. The analysis consist of the intensity of rivalvy among existing player, threat of new entrant, bargaining power of supplier, bargaining power of buyer and threat of substitution. The analysis is needed in order to formulate strategy to face existing micro environment condition within the mobile industries in Indonesia.

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for Indonesia’s telecommunication industry. The decreasing bargaining power and subscribers of mobile network operator need to be proposed for MVNO developing in Indonesia.

II. MOBILE VIRTUAL NETWORK OPERATOR (MVNO)

A **mobile virtual network operator** (**MVNO**) is a company that provides mobile phone service but does not have its own frequency allocation of the radio spectrum, nor does it have all of the infrastructure required to provide mobile telephone service [1]. A company that does have frequency allocation(s) and infrastructure is known simply as a Mobile Network Operator (MNO). MVNOs are roughly equivalent to the switchless resellers of the traditional landline telephone market. Switchless resellers buy minutes wholesale from the large long distance companies and retail them to their customers. MVNOs can operate using any of the mobile technologies MNOs use, such as Code Division Multiple Access (CDMA), GSM and the Universal Mobile Telecommunications System (UMTS).

An example for MVNO is Virgin Mobile. Virgin Mobile plc is a mobile phone service provider operating in the UK, Australia and Canada, and the US. The company was the world's first Mobile Virtual Network Operator, launched in the UK in 1999. It does not maintain its own network, and instead has contracts to use the existing network(s) of other providers. In the UK, Virgin Mobile uses the T-Mobile network. In the US, the Sprint network is the carrier. In Australia, Virgin Mobile operates on the Optus network. In Canada, it uses the Bell Mobility network. These networks use different technology (GSM in the UK and Australia and CDMA in the US and Canada). Its success was replicated in the US, but ventures in Australia have not been so successful, and failed in Singapore, albeit with a different strategy.

An MVNO's roles and relationship to the MNO vary by market, country and the individual situations of the MNO and MVNO. In general, an MVNO is an entity or company that works independently of the mobile network operator and can set its own pricing structures, subject to the rates agreed with the MNO. Usually, the MVNO does not own any GSM, CDMA or other core mobile network related infrastructure, such as Mobile Switching Centers (MSCs), or a radio access network. Some may own their own Home Location Register, or HLR, which allows more flexibility and ownership of the subscriber's mobile phone number (MSISDN) - in this case, the MVNO appears as a roaming partner to other networks abroad, and as a "network" within its own region. Some MVNOs run their own Billing and Customer Care solutions known as BSS (Business Support Systems).

There are three primary motivations for mobile operators to allow MVNOs on the networks. These are generally:

- **Segmentation-Driven Strategies** – mobile operators often find it difficult to succeed in all customer segments. MVNOs are a way to implement a more specific marketing mix, whether alone or with partners and they can help attack specific, targeted segments.

- **Network Utilisation-Driven Strategies** – Many mobile operators have capacity, product and segment needs – especially in new areas like 3G. An MVNO strategy can generate economies of scale for better network utilisation.

- **Product-Driven Strategies** – MVNOs can help mobile operators target customers with specialised service requirements and get to customer niches that mobile operators cannot get to.

MVNO models mean lower operational costs for mobile operators (billing, sales, customer service, marketing), help fight churn, grow average revenue per user by providing new applications and tariff plans and also can help with difficult issues like how to deal with fixed-mobile convergence by allowing MVNOs to try out more experimental projects and applications. The opportunity for mobile operators to take advantage of MVNOs generally outweighs the competitive threat.

There are currently approximately 360 planned or operational MVNOs world-wide such as Algeria, The Netherlands, France, Denmark, United Kingdom, Finland, Belgium, Australia and United States. In these countries the MVNO marketplace is stabilizing and there are some well-known MVNO successes. Other countries, such as Portugal, Spain, Italy, Croatia, the Baltics, India, Chile and Austria are just beginning to launch MVNO business models. Where there are many MVNOs in a single country, it is difficult for new entrants as the overall marketplace is highly saturated. But in Indonesia, MVNO is not implemented yet.

