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CAPABILITY VS COMPETENCY: A CASE OF VISHPALA PROSTHETICS

Abstract:

To understand a business, its operations or its competitiveness, it is important to understand the competition and factors of production. These factors help in evaluating the profitability of a firm, its growth prospects and eventual long-term survival. Further, to ensure survival (sustainability) of the firm, it is essential to ascertain the plausible source of competitive advantage, such as core competency. The firm faces with the choice to either build all such required competencies in-house or to somehow acquire them from outside. This paper takes the case of Vishpala Prosthetics and tests the issues of competency in the practical perspective of strategy implementation.

The paper converges the two diverging perceptions of the firm, capability versus competency, by analyzing the resource that is valuable to the firm through the five tests as suggested by Collis & Montgomery (2008), viz. the test of inimitability, the test of durability, the test of appropriability, the test of substitutability and the test of competitive superiority. With this, the argument between capability versus competency is explained in the perspective of strategy implementation with the help of the case on the firm.

Keywords:

Competency, Scalability, Prosthetics, Firm Appraisal, Start-up Venture

JEL Classification: L19, L26, L29

Introduction

To understand a business, it is important to understand its competency with respect to the business environment it operates in. To ensure sustainability, it is essential to ascertain the plausible source of competitive advantage, such as core competency. The firm faces the choice to either build all such required competencies in-house or to somehow acquire them from outside.

Vishpala Prosthetics makes its numerous handicapped clients happy by offering silicone prosthetics that looked natural. Further, the quality, texture, color and firmness of the said prosthetics were real like and cost of the product was affordable to almost all. As the nearest substitute to such prosthetics was the expensive import, Vishpala attracted customer far and wide in India and suddenly found it unable to cope with the rising orders. There were delays in delivery as the firm could produce only little. This made the customers demand that the firm produce more and meet the demands of its customers early.

Armed, with the belief of its customers in itself, Vishpala wanted to scale up its operations. The firm applied for a loan proposal to the Bank for the capital needed and other than the capital sought, Vishpala seemingly had everything! With the wonderful payback potential of the project, the firm was certain that the loan proposal will be accepted. However, the bank thought that the project is “too good to be true”.

The paper converge the strategic options by identifying the resource that is valuable to the firm through the five tests - testing inimitability, durability, appropriability, substitutability and competitive superiority of the resources. The argument between capability and competency becomes self explanatory with the help of the case on the firm, Vishpala Prosthetics.

Theory/Issues:

A promoter's preparation for business is a subject that is neither complete nor has established a lot of seminal research. However, while understanding a firm, especially a start-up venture, a few things that should be kept in mind is that the factors are dynamic in nature and the configuration of it changes constantly. This questions the sustainability of business, continually. The Five Competitive Forces that Shape Strategy by Porter (2008) highlights the requirement of a strategist to understand the forces that are at play to understand and cope with competition. Market attractiveness indicates the potential to make profit possibilities for the organization, given the condition of the market or industry. Many factors influence market attractiveness, such as size of the market, competitors, their comparable offerings, readiness of customers, and so on. High barriers to subsequent entry can make the market attractive for the incumbent and not so for new entrants. Interestingly, if the market is attractive, it does not automatically mean that the business will surely flourish. If the firm is performing by being small, then it does not mean that it will keep that good performance, when it is made big. Scalability (of business or production) has its own managerial and competency issues.

Addressing competency issues, the firm may choose to stick to its core competency or else acquire the required capability. It is easier to stick to 'what you are good at' than to be 'good at everything'. It is even more important to know the resources that are valuable for the firm in ensuing competitiveness and sustainability. The Core Competence of the Corporation

by Prahalad and Hamel (1990) highlights the importance and role of competency as the root of competitiveness for the organization. It is important to understand that the organization cannot always have or create all competencies that are required for competitiveness. Rather, the organization is often faced with the strategic choice to either build all the required competencies in-house or somehow acquire them from outside. This case provides a decision trade-off that highlights this.

