

How Emerging Market Firms Like Xiaomi and Narayana Hrudayalaya Use Componovation Approach to Innovate

Swarup Kumar Dutta

Indian Institute of Management Ranchi

Abstract

Componovation is a semi structured path of innovation prevalent in many emerging markets. Firms in emerging markets often face severe resource constraints, are bereft of proprietary technology and cannot exercise adequate market power because of institutional voids, yet they are able to compete effectively with much stronger rivals by integrating an approach of creative combination and responsive innovation leading to value innovation at the market place called componovation. Findings suggest firms in emerging economy enterprises (EEE's) are able to achieve outstanding results through the creative use of open generic resources available and unique blending capabilities that often results in product or service offerings having an enhanced value proposition.

Background to the study

Componovation is a distinct catch up path followed by emerging economy firms.¹ It changes the entire paradigm of developing distinctive resources to distinctively using generic resources available inside or outside the firm and is often referred to as creative composition. Also, firms in emerging economies are able to innovate by integrating converging technologies and knowhow to better respond to market expectations which is often referred as responsive innovation. Thus, componovation is a combination of creative composition and responsive innovation. A characteristic feature of many emerging markets is its ability to handle severe resource constraints on one hand and approach innovation through componovation on the other. Though contemporary concepts of some forms

How Emerging Market Firms Use Componovation

of innovation like *Bricolage*, *Anthropophagic* intra-firm behavior and *Jugaad* offers solutions through creative recombination of existing resources, many of them are not sustainable because of their issues of scalability, lack of structure etc.^{2,3,4} It is with this perspective that the concept of Componovation differs from other perspectives.¹ Componovation approaches creative recombination as a strategic activity through a well-planned orchestration of activities and is a semi structured path to innovation.

The approaches of Componovation is based on the Composition Based View (CBV).⁵ The CBV view suggests that firms with capabilities of creative recombination of resources, when coupled with speed to market abilities and backed by adaptability and agility instincts develop some distinct competitive advantage compared to its much stronger rivals.

Many firms in Emerging Economy Enterprises (EEE)s have been able to integrate their low-cost positions with superior product or service features and coupled with faster go-to-market strategies. This in turn provides increased value, utility, convenience or a better experience as perceived by end customers. Many EEE's often have access to open and generic resources, the value of which are enhanced further by leveraging different levels of Information and Communication Technologies (ICT), specialized production in certain clusters and overall better outsourcing platforms.

Methodology

The methodology of in-depth comparative case studies of two firms based in different emerging market settings is utilized to come up with the findings. The first firm, Xiaomi (China) is a pioneer in hand held communication devices. Headquartered in Beijing, Xiaomi has relentlessly focused on designing and making high-end smartphones which it has extended to neighboring countries. Besides producing hardware, Xiaomi has also designed its own operating system (OS) called as MIUI and provides a vastly improved user experience. It often competes with Apple at the low end of the premium segment in China. The second firm, Narayana Hrudayalaya (NH) is reported from India. It operates in the health care segment and is a pioneer in value-based treatments. NH is considered to be one of the best hospitals to offer lowest cost in cardiac care coupled with the lowest fatality rate when benchmarked worldwide. The findings of the two firms contribute to the understanding of componovation in an emerging market setting.

Based on conducting field studies in the two firms Xiaomi and NH using multiple data sources, the sample firms were selected based on their introductions of relatively low-cost innovative business solutions which

provided value innovations to the customers. A qualitative (case based) methodology is used for emphasis of the current study.⁶

Findings

For each of the two cases, based on the Composition Based View (CBV), the componovation process is highlighted as depicted in Table-I. In each of the two firms undertaken for the study, the managers covered under key informants exhibited a higher entrepreneurial orientation like proactiveness, risk taking ability, market intelligence besides a keen sense for new innovation. Usages of informal networks helped them to develop network competence to tap into available specific resources. While top management supported the ideas of the key employees by providing the overall direction, it followed decentralized adaptation techniques depending upon the context in which they were operating.

As reflected in Table 1, the various elements that helps in promoting componovation can be visualized in the form of a framework which can help managers to implement componovation.

