Stratevolve

STRATEGY PAPER - How to determine your Future Resource Creation Processes

The resource-based view has provided valuable insights into the sources of advantage for the firm, but there are few clear prescriptions for executives interested in improving their firm's resource configuration. Drawing on the RBV, dynamic capabilities, and configuration literatures we develop a diagnostic approach to future resource creation that incorporates insights into the extant resource configuration, past resource creation processes, and beliefs about the future environment. We conclude that strategy from an RBV perspective is about future resource creation, and that firm choices about these processes are constrained by the past. The diagnostic process we advocate would produce unique configurations of resources and resource creation processes that reflect the firm's history, and future environment.

Our experience suggests to us that the resource-based view of the firm (RBV)[1] is of great interest to executives. However they are often frustrated by the lack of prescriptive guidelines emerging from the view. Recently the dynamic capabilities perspective[2], an extension of the RBV argument, has been considered as offering some guidance to executives wishing to adopt an RBV approach to strategy process. Drawing on contributions from the RBV, configuration theory, and building on the dynamic capabilities argument we put forward a prescriptive approach to future resource creation.

How are Resources Created?

Resources must be simultaneously valuable, rare, inimitable and non-substitutable (the so called "VRIN" criteria) to lead to sustained competitive advantage.[3] So one of the central arguments of the RBV is that a firm can obtain sustained superior returns only when other firms are unable to imitate its resources.[4] Resources are difficult to imitate because either rival firm's are unable to comprehend how they were created e.g. because of causal ambiguity, or even if they understand these processes, they are not in a position to replicate them, because of time compression diseconomies, interconnectedness of assets, and most importantly for the current argument, path dependency.[5] As Barney[6] explains:

> "Not only are firms intrinsically historical and social entities, but…their ability to acquire and exploit some resources depends upon their place in time and space." (p107)

and

> "If a firm obtains valuable and rare resources because of its unique path through history, it will be able to exploit those resources in implementing value-creating strategies that cannot be duplicated by other firms, for firms without that particular path through history cannot obtain the resources necessary to implement the strategy." (p108)

Moreover the combination of factors which can allow resources to emerge can be so complex that replication is impossible.[7]

From the RBV perspective, resources can be created by chance (luck), by astute acquisitions (resource picking), or by internal development (including path dependent processes).

Luck

A firm may acquire a resource with an expectation of its future value creating capability. However:

> "Returns greater than what are expected are…a surprise, and a manifestation of a firm's good luck, not of its ability to accurately anticipate the future value of a strategy" (p1234).[8]

The luck of having a resource is compounded by a number of factors. These factors include: already controlling the relevant complementary resources, having some degree of uniqueness either through organizational history or a "constellation of assets", and lack of entry from competitors to the market.[9] Firms that are impacted by any one of these factors are said to be "enjoying good fortune".[10]

In terms of a prescription, we could instruct firms to "be lucky", but practically this would imply that the firm should give itself more chances to 'hit the jackpot'[11], by for example, engaging in more trials, experiments and pilot tests.

Resource picking

With resource picking the strategist must have a view of the future that is not shared by other individuals. This view means the strategist can enter the market and acquire resources below their 'true' future value. Therefore with resource picking the firm needs to be able to identify undervalued inputs. These inputs are undervalued by their factor markets because their

true future value can only be appreciated and understood by this particular firm because of either: 1) prescience, whereby the firm has a better ability to foresee the future, 2) through a better ability to gather and evaluate market intelligence, or 3) because the firm acquires so many potential resources that some must inevitably become valuable.

The first two processes emphasise the 'sensing' of product and factor markets. The prescriptions which emerge from resource picking would therefore seem to be to ensure that the firm is in tune with subtle environmental signals, and to make sure it responds to them. Barney[12] (p1232) argues that those firms wishing to achieve above normal returns "must be consistently better informed concerning the future market value" in comparison to other organizations. Operating with a more informed opinion can lead an organization to see value in resources which other firms do not, exploit opportunities, and avoid paying more for the resource than it is actually, or potentially worth.[13] There are two mechanisms that allow an organization to consistently develop more accurate foresight: special skills in environmental analysis/scanning, and by analysing the information it already has access to, that which is internal. So managers must "gather information and analysis to outsmart the resource market in picking resources…by developing systematically more accurate expectations about the future value of resources than other resource market participants have" (p387).[14]

For example, Bill Bean of the Oakland Athletics has managed to create a successful team not by acquiring established stars and paying market rates for them, but by carefully selecting amateur players who show potential. The Oakland As deployed a statistically based selection process which, ahead of the industry, used novel metrics in assessing player performance. For instance, instead of the typical focus on batting averages, the As selected on the basis of "on base percentage", which incorporates walks and hit by pitcher, a statistic that is highly correlated with team success.

Internal Development

An RBV lens can help us understand the particular ways in which an extant resource stock was created i.e. the *resource creation process* may have been as idiosyncratic as the resources that were created. But even if the development process followed by a firm was identical to rival firms, environmental conditioning and imprinting, the particular circumstances that existed when the firm was established, can result in the subsequent creation of unique resources. An organization will have unique starting conditions in comparison to those of other organizations[15] which could lead to unique positions even where generic development processes were employed. This again links back to the arguments that an organization's idiosyncratic history matters.[16]

Dynamic Capabilities

The dynamic capabilities argument has developed from the RBV.[17] One of the reasons for the emergence of a dynamic view was because the RBV, as an essentially static approach, failed to explain the mechanisms that allowed competitive advantage to be sustained in rapidly shifting, unpredictable environments, which may nullify the advantages of a fixed stock of resources.[18] Teece et al. define dynamic capabilities as "the capacity to renew competencies so as to achieve congruence with the changing business environment" by "adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional competencies." (p515)[19]

Teece and Pisano[20] explain that to get the most from an organization's resources the dynamic capabilities of the organization must be transformed to build processes that can support them.