Competing on Resources by Collis and Montgomery (2008), evaluate the resources that are tangible/intangible and capabilities (Chase et. al., 2007) and proposes five tests to understand how and which resources are valuable for the firm. This will help to chart the future course of plausible action. Using this, it becomes easy to differentiate between capability and competency, and what factors seem to be crucial for the firm's competitiveness.

Methods/Procedures

Event-history technique is the micro-research design, which is a simplified form of the meso-research design of Case Analysis, where the theory is tested in light of the case. Moreover, this meso-research design is actually a part of the macro-research design, where analytic induction technique is used, to get the answer to the research question as mentioned in the above section. Hence, this research can be seen as the part of the bigger research, the macro-research design where answer to research question of capability versus competency, developed internally or acquired externally, is achieved by considering the resources and capabilities of a firm under study.

The unit of the study is 'firm'. The concept of subject (competitiveness or sustainability of the firm) is to be seen as a part of the emerging view of institution as social system, where the interrelated choices of individuals compete and cooperate to form a community of symbiotically related choices (Van de Ven and Garud, 1989:204). However, the social definition of an institution contrasts with more conventional perspective of substitute choices (Porter, 1980:5), or group-think, where groups of individuals agree on a choice for the sake of group choice over individual choice (Kool & Dierickx, 1993; Porter, 1980:129). It should be noted that in both the conventional definitions, the competitive interactions of the individual choices are assumed, ignoring cooperative or neutral interactions. This research intends to incorporate all types of possible interactions (cooperative, competitive or neutral) as any or all of them together can be an important function in the choice of capability and competency of the firm. Further, this research is based on the case (firm) Vishpala Prosthetics and studies the firm's functions and resources to ascertain capability and competency.

It is seen that similar studies mostly incorporate a modified form of analytic induction (Denzin, 1978:191-196; Yin, 1994), combined with cases (Wollin, 1996), as a flexible technique for obtaining, ordering and analyzing primarily qualitative instances (Wollin, 1995; Eisenhardt, 1989; Pettigrew, 1995) that we will find from the case. As such, the case includes the retrospective longitudinal and processual analysis techniques of Pettigrew (1995:6-7), including his emphasis on content, context and process. Analytic induction commences from an existing theoretical position, and then compares the theory, or emerging theory, with the evidence obtained by each case instance, prepared on the basis

of its possible contribution to answering the question and the answer itself is then modified in the light of such cases (Wollin, 1995). This iterative process of systematic comparison-analysis of case and plausible solution to the research question is repeated until the answer is generalized, evidenced by the many case instances.

Data: Case - Vishpala Prosthetics

Arguably, during ancient times prosthesis was crude and functional; whereas modern prosthesis, with refined materials, technology, and skill, lead to natural-like prosthesis. Subsequently, prosthetics were used not only for war amputees, but for anyone who needed it. Perhaps, this need of refined prosthesis was realized by Vishpala Prosthetics and the firm chose this as its primary offering.

Vishpala was registered as a partnership concern, who felt the need to meet the market gap by manufacturing and selling of silicone auricular prosthesis for reconstruction and rehabilitation of patients in need for ear prosthetics. Prosthetics in general included artificial hands, legs, foot, fingers, ears, nose, and such, but the firm focused on maxillofacial prosthetics, especially auricular (ear). These silicone prosthetics were designed and fabricated to not only be used as artificial facial body parts, but also looked natural (life-like). Silicone prosthetics could be used to camouflage body disfigurements and thus brought in new confidence to the handicap, matching with the texture and the complexion of the skin type. However, most auricular prosthetics manufactured in the country were fundamentally crude and at best utilitarian. The promoter of Vishpala was a post graduate in Product Design and started his career as a wax model caster in a Government Medical College and Hospital prosthesis laboratory, where he experimented on creating a realistic silicone ear to a great degree. Subsequently, he created this venture that manufactured silicone ears and serviced numerous handicapped patients who needed this prosthesis.