Managerial Implications of Componovation

The various elements of componovation as depicted in Table-I which leads to responsive innovation is a characteristic feature that separates general innovation from componovation. The building blocks used in componovation are based on earlier studies of four Indian organizations and replicated in the current study in two emerging market firms.⁷ Findings suggest that Componovation with its embedded building blocks acts as a catalyst in promoting a different kind of innovation in an emerging market setting. The significant aspect of many such emerging markets is the presence of institutional voids, which makes managerial acumen and ingenuity a premium feature. The entrepreneurial orientation of many of the managers revealed that they are well aware of resources that are available and can be harnessed in innovative ways by leveraging networks to recombine or reconfigure additional resources.

How practitioners can understand and implement Componovation based on the two firms undertaken in the study is explained with the help of the building blocks.

How Emerging Market Firms Use Componovation

Table 1. How the sample firms achieved Componovation

Xiaomi	
<i>Compositional Offering</i>	<ul style="list-style-type: none"> ✓ Improved user experience and new enhancements for free download. ✓ Interaction with advanced users via internet. ✓ New versions of operating system are released every week for free download.
<i>Compositional Competition</i>	<ul style="list-style-type: none"> ✓ Reducing total cost to customer. ✓ Outsources manufacturing to concentrate on hardware and software ✓ Crowdsourcing of ideas for latest upgrades. ✓ Proprietary use of own operating system.
<i>Compositional Capability</i>	<ul style="list-style-type: none"> ✓ Ability of the New Product Introduction process to combine novel customer insights. ✓ Ability to integrate hardware, software with internet ✓ Open source innovation ✓ Interaction with customer online to bring new innovations and using customers for product development
<i>Routines, Partnerships and Processes</i>	<ul style="list-style-type: none"> ✓ Outsourcing manufacturing through robust processes to leading suppliers. ✓ Leveraging the power of open source platforms and social media
<i>Role of Top Management</i>	<ul style="list-style-type: none"> ✓ Connecting with customers and keeping the customers excited. ✓ Hands-on involvement in key decisions like product features.
Narayana Hrudayalaya	
<i>Compositional Offering</i>	<ul style="list-style-type: none"> ✓ Value provider- Best quality cardiac care at the lowest cost. ✓ Techniques of beating heart surgery have enabled it to fewer complications, shorter hospital stays, and lower rate of hospital infections. ✓ Value enhancement through resources bundling.
<i>Compositional Competition</i>	<ul style="list-style-type: none"> ✓ Value offerings are priced 20-40 % cheaper than competition. ✓ Leveraging the use of high technologies to improve patient's stay in the hospital. ✓ Superior capabilities for patient monitoring remotely.
<i>Compositional Capability</i>	<ul style="list-style-type: none"> ✓ To provide top rate medical care. The metrics are one par with the best hospitals in the world. ✓ Building economies of scale helping it to reduce costs drastically. ✓ Leveraging economies of scope- by cross utilization of resources. ✓ Culture of frugality ✓ Capabilities of beating heart surgery coupled with high scalability. ✓ Pioneering telemedicine in India
<i>Routines, Partnerships and Processes</i>	<ul style="list-style-type: none"> ✓ Systematized routines for processes, leading to reduced turnaround time. ✓ Focus on strategic task shifting help to get the most out of the scarcest resource. ✓ Constant standardization to reduce the SKU's. and hence the cost. ✓ Developing capabilities of telemedicine.
<i>Role of Top Management</i>	<ul style="list-style-type: none"> ✓ Deconstruction of tasks allows surgeons to evaluate critical skills constantly and put new insights to work immediately. ✓ Constant focus on processes to reduce cost and improve quality ✓ Avoiding long term contracts with vendors to take the advantage of price fluctuations.

Compositional Offering

A compositional offering of a firm should be able to differentiate itself from its competitors through a value proposition that suggests enhanced or superior performance characteristics and services or a superior value/price ratio offering. The compositional offerings of many such firms are successful as it provides customers improved convenience, experience or cost savings, while other compositional offerings may emphasize value enhancement at similar price points of competitors. In the case of Xiaomi, one of the compositional offerings were of improved user experience and new enhancements for free download of software. For Narayana Hrudayalaya, it stood for value provider- to offer best quality cardiac care at the lowest cost.