Presently many companies and regulatory bodies are strongly in favour of MVNOs. For example, in 2003, the European Commission issued a recommendation to national telecom regulators (NRAs) to examine the competitiveness of the market for wholesale access and call origination on public mobile telephone networks. The study resulted in new legislation from NRAs in countries like Ireland and France that forces operators to open up their network to MVNOs. There are certainly regulatory issues, as yet unresolved, to ensure that competition in mobile markets is maximised – just like in the local loop unbundling saga in the fixed network.

In fact, from a competitive viewpoint it is not really any different to a fixed line network operator offering backbone services to ISPs competing against its own service provider – it sells minutes on the network and if one operator won't do it, there are many others that will. As an operator, the MNO needs to utilise its spectrum and get some cashflow, which it gets from having MVNOs as paying customers.

There are arguments from both sides as to whether the MVNO model will bring otherwise unreachable revenue or unwelcome competition to the MNOs. For instance, the GSM Association, which represents more than 500 GSM operators and key mobile vendors around the world, is cautious about regulation surrounding the MVNO model. It is keen to see legislation that helps companies provide and take advantage of the financial potential of MVNOs, but it is equally keen that network operators should not be legally required to open their networks to anyone wanting access. At the same time, some UMTS licence-holders, particularly in Germany, are fighting the regulatory authorities for the right to share their spectrum.

Usually MVNO's do not have their own infrastructure, some providers are actually deploying their own Mobile Switching Centers (MSC) and even Service Control Points (SCP) in some cases. Some MVNO's deploy their own mobile Intelligent Network (IN) infrastructure in order to facilitate the means to offer value-added services. In this way, MNVO's can treat incumbent infrastructure such as radio equipment as a commodity, while the MVNO offers its own advanced and differentiated services based on exploitation of their own IN infrastructure. The goal of offering value-added services is to differentiate versus the incumbent mobile operator, allowing for customer acquisition and preventing the MVNO from needing to compete on the basis of price alone.

MVNO's have full control over the SIM card, branding, marketing, billing, and customer care operations. While sometimes offering operational support systems (OSS) and business support systems (BSS) to support the MVNO, the incumbent mobile operators most keep their own OSS/BSS processes and procedures separate and distinct from those of the MVNO.

For now MVNO services have been limited, but analysts from EMC Research have predicted that as wireless services grow, so will the availability of niche MVNO applications. For instance, in the future a cell phone user may be able to subscribe to a network operator plus multiple MVNOs for specific data services over the same phone. One MVNO could provide sports news, another weather and traffic and still another could provide instant messaging capabilities. In this way, each MVNO and the network operator could focus on their own niche markets and form customized

detailed services that would expand their customer reach and brand.

So far MVNOs have not been regulated in any country. The ITU has received several requests to study the issue, specifically to provide input on whether government intervention is necessary to allow MVNOs to offer services and applications at a lower price to consumers. This would help to ensure a more efficient use of the spectrum but some incumbent providers argue that the market is already competitive and intervention is not necessary.

The word 'virtual' in MVNO refers to the fact that they do not own radio spectrum, but lease it from existing mobile operators. Spectrum is the mobile equivalent of the last mile of the local loop in fixed networks, and the leasing of mobile spectrum to MVNOs is analogous to the leasing of unbundled local loop copper wire to competitive broadband providers in the fixed line market.

What distinguishes a virtual operator then? It is certainly not that they issue a SIM card – the small slot-in card that defines the unique identity of a mobile handset. Some companies issue a SIM card with the active support of a mobile operator, but all they gain from doing so is the ability to display their brand name on the mobile handset. No, the factor that makes an operator truly virtual is the ability to control both outbound and inbound calls. Essentially, this means at least owning its own switch. This means it then has control over the cost of calls coming in to and going out from its subscribers. It also means it controls its own service creation rather than relying on one operator to provide it with services. Although this is not a rigid definition, there has been some confusion caused by service providers referring to themselves as virtual operators when in fact they are really just resellers.

Different brands appeal to specific groups of users with different calling patterns throughout the day. A network operator who primarily has business customers should look for an MVNO with a focus on the youth market, for example. The network operator that has a mix of complementary MVNOs is therefore in a strong position, but there are clearly risks involved. The first and most obvious one is that the network operator may lose its direct relationship with the customer. The network will always make money, but the customer base can be even more valuable. Without a direct relationship, control over customer acquisition and customer relations becomes difficult and can ultimately have an impact on profits.