The initial experiments of creating a life-like human ear in wax model led to subsequent creations of artificial ears through injection molding of liquid silicone rubber. The promoter even acquired technical know-how of injection molding and handling of liquid silicone rubber from a local baby feeding bottle manufacturer who also created silicone nipples for those baby feeding bottles. Although, creating finely-detailed wax moulds got him some money, but he wanted to do something more useful. His desire to help the handicapped and his skill-knowledge that he acquired for silicone rubber saw the first silicone nose in 2009, which was fabricated at the baby feeding bottle manufacturer and was provided to a teenage patient who lost a major part of her nose in a road accident. To fabricate more silicone nose and ear, he invested from his own fund in creating a design unit, buying of some essential tools, raw materials, and hiring of labor. With this he serviced many with silicone prosthesis, who came to him searching and went back happy with the product received. However, for lack of funds to keep going, his growth was curtailed. He borrowed some more money from friends and purchased more specific tools, such as a metering unit and a mold clamp, and also bought raw materials in bulk. He wanted to get the cost of production down and improve his margins by producing more and selling more. He advertised in local newspapers classified and got some orders, where most of the prospects wanted custom built silicone prosthetics. He felt he needed more money to service the orders.

The promoter of firm was quick to realize that although there are artificial prosthetics available in the market, there is no source for fine silicone auricular prosthesis in the country. He also found that in some cases, the beneficiary has sourced the said prosthesis from abroad, albeit at a very high cost. He was convinced that there is a dire need for silicone prosthetics, which can be serviced by some Indian manufacturer at a much lower cost. Although he did not have the resource or the capability to conduct a market survey, he could muster a list of more than a dozen potential institutional customers, from his own experience. There seemed to be a large market that remains untapped.

Past experience of the promoter made him understand that this business would not require a lot of plant and machineries. For injection molding, he would require injectors (pressurizes the liquid silicone to ease injection into the pumping section), metering units (pumps the catalyst and base forming silicone to maintain a constant material ratio), supply drums (plungers, used as primary container for mixing materials along with the pigment container), mixers (taking feed from metering units, combine materials to the introduce into the mold), nozzle (help in right filling the mold), and mold clamp (secure mold during injection and completion). He would primarily require a molding machine, a metered pumping device, an injection unit, a mixer, and other small assorted parts. Other equipments would involve small items such as a vacuum machine, a weighing machine, a laboratory balance, and a few jigs and fixtures. Of these machines, the molding machine (vulcanization equipment) was expensive and did not have any indigenous manufacturer. The imported machine would cost about INR 1 million. In view of the high cost of machine, he designed the molding machine himself and had the same fabricated in a local machine shop at an estimated cost of INR 600,000. The molding machine could also be used for a variety of other objects and provides scope to diversify into other consumer products. The machine was tested by him when he serviced some of his earlier clients, who seemed happy with the silicone prosthetics that were provided. The production planning (capacity and costs) of Vishpala is done considering the silicone nose and ears. During the initial years, approximately 3000 unit of silicone ears were to be produced every month covering four basic types of color: brown-black, dark brown, light brown, and cream; two basic texture finish: glossy smooth and even matt; and seven sizes: for male – small, medium, large and extra large, and for female – small medium and large. All these variants made the total variety of ears to be fifty-six. These silicone ears would be mass produced through standardized patterns, which will not cost more than INR 1200 to produce.

The promoter did not face any trouble in servicing the early clients and did not expect any supply problem as most of the raw materials were available in the local market at competitive prices. However, some additives, such as coloring paste, were not available locally, but could be purchased from Mumbai. Other inputs such as power, water or place of production had no difficulty. There were only three more people working for Vishpala other than him. One was a part-time accountant and the other two were semi-skilled laborers who were trained by the promoter himself for specific tasks. When the business would grow, Vishpala would hire more employees for sales, service and operations. The only resource needed now more was finance.

The promoter wished to grow the firm with a loan of INR 1.7 million (details in Figure 1). He expected to produce a minimum of 3000 silicone ears in a year. He drew a quick calculation

from the proposed production program to achieve profitability, where through sale of 3000 silicone ears, at average margin of INR 800 per piece, would give him a handsome profit in the first year itself. For a total capital employed of INR 1.76 million, the total returns of INR 2.4 million meant a very lucrative business.