Compositional Competition

As observed from the findings, the approaches of both the firms in achieving compositional competition is through the use of bundling of several customer centric features together that are perceived to be superior in terms of value enhancement vis-a vis competitors. Thus, a firm offering a bundling of multiple utility features (e.g., a combination of new functionality, ruggedness, compactness, less weight, superior customer service, extended warranties, etc.) provide end users with a relatively superior value proposition compared to a competitor, who may be competing on time tested stand-alone positioning strategies of either low cost or of differentiation. As an example, Xiaomi has focused on reducing total cost to customer and outsourcing manufacturing to concentrate on hardware and software. It uses crowdsourcing of ideas for latest upgrades and values proprietary use of own operating system. Similarly, Narayana Hrudayalaya (NH) has focused on value offerings in cardiac care that are priced 20-40 % cheaper than competition besides leveraging the use of high technologies to improve patient's stay in the hospital and its superior capabilities for patient monitoring remotely vis-a vis competition.

Compositional Capability

The distinctiveness by which a firm uses its capability to synthesize and integrate multiple streams of technologies and varied resources, including the open resources available to them refers to compositional capability. It has been reiterated in many studies that resources need to be effectively bundled and deployed to exploit opportunities thereby mitigating threats in the environment.^{8,9} Thus, compositional capability lays emphasis on the aspect of developing capabilities of integrating competitive attributes (e.g., quality, features, price, speed, etc.). A characteristic feature of compositional capability is the ability to integrate multiple streams of resources and

How Emerging Market Firms Use Componovation

technologies.

As an illustration Xiaomi provides capabilities of New Product Introduction process to combine novel customer insights through its ability to integrate hardware, software with internet. It values Open source innovation and its ability to interact with customers online to bring new innovations are widely appreciated. NH on its part seeks to provide top rate medical care. The metrics it uses for its patients are on par with the best hospitals in the world. It seeks to build economies of scale helping it to reduce costs drastically and leveraging economies of scope by cross utilization of resources. Other aspects that NH has built is a culture of frugality and capabilities of beating heart surgery coupled with high scalability.

Role of Top Management

The specific role carried out by the top management team (TMT) and leadership in this pattern of innovation is to encourage buildup of managerial ingenuity and an entrepreneurial drive within organizations, that constantly seeks out to excite the customer. In both the organizations studied, top management had a decentralized adaptation approach. The role of TMT in componovation is more of promoting a culture of openness in the buildup of knowledge capabilities. As had been observed in the case of Xiaomi the top management was constantly seeking to understand about how to connect with customers and keeping them excited through periodic upgrades in features, newer models etc. Similarly, in the case of Narayana Hrudayalaya top management was constantly seeking to address the deconstruction of tasks which allows surgeons to evaluate critical skills constantly and put new insights to work immediately. NH has been constantly focusing on processes to reduce cost and improve quality in line with its mission to offer the highest quality cardiac care at the lowest cost.

Routines, processes and partnerships

To complement a composition-based strategy, it is important to note that routines play a very important role in how processes, partnerships, productivity, etc. are all tied up to achieve organizational objectives. Three kinds of routines are used in organizations to bring about standardization and predictability as can be understood through i) Decision-making routines to help diversification, expansion, etc. ii) Operating routines for managing day-to-day operations iii) metaroutines to bring about changes in lower level routines.^{10,11} Each of them can be used in isolation or in combinations. From a managerial standpoint it is noteworthy to understand that firms can promote build up of capabilities through routines, so that predictability is

maintained in processes, thereby avoiding adhoc problem solving. As can be observed from Xiaomi, it used decision making routines for outsourcing decisions and operating routines for garnering on-line presence of customers. Similarly Narayana Hrudayalaya used systematized operating routines for processes leading to reduced turnaround time and used metaroutines for strategic task shifting to get the maximum benefit of the scarcest resource like a cardiac surgeon.