The relationship between MVNO with another business sectors is shown in the Fig. 1.

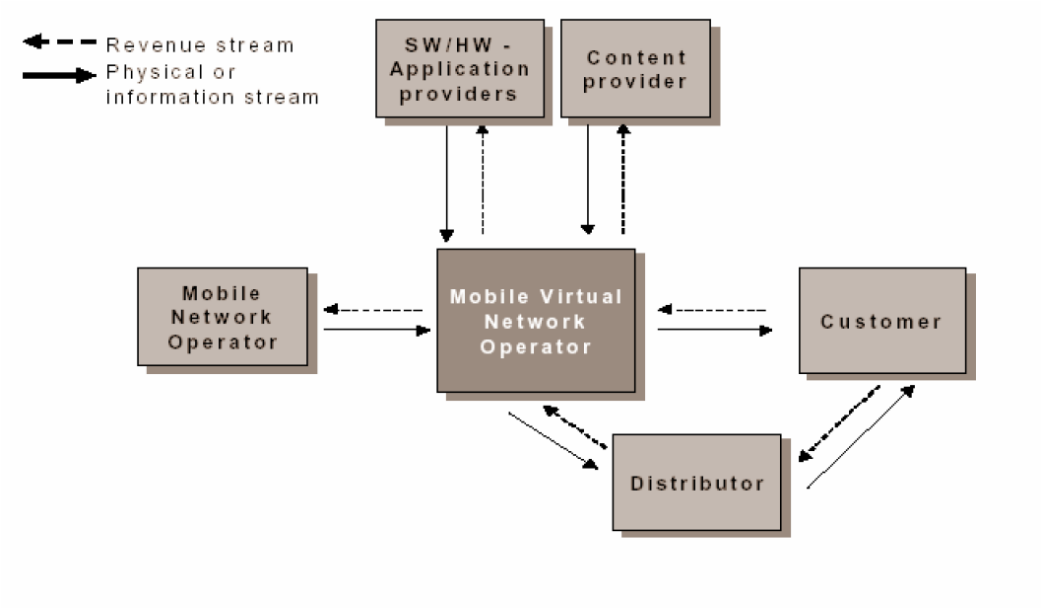

Figure 1. MVNO and other business sector

III. PORTER FIVE FORCES MODEL FOR MVNO IN INDONESIA

The model of pure competition implies that risk-adjusted rates of return should be constant across firms and industries. However, numerous economic studies have affirmed that different industries can sustain different levels of profitability; part of this difference is explained by industry structure.

Michael Porter provided a framework that models an industry as being influenced by five forces. The strategic business manager seeking to develop an edge over rival firms can use this model to better understand the industry context in which the firm operates.

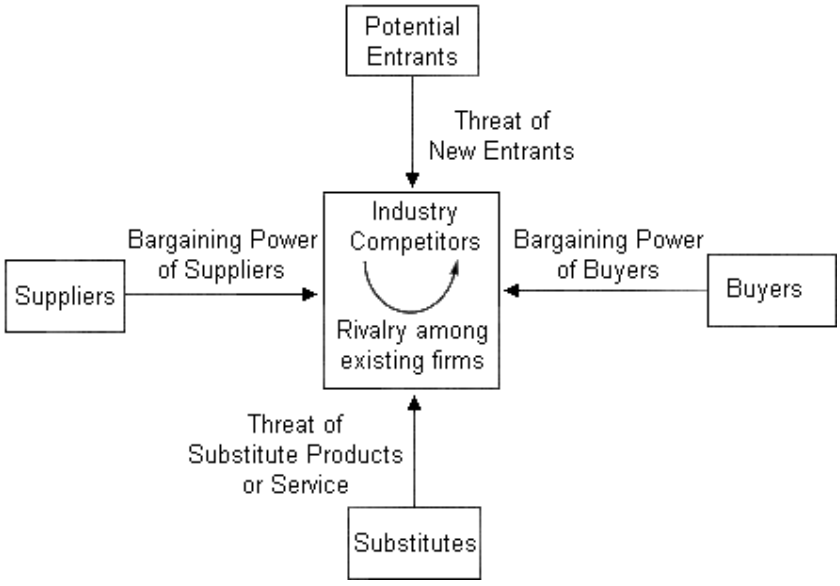

Figure 2. Diagram of Porter 5 Forces [6]

A. Rivalry

In the traditional economic model, competition among rival firms drives profits to zero. But competition is not perfect and firms are not unsophisticated passive price takers. Rather, firms strive for a competitive advantage over their rivals. The intensity of rivalry among firms varies across industries, and strategic analysts are interested in these differences.