Figure 1: Loan Figures of Vishpala Prosthetics

Loan Request (under the scheme of Self-employment for technicians)

SN	Particulars	Amount (INR)
1	Term Loan (3 Years)	740000
2	Demand Loan (Non Security)	160000
3	Cash Credit Hypothecation	600000
4	Cash Credit	200000
Total =		1700000

Cost of Project as given by Mr Hathrasi:

Fixed Assets

SN	Particulars	Amount (INR)
1	Refundable Deposit	120000
2	Interior Modification in Building	40000
3	Machinery, Equipment, Tools	740000
Total Fixed Assets =		900000

Working Capital

SN	Particulars	Amount (INR)
1	Raw Material	600000
2	Labor for 6 months	220000
3	Rent for 6 months	42000
Total Working Capital =		862000

Personal Borrowings

SN	Particulars	Amount (INR)
1	Chandrakant More	30000
2	Ramesh Kumar	60000
3	Jitendra Singh	10000
4	Provident Fund	200000
Total Personal Borrowings =		300000

Individual Financial Standing

SN	Particulars	Amount (INR)
1	Annual Income	288000
2	Fixed Deposit	44000
3	Saving Bank A/c with SBI	18000
4	Cost of Machinery (already functioning)	60000
5	Purchased operational items	40000
Total Individual Assets =		450000

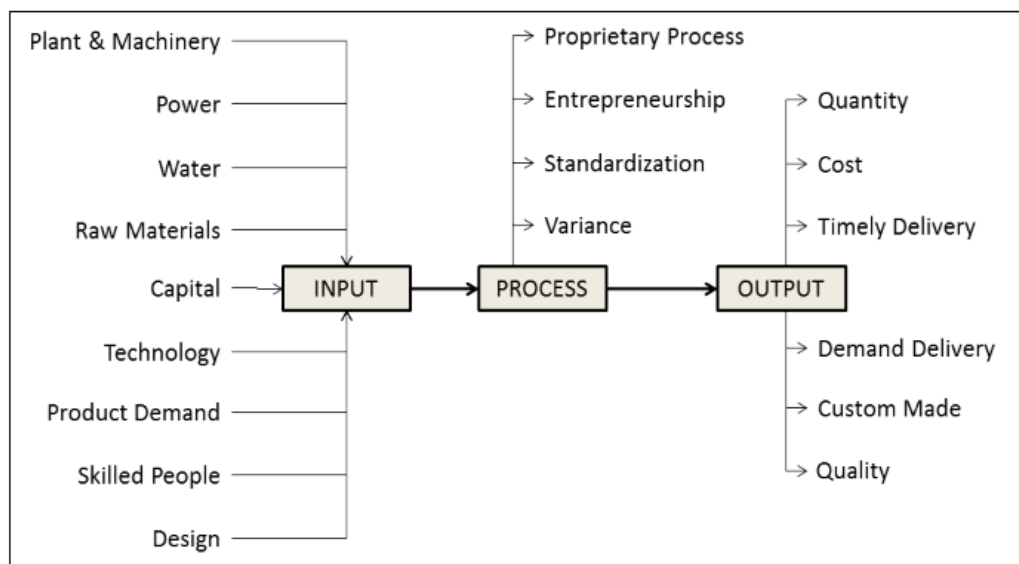
(Source: Vishpala Prosthetics)

Results

This case takes up the argument between capability versus competency and finds a way to identify the critical factors such as core competency in ascertaining competitiveness and sustainability of business. It is important to have a clear understanding of the situation and the appraisal of the firm's resources and operations. What the business does and is capable of doing, is crucial to ascertain how the business can achieve what it claims. Understanding what resources are critical to the firm in achieving competitiveness and sustainability is crucial to the argument of firm's capability and competency.