Discussion

The concept of Componovation as a form of innovation which is achieved through the compositional strategy discussed in the paper is about changing the innovation paradigm of firms from the prevalent mindset that innovation is possible only through developing and leveraging resources that are distinctive to the current mindset of using generic, distinctive open resources already available. This aspect is an important feature for practicing managers if one has to implement componovation. Essentially Componovation is a kind of catch-up strategy that firms use to successfully compete against companies with huge resources and strategic assets. If we look at Xiaomi, it is a firm that is relentlessly working to create open source innovation and has resorted to crowdsourcing for its value offerings, while Narayana Hrudayalaya is constantly looking at offering the highest quality cardiac care at the lowest cost and still make a profit. Componovation is a distinct mechanism of introducing innovations to offset EEEs' historical competitive weaknesses because of institutional voids and lays emphasis on agility and managerial ingenuity to recombine and reconfigure organizational capabilities based on market intelligence. Thus, Componovation opens up a new path for future studies for practicing managers to study innovation in different emerging market settings. For practitioners, the framework discussed in terms of the building blocks emphasizing the virtuous interaction of compositional strategy, role of routines, processes and TMT can be further explored. It will be interesting to note how different levels of the elements of the building blocks play in achieving componovation in future studies. Besides, the role of various structured paths of innovation under resource constraint environment in different contexts would give a fill-up to the study of Componovation. The study is an attempt to study patterns of innovation in emerging markets and does not claim to make an exhaustive effort to understand Componovation. However, similar patterns of innovation have been observed in studies of other Chinese and Indian companies like Huawei, Haier, Godrej and Boyce, Wipro-GE Health Care, Tata Motors, etc.

Conclusion

The study adds to the understanding of the componovation pattern of innovation in several important ways. It is one amongst the few studies of organizations that attempts to study componovation from a strategic perspective while attempting to differentiate its concept from other similar constructs of recombination like bricolage, jugaad and anthropophagic behavior. Secondly, through the usage of two in-depth case studies of firms, the study offers a roadmap for buildup of componovation through the different elements used as building blocks. However, it is noteworthy to mention that componovation is a strategic activity and is richer in perspective compared to other forms of recombination approaches which are at best tactical approaches. Another characteristic feature of componovation is the ability to scale up appropriately. Componovation requires an entrepreneurial mindset at all levels of employees.

Author

*Dr. Swarup Dutta is an Associate Professor in the Strategic Management Area at Indian Institute of Management, Ranchi, India. He has an academic experience of 13 years and prior to joining academics, he had served in the industry for 13 years mainly in the metals, FMCG and automotive industries. His teaching and research interests are in the area of Organizational Ambidexterity, Corporate Renewal & Revitalization, Strategic Change and Transformation and New Business Models in emerging markets. He has published in many academic and practitioner journals and presented papers in academic conferences like AOM and SMS.
email: swarup.dutta@iimranchi.ac.in*

Endnotes

1. Luo, Y. (2016). *Innovation in emerging Asia: A componovation approach*. Paper presented at Contextualizing Strategic Management in Asia: Institutions, Innovation and Internationalization of Strategic Management Society, Hong Kong.
2. Gurca, A., & Ravishankar, M.N. (2016). A bricolage perspective on technological innovation in emerging markets. *IEEE Transactions on Engineering Management*, 63(1), 53-66.
3. Prado, P., & Sapsed, J. (2016). The anthropophagic organization: How innovations transcend the temporary in a project-based organization. *Organization Studies*, 37(12), 1793-1818.
4. Radjou, N., Prabhu, J., & Ahuja, S. (2012). *Jugaad innovation: Think frugal, be flexible, generate breakthrough growth*. India: Random House.
5. Luo, Y., & Child, J. (2015). A composition based view of firm growth. *Management and Organization Review*, 11(3), 379-411.
6. Eisenhardt, K.M. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532-550.

How Emerging Market Firms Use Componovation

7. Dutta, S.K., & Snehvrat, S. (2020). A componovation perspective of innovation in emerging markets: Evidence from Indian organizations. *Thunderbird International Business Review*, 62(1), 65-75.
8. Kor, Y.Y., & Mahoney, J.T. (2005). How dynamics, management, and governance of resource deployments influence firm-level performance. *Strategic Management Journal*, 26(5), 489-496.
9. Sirmon, D.G., Gove, S., & Hitt, M.A. (2008). Resource management in dyadic competitive rivalry: The effects of resource bundling and deployment. *Academy of Management Journal*, 51(5), 919-935.
10. Adler, P., Goldoftas, B., & Levine, D. (1999). Flexibility versus efficiency? A case study of model changeovers in the Toyota production system. *Organization Science*, 10(1), 43-68.
11. Hansen, N.K., & Vogel, R. (2011). Organizational routines: a review and outlook on practice-based micro-foundations. *Economics, Management & Financial Markets*, 6(3), 86-111.