Economists measure rivalry by indicators of industry concentration. The Concentration Ratio (CR) is one such measure. The Bureau of Census periodically reports the CR for major Standard Industrial Classifications (SIC's). The CR indicates the percent of market share held by the four largest firms (CR's for the largest 8, 25, and 50 firms in an industry also are available). A high concentration ratio indicates that a high concentration of market share is held by the largest firms - the industry is concentrated. With only a few firms holding a large market share, the competitive landscape is less competitive (closer to a monopoly). A low concentration ratio indicates that the industry is characterized by many rivals, none of which has a significant market share. These *fragmented* markets are said to be competitive. The concentration ratio is not the only available measure; the trend is to define industries in terms that convey more information than distribution of market share.

If rivalry among firms in an industry is low, the industry is considered to be disciplined. This discipline may result from the industry's history of competition, the

role of a leading firm, or informal compliance with a generally understood code of conduct. Explicit *collusion* generally is illegal and not an option; in low-rivalry industries competitive moves must be constrained informally. However, a maverick firm seeking a competitive advantage can displace the otherwise disciplined market.

When a rival acts in a way that elicits a counter-response by other firms, rivalry intensifies. The intensity of rivalry commonly is referred to as being cutthroat, intense, moderate, or weak, based on the firms' aggressiveness in attempting to gain an advantage.

In pursuing an advantage over its rivals, a firm can choose from several competitive moves:

- Changing prices - raising or lowering prices to gain a temporary advantage.
- Improving product differentiation - improving features, implementing innovations in the manufacturing process and in the product itself.
- Creatively using channels of distribution - using vertical integration or using a distribution channel that is novel to the industry. For example, with high-end jewelry stores reluctant to carry its watches, Timex moved into drugstores and other non-traditional outlets and cornered the low to mid-price watch market.
- Exploiting relationships with suppliers - for example, from the 1950's to the 1970's Sears, Roebuck and Co. dominated the retail household appliance market. Sears set high quality standards and required suppliers to meet its demands for product specifications and price.

The intensity of rivalry is influenced by the following industry characteristics:

- **A larger number of firms** increases rivalry because more firms must compete for the same customers and resources. The rivalry intensifies if the firms have similar market share, leading to a struggle for market leadership.
- **Slow market growth** causes firms to fight for market share. In a growing market, firms are able to improve revenues simply because of the expanding market.
- **High fixed costs** result in an economy of scale effect that increases rivalry. When total costs are mostly fixed costs, the firm must produce near capacity to attain the lowest unit costs. Since the firm must sell this large quantity of product, high levels of production lead to a fight for market share and results in increased rivalry.
- **High storage costs or highly perishable products** cause a producer to sell goods as soon as possible. If other producers are attempting to unload at the

same time, competition for customers intensifies.

- **Low switching costs** increases rivalry. When a customer can freely switch from one product to another there is a greater struggle to capture customers.
- **Low levels of product differentiation** is associated with higher levels of rivalry. Brand identification, on the other hand, tends to constrain rivalry.
- **Strategic stakes are high** when a firm is losing market position or has potential for great gains. This intensifies rivalry.
- **High exit barriers** place a high cost on abandoning the product. The firm must compete. High exit barriers cause a firm to remain in an industry, even when the venture is not profitable. A common exit barrier is asset specificity. When the plant and equipment required for manufacturing a product is highly specialized, these assets cannot easily be sold to other buyers in another industry. Litton Industries' acquisition of Ingalls Shipbuilding facilities illustrates this concept. Litton was successful in the 1960's with its contracts to build Navy ships. But when the Vietnam war ended, defense spending declined and Litton saw a sudden decline in its earnings. As the firm restructured, divesting from the shipbuilding plant was not feasible since such a large and highly specialized investment could not be sold easily, and Litton was forced to stay in a declining shipbuilding market.
- **A diversity of rivals** with different cultures, histories, and philosophies make an industry unstable. There is greater possibility for mavericks and for misjudging rival's moves. Rivalry is volatile and can be intense. The hospital industry, for example, is populated by hospitals that historically are community or charitable institutions, by hospitals that are associated with religious organizations or universities, and by hospitals that are for-profit enterprises. This mix of philosophies about mission has lead occasionally to fierce local struggles by hospitals over who will get expensive diagnostic and therapeutic services. At other times, local hospitals are highly cooperative with one another on issues such as community disaster planning.
- **Industry Shakeout.** A growing market and the potential for high profits induces new firms to enter a market and incumbent firms to increase production. A point is reached where the industry becomes crowded with competitors, and demand cannot support the new entrants and the resulting increased supply. The industry may become crowded if its growth rate slows and the market becomes saturated, creating a situation of excess capacity with too many goods chasing too few buyers. A shakeout ensues, with intense competition, price wars, and company failures.