To is necessary to understand the business of how the firm is actually going to produce the cosmetic silicone ears. When the basic production stages, i.e. Input-Process-Output, the factors that feed into each are noted down, it is easier to find out if there are any bottlenecks with the factors that contribute to the production of the silicone ears (Figure 2).

Figure 2: Operation Flow of the Firm

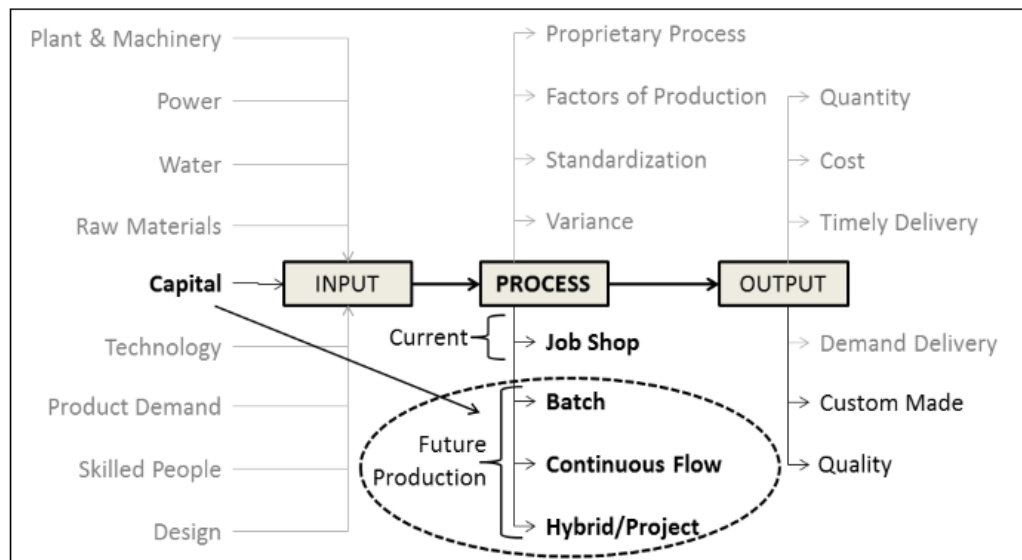


The typical answer for each factor of production, ascertaining problem area, is given in the following:

- Plant and Machinery – No Problem, as they are made by the promoter and are working.
- Power – No Problem, a micro unit with 3 phase electricity connection is readily achievable.
- Water – No Problem, as the production process is not water intensive.
- Raw Materials – No problem, primary inputs such as silicone, dye etc. are available locally in any quantity at competitive price.
- Capital – This is the only factor that is needed for business to grow. Hence the Loan Request.

- Technology – No Problem, Indigenous technology developed by the promoter and tested.
- Product Demand – No Problem, Vishpala had so much demand (without any marketing) that the promoter could not service and thus wanted to scale up.
- Skilled People – No Problem, semi-skilled workers needed and they were trained by the promoter himself.
- Design – No Problem, as it was the promoter's own design that was liked by the customers.
- Propriety Process – No Problem, as production and delivery of goods successfully done and the customers seem happy with the product.
- Entrepreneurship – No Problem, the promoter is entrepreneurial enough to start his venture without taking any loan initially and the belief of others in his business again proves this.
- Standardization – No Problem, as there would be many standard sizes that fit customers' needs.
- Variance – No Problem, as the sizes have multiple variant, but are standard.
- Quantity – No Problem, production capacity far exceeds demand.
- Cost – No Problem, as substitutes locally are inexistent and imports are far too expensive.
- Timely Delivery – No Problem, he has delivered goods timely in the past. When something is customized, and then the customer are normally willing to wait. There are no ready substitutes locally and imports take longer time to service an order.
- Custom Made – No Problem, with size variants as high as 56 variants, each silicone ear is almost custom made.
- Quality – No Problem, there have been no rejects and quality check is done by the promoter himself.

Looking at the above it is easier to confirm that except Capital, there seems to be no other factor of production that requires intervention. This leads to us looking at the production process closely.

Figure 3: Process of Production

The Figure 3 above clearly shows a mismatch. When the promoter has produced the prototypes and has serviced his customers, he followed a job-shop flow process, where every unit of product is taken individually and customized. However, the same level of customization is difficult with batch flow or continuous flow process. Hence, the promoter created 56 variants of different sizes, color and texture. This negates the premise of customized silicone auricular prosthetics, where a very close fit is desirable. Moreover, with an indigenous machine, it becomes difficult to change-over from one variant to another without a trial batch production. This would mean wastage and non-reusability of raw materials. Moreover, higher stock (finished goods inventory) for each variant is to be maintained by the firm. All of this would mean a lot higher working capital.

After understanding the above inadequacy of the production flow, it is understandable that the orders are of a particular size/color/texture, and then the productivity is higher and efficient. However, this presumes that demand is linear and has regular intervals, which at best would be a rarity. On a closer look, it becomes natural that quality, quantity, delivery and profitability will suffer as the business that was created with the competency of job-shop cannot deliver the efficiency of a batch/continuous flow production. The promoter, who is a medical product designer by profession, has competency in design, not in production. The firm's competency lies in the design of the variants and not in the mass production of the same. This leads to two options: the firm can acquire someone who is good at batch/continuous production, or else outsource the production to a third party (Figure 4). However, the machine that was fabricated as per the design of the promoter was not suitable for changeovers. This leads to the tests on the resources that are valuable to the firm for competitiveness.

Figure 4: Competency Issues

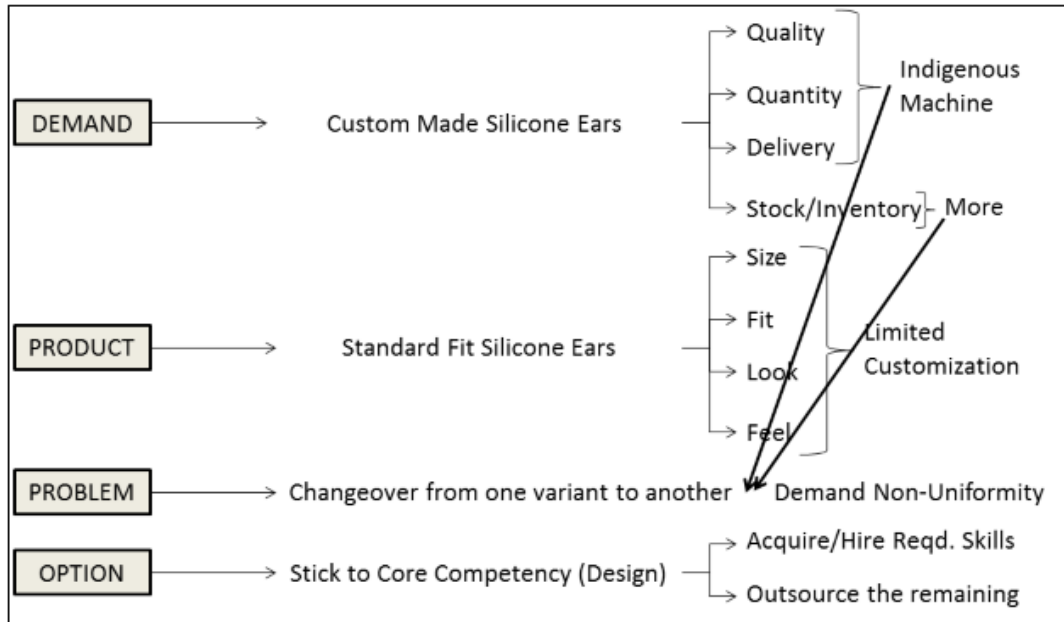
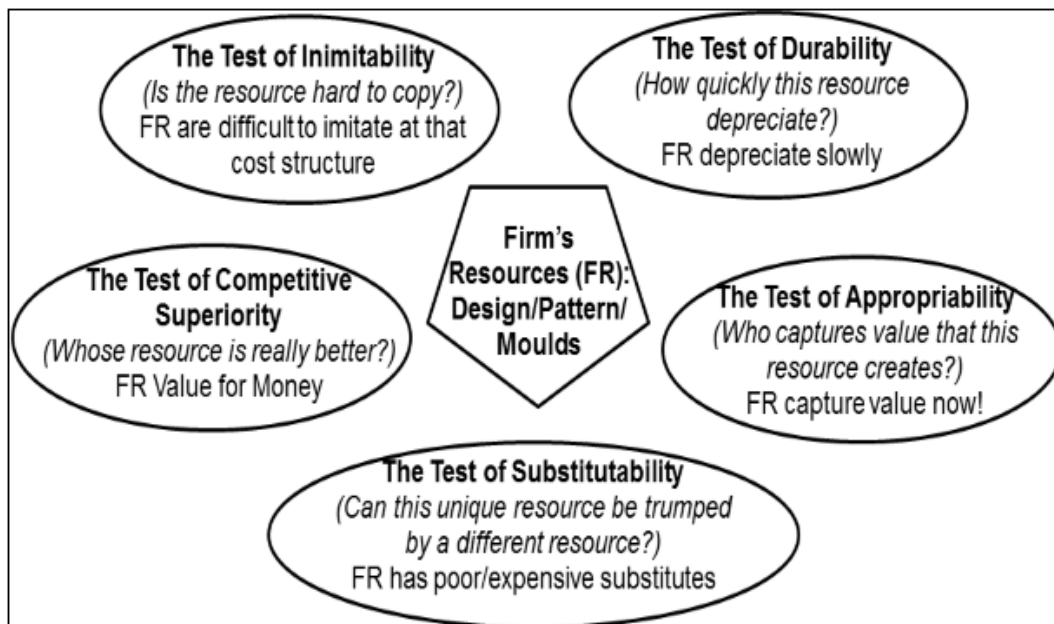