BCG founder Bruce Henderson generalized this observation as the Rule of Three and Four: a stable market will not have more than three significant competitors, and the largest competitor will have no more than four times the market share of the smallest. If this rule is true, it implies that:

- If there is a larger number of competitors, a shakeout is inevitable
- Surviving rivals will have to grow faster than the market
- Eventual losers will have a negative cash flow if they attempt to grow
- All except the two largest rivals will be losers
- The definition of what constitutes the "market" is strategically important.

Whatever the merits of this rule for stable markets, it is clear that market stability and changes in supply and demand affect rivalry. Cyclical demand tends to create cutthroat competition. This is true in the disposable diaper industry in which demand fluctuates with birth rates, and in the greeting card industry in which there are more predictable business cycles.

B. Threat Of Substitutes

In Porter's model, substitute products refer to products in other industries. To the economist, a threat of substitutes exists when a product's demand is affected by the price change of a substitute product. A product's price elasticity is affected by substitute products - as more substitutes become available, the demand becomes more elastic since customers have more alternatives. A close substitute product constrains the ability of firms in an industry to raise prices.

The competition engendered by a Threat of Substitute comes from products outside the industry. The price of aluminum beverage cans is constrained by the price of glass bottles, steel cans, and plastic containers. These containers are substitutes, yet they are not rivals in the aluminum can industry. To the manufacturer of automobile tires, tire retreads are a substitute. Today, new tires are not so expensive that car owners give much consideration to retreading old tires. But in the trucking industry new tires are expensive and tires must be replaced often. In the truck tire market, retreading remains a viable substitute industry. In the disposable diaper industry, cloth diapers are a substitute and their prices constrain the price of disposables. While the treat of substitutes typically impacts an industry through price competition, there can be other concerns in assessing the threat of substitutes.

C. Buyer Power

The power of buyers is the impact that customers have on a producing industry. In general, when buyer power is strong, the relationship to the producing industry is near to what an economist terms a **monopsony** - a market in which there are many suppliers and one buyer. Under such market conditions, the buyer sets the price. In reality few pure monopsonies exist, but frequently there is some asymmetry between a producing industry and buyers. The following tables outline some factors that determine buyer power.

Table I. Factors to determine buyer power

Buyers are Powerful if:	**Example**
Buyers are concentrated - there are a few buyers with significant market share	DOD purchases from defense contractors
Buyers purchase a significant proportion of output - distribution of purchases or if the product is standardized	Circuit City and Sears' large retail market provides power over appliance manufacturers
Buyers possess a credible backward integration threat - can threaten to buy producing firm or rival	Large auto manufacturers' purchases of tires
Buyers are Weak if:	**Example**
Producers threaten forward integration - producer can take over own distribution/retailing	Movie-producing companies have integrated forward to acquire theaters
Significant buyer switching costs - products not standardized and buyer cannot easily switch to another product	IBM's 360 system strategy in the 1960's
Buyers are fragmented (many, different) - no buyer has any particular influence on product or price	Most consumer products
Producers supply critical portions of buyers' input - distribution of purchases	Intel's relationship with PC manufacturers

D. Supplier Power

A producing industry requires raw materials - labor, components, and other supplies. This requirement leads to buyer-supplier relationships between the industry and the firms that provide it the raw materials used to create products. Suppliers, if powerful, can exert an influence on the producing industry, such as selling raw materials at a high price to capture some of the industry's profits. The following tables outline some factors that determine supplier power.

Table II. Factors to determine supplier power

Suppliers are Powerful if:	**Example**
Credible forward integration threat by suppliers	Baxter International, manufacturer of hospital supplies, acquired American Hospital Supply, a distributor
Suppliers concentrated	Drug industry's relationship to hospitals
Significant cost to switch suppliers	Microsoft's relationship with PC manufacturers
Customers Powerful	Boycott of grocery stores selling non-union picked grapes
Suppliers are Weak if:	**Example**
Many competitive suppliers - product is standardized	Tire industry relationship to automobile manufacturers
Purchase commodity products	Grocery store brand label products
Credible backward integration threat by purchasers	Timber producers relationship to paper companies
Concentrated purchasers	Garment industry relationship to major department stores
Customers Weak	Travel agents' relationship to airlines

E. Barriers to Entry / Threat of Entry

It is not only incumbent rivals that pose a threat to firms in an industry; the possibility that new firms may enter the industry also affects competition. In theory, any firm should be able to enter and exit a market, and if free entry and exit exists, then profits always should be nominal. In reality, however, industries possess characteristics that protect the high profit levels of firms in the market and inhibit additional rivals from entering the market. These are ***barriers to entry***.

Barriers to entry are more than the normal equilibrium adjustments that markets typically make. For example, when industry profits increase, we would expect additional firms to enter the market to take advantage of the high profit levels, over time driving down profits for all firms in the industry. When profits decrease, we would expect some firms to exit the market thus restoring a market equilibrium. Falling prices, or the expectation that future prices will fall, deters rivals from entering a market. Firms also may be reluctant to enter markets that are extremely uncertain, especially if entering involves expensive start-up costs. These are normal accommodations to market conditions. But if firms individually (collective action would be illegal collusion) keep prices artificially low as a strategy to prevent potential entrants from entering the market, such **entry-deterring pricing** establishes

a barrier.

Barriers to entry are unique industry characteristics that define the industry. Barriers reduce the rate of entry of new firms, thus maintaining a level of profits for those already in the industry. From a strategic perspective, barriers can be created or exploited to enhance a firm's competitive advantage. Barriers to entry arise from several sources:

Government creates barriers. Although the principal role of the government in a market is to preserve competition through anti-trust actions, government also restricts competition through the granting of monopolies and through regulation. Industries such as utilities are considered natural monopolies because it has been more efficient to have one electric company provide power to a locality than to permit many electric companies to compete in a local market. To restrain utilities from exploiting this advantage, government permits a monopoly, but regulates the industry. Illustrative of this kind of barrier to entry is the local cable company. The franchise to a cable provider may be granted by competitive bidding, but once the franchise is awarded by a community a monopoly is created. Local governments were not effective in monitoring price gouging by cable operators, so the federal government has enacted legislation to review and restrict prices.

The regulatory authority of the government in restricting competition is historically evident in the banking industry. Until the 1970's, the markets that banks could enter were limited by state governments. As a result, most banks were local commercial and retail banking facilities. Banks competed through strategies that emphasized simple marketing devices such as awarding toasters to new customers for opening a checking account. When banks were deregulated, banks were permitted to cross state boundaries and expand their markets. Deregulation of banks intensified rivalry and created uncertainty for banks as they attempted to maintain market share. In the late 1970's, the strategy of banks shifted from simple marketing tactics to mergers and geographic expansion as rivals attempted to expand markets.

Patents and proprietary knowledge serve to restrict entry into an industry. Ideas and knowledge that provide competitive advantages are treated as private property when patented, preventing others from using the knowledge and thus creating a barrier to entry. Edwin Land introduced the Polaroid camera in 1947 and held a monopoly in the instant photography industry. In 1975, Kodak attempted to enter the instant camera market and sold a comparable camera. Polaroid sued for patent infringement and won, keeping Kodak out of the instant camera industry.