Figure 5: Tests for Resources



Conclusion

This paper revolves around a case that has an offering that is unique. The idea of making silicone auricular prosthesis is filling the gap in the market that was left vacant by functional prosthetics that were purely utilitarian and looked crude. The confidence levels that a natural like silicone prosthesis brought to the handicapped was immense. Armed with the prosthesis, the handicapped felt complete. For this, most were willing to pay a higher price. However, to create a natural looking silicone ear was not easy and the promoter of Vishpala

Prosthetics took some ten years through his research and development, trial and error to be perfect.

As is obvious from the analysis above, there is a mismatch between the capability of the promoter and what is needed of him to pull the offering off. What is needed is commercial production expertise and what the promoter had was design expertise. The test for resources raised the issue that the capability of the promoter did not translate into a competency for the organization. Further, to pull off commercial production, the firm needs to secure people from outside the firm, leading to expansion of organization's capability. Only when, the organization pulls it off consistently over time, it may translate into a competency.

A strong plausible risk lingers the firm. If the demand (order) is not linear then the firm has to manufacture different variants in quick succession. The variance in demand on the size/color/texture meant he had to frequently change-over his production. With the indigenous machine, the firm could produce all variants, but setting it up for a particular variant meant some trial and error each time. This will lead to massive wastage and the silicone that came from wastage could not be used again as it will affect the texture of the product. This would mean a lot of raw materials would go as wastage with each change-over. To beat this, if the firm tries to produce and keep an inventory of all the 56 variants, it would escalate the pressure on working capital further. This way the business surely will witness a severe working capital crunch.

Keeping all the four Figures (from the previous section) – Fig. 2, 3, 4 and 5 in mind, it is evident that the firm cannot achieve what it claims. The reason is that the business is good in creating prototypes but not equipped to pull-off commercial (efficient) production. Moreover, the promoter with only design does not need capital first. What he needs is a production partner now. Hence, the district industries centre should help him in securing a partner for his business. The appraisal of resources and capabilities led to confirm the situation when competency is to be developed internally and under what circumstances can be brought from external sources, exemplified by the case of Vishpala Prosthetics, considered here.

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