Asset specificity inhibits entry into an industry. Asset specificity is the extent to which the firm's assets can be utilized to produce a different product. When an industry requires highly specialized technology or plants and equipment, potential entrants are reluctant to commit to acquiring specialized assets that cannot be sold or converted into other uses if the venture fails. Asset specificity provides a barrier to entry for two reasons: First, when firms already hold specialized assets they fiercely resist efforts by others from taking their market share. New entrants can anticipate aggressive rivalry. For example, Kodak had much capital invested in its photographic equipment business and aggressively resisted efforts by Fuji to intrude in its market. These assets are both large and industry specific. The second reason is that potential entrants are reluctant to make investments in highly specialized assets.

Organizational (Internal) Economies of Scale. The most cost efficient level of production is termed **Minimum Efficient Scale** (MES). This is the point at which unit costs for production are at minimum - i.e., the most cost efficient level of production. If MES for firms in an industry is known, then we can determine the amount of market share necessary for low cost entry or cost parity with rivals. For example, in long distance communications roughly 10% of the market is necessary for MES. If sales for a long distance operator fail to reach 10% of the market, the firm is not competitive.

The existence of such an economy of scale creates a barrier to entry. The greater the difference between industry MES and entry unit costs, the greater the barrier to entry. So industries with high MES deter entry of small, start-up businesses. To operate at less than MES there must be a consideration that permits the firm to sell at a premium price - such as product differentiation or local monopoly.

Barriers to exit work similarly to barriers to entry. Exit barriers limit the ability of a firm to leave the market and can exacerbate rivalry - unable to leave the industry, a firm must compete.

F. **DYNAMIC NATURE OF INDUSTRY RIVALRY**

Our descriptive and analytic models of industry tend to examine the industry at a given state. The nature and fascination of business is that it is not static. While we are prone to generalize, for example, list GM, Ford, and Chrysler as the "Big 3" and assume their dominance, we also have seen the automobile industry change. Currently, the entertainment and communications industries are in flux. Phone companies, computer firms, and entertainment are merging and forming strategic alliances that

re-map the information terrain. Schumpeter and, more recently, Porter have attempted to move the understanding of industry competition from a static economic or industry organization model to an emphasis on the interdependence of forces as dynamic, or punctuated equilibrium, as Porter terms it. In Schumpeter's and Porter's view the dynamism of markets is driven by innovation.

Strategy to counter the five forces can be formulated on three lever, they are: corporate level, business unit level and functional or departmental level. The business unit level is the primary context of industry rivalry. Michael Porter identified three generic strategies (*cost leadership*, *differentiation*, and *focus*) that can be implemented at the business unit level to create a competitive advantage. The proper generic strategy will position the firm to leverage its strengths and defend against the adverse effects of the five forces.

Based on the above explanation, the Implementation of this model for MVNO Competition Business in Indonesia is explained in the following paragraph.

Some variables in Porter 5 Forces model is developed to become some specific indicators to MVNO, where strongly effects from some resources are enhanced. Some indicators that used in this analysis are:

1. Indicators to make pressure from the factor of threat of new entrants:
    a. The lower of the beginning cost
    b. Shortly time to get the posistive cashflow
    c. Subscriber is not loyal only the existing brand
    d. Government permits to the new entarnce
    e. Government supports the new entrance to develop his business
    f. Easier to find the main supplier
    g. Distribution path to subscriber is easier
    h. Technology is stacnant
    i. The increasing of capacity is the same for all time

2. Indicators to make pressure from bargaining power of supplier:
    a. High margin of supplier
    b. Strongly network of supplier
    c. Supplier product is very intersting for company
    d. Supplier can sale his product directly to the customer
    e. MVNO market is the same supplier market
    f. MVNO buyed in small number or small amount
    g. Investation cost of supplier is lower

h. Specific product from supplier
i. High switching cost

3. Indicator to make pressure from bargaining power of buyer:
    a. Standar of product
    b. MVNO is not support for full mobility
    c. Activation cost of card is low, lower than ARPU
    d. Subscriber lock is empity
    e. Mobile Number Portability is exist
    f. Product has small portion in output cost of subscriber
    g. Easier in term of tarrif comparison that done by subscriber
    h. Easier to understand of operator services and products

4. Indicator to make pressure from threat of product substitution:
    a. Another product is already as changeable product
    b. Changeable product is cheaper
    c. Product supports end user mobility
    d. Product to become main identity
    e. Activation product is easier and faster
    f. Installation cost is cheaper
    g. Loyality end user (subscriber) to product is low

5. Indicator yo make pressure from rivalvy among existing competitor:
    a. Market leader is not exist
    b. The number of player is high
    c. Competitor is as a dominant player for interconnection
    d. Penetration rate and the number of subscriber is relatively constant
    e. Standar of product
    f. Mayority of competitors have the same strategy with MVNO
    g. Mayority of competitors have the same market with MVNO

By using the existing data, the analysis is proposed for the matching condition with indicators. The results are detemined as follow:

- “1” if the condition is match with indicator
- “0” if the condition is match with indicator

Percentage of the number “1” relatively to all is used as quantitative value from the pressure to one of pressure resource and then the results is proposed into 3 three) indicator as follow:

- 0 – 33,3% for low pressure = LOW
- 33,34% - 66,66% for medium pressure = MEDIUM
- 66,67% - 100% for high pressure = HIGH

Based on this condition, the high mayority is determined if the average condition of pressure is high. And the low mayority is determined if the average condition of pressure is low.

IV. RESULTS AND DISCUSSIONS

Ideal competition is determined if the competition gave benefit to all players and all stakeholders. Final determination from a business is to find the position where the company can survive from other competitors. By using the Porter 5 Forces model for competition business in MVNO in Indonesia, some remarks from different parameter are explained as the following paragraph.

- **Threat from new entrance.**
    - The low beginning cost for MVNO is to become indicator to support appearing threath from new entrance. In this case, 2 (two) investation cost would be increasing; they are spectrum licency cost and radio access network infrastructure development. MVNO could change this cost to operational cost. By using the low investation cost, the business oppoutinity in cellular would become biger. N addition, by changing the invitation cost to operational cost as network least line cost, MVNO have opportunity to get the faster cash flow.
    - Also, in term of this condition for Porter Five Forces, subscriber loyality for trademark of the product and existing operator is not too high. This condition is shown from the high churn level.
    - Government permission is become key point for new entrance, and also contributes to increase the threath from new entrance. From government regulation for telecommunciation in Indoensia, it is UU no. 36, 1999, has some statements related to telecommunication business in service and network. In this regulation, both of them is separated. But in this regulation, the statement to support MVNO is not already. Coverment is not support yet for new entrance in MVNO format.

- **Supplier power**
    - By using least line model from MNO, MVNO can produce and sale his services. Increasing new subscribers of MVNO, indirectly can increase the revenue of MNO.

- The high supplier margin is one reason for MVNO. The bigger coverage could be increasing MNO to MVNO. The incrreasing of interesting of a company to supplier product, so that the hiher supplier power to this company. The product in this term is the least of the radio access network by MVNO so that MVNO can sale mobile services. Because the MVNO don't have the frequency licency, the network capacity is one nput parameter for MVNO.
- MVNO is not only one buyer for MNO, because especially in Indonesia MNO is also as service provider besides network provider. MVNO has the same market with MNO, so that the opportunity MVNO to make collaboration with MNO is difficult.
- The high cost for investation will effect to MVNO or MVNO has big opportunity; The reason for this condition is that MNO need the high funding to return his invitation cost.

- **Buyer Power**
  - Full mobility is one factor for robusnest position of operator. The capability of operator to get subscriber is one factor and opportunity for MVNO.
  - Switching cost and MNP is also one point for sucscriber to bargain to use MVNO services.

- **Threat of Subtitutes**
  - Substitue product for MVNO is PSTN (Public Servcie Telephone Network).
  - Competition in term of tariffing , the easier and faster of servcies should be affected for MVNO model.

- **Benefit of Competition**
  - MVNO is a competitor for MNO esecially to get subscriber. Based on data for competition in business cellular in Indonesia, some results are shown as follow:
    - Intensity of rivalvy among existing player is HIGH
    - Threat of new entrance is MEDIUM
    - Bargaining power of buyer is HIGH
    - Threat of product substitution is Low.

    The conclusin form the above is the pressure for cellular competition in Indonesia is HIGH.

V. CONCLUSION

1. The competitive profit in MVNO business in Indonesia is low.
2. Several strategies need to be proposed in order to achieve the better competition positioning for Indonesia's telecommunication industry.
3. The decreasing bargaining power and subscribers of mobile network operator need to be proposed for MVNO developing in Indonesia.

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