> "Where a firm can go is a function of its current position and the paths ahead. It is of course also shaped by the path behind." (p546)

The dynamic capabilities approach incorporates additional insights from the organizational learning literature[21] regarding resource creation, and the innovation literature, particularly the notion of continuous innovation, rather than discontinuous innovation.[22] However, the more dynamic and unpredictable the environment the more requirement there may be for discontinuous innovation.

Towards a Prescriptive Model of Future Resource Creation

Drawing on the contributions briefly summarised above, we put forward a synthesis that could form the basis of a *diagnostic* approach to the resource creation process. This is in contrast to the *generic* strategy process prescriptions that can be found in strategy texts, and popular management books. We believe the focus and output of an RBV strategy process should not be the production of a *strategy* e.g. as a statement of future intent, but rather it should be a *realised resource creation process*.

We suggest that such a process must be unique to the firm, and that it must take into account the following dimensions:

1) the extant resource stock of the firm
2) views about the future environment
3) insights into past resource creation processes

Figure 1 summarises the components of the prescriptive model. The extant resource configuration is a function of past resource creation processes. The founding conditions of the firm were unique, and over time these initial conditions adapt to the environment through either idiosyncratic or generic resource creation processes. These processes would include resource picking, 'being lucky', and internal developments that may be path dependent. At founding, or over time, asymmetries may

be developed into valuable, rare resources.[23] Asymmetries are unique differences that the firm has, which may or may not be valuable. Miller has shown that creating resources that fulfil the four VRIN criteria can be more readily achieved by developing rare, inimitable aspects of the firm (i.e. they are RIN) into something valuable (adding V).[24] So we would argue that the future resource creation process should be crafted from insights into the extant resource stock, an understanding of how these resources were created, asymmetries and some judgements about the future states of the environment the firm is likely to face.

We now explore these dimensions in more detail.

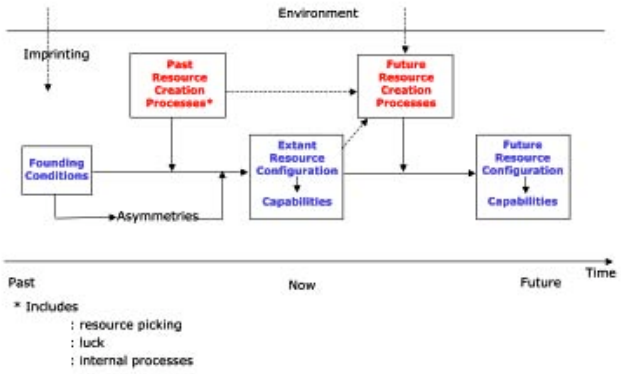

Figure 1: A prescriptive model of future resource creation

Extant Resource Stock

The extant resource stock refers to the current position of the organization as it operates today. Researchers have suggested ways in which resources might be empirically identified, and that causal mapping can be used to investigate an organization's current resources, specifically those which are tacit.[25]

Insights into the extant resource stock provide the starting point for an investigation of past resource creation processes. Armed with these insights into often quite subtle and complex resource configurations, executives can take steps to *protect, nurture and leverage* these resources. In addition, and following Miller's[26] argument, executives should identify current asymmetries that might be able to be developed into valuable resources.

Past Resource Creation Process

The past resource creation process is likely to be unique in each organization. The RBV literature does offer some explanations about how resources evolve over time, although this has not been a prime concern of the main protagonists.[27] But an understanding of the extant resource configuration would be a starting point to identifying past processes. We would suggest that the causal mapping process can be extended back through time to answer the question 'how was that resource created?' and this digging process should involve staff with experience from many levels of the firm.

The Future Environment

This is the most problematic of the three diagnostic processes. No one is able to predict the future, and unbelievable scenarios are unlikely to convince executives to change the configuration of the organization. We would advocate continuous scanning processes that privilege verbal, informal and anecdotal information from external networks over formalised quantitative forecasting processes.[28] This is because the former information is more likely to produce unique insights, to be 'ahead of the curve' and to be more credible to executives. In deciding which processes might be relevant to the future of the firm, judgements would need to be made about the nature and extent of any anticipated changes in the external environment. If no great change is expected then past resource creation processes could credibly and appropriately be extended into the future.

Synthesising the Required Resource Creation Process

To determine the future resource creation process the following questions now need to be addressed:

1) Which of the extant resources are likely to remain valuable in the foreseeable future?
2) Which asymmetries could potentially be developed into resources?
3) *Can* past resource creation processes be repeated, maintained?
4) *Should* these processes be repeated, maintained?
5) Which additional processes must be developed?

Questions 1 to 4 should lead to the development of resource creation processes that are congruent with the anticipated environment, the current resource configuration and the history and culture of the firm. Therefore these prescriptions are more likely to be seen to be credible, appropriate and achievable by the firm's management. In addressing the last question, this gives executives the opportunity to augment embedded resource creation processes with new processes that may be required to meet future performance aspirations. But we would suggest that whatever new initiatives are introduced they should take account of the past history and culture of the firm. This would suggest that firm's do not have a free choice of what resources they wish to create, nor the processes they wish to use to create them. Moreover, if alien processes are introduced or imposed on the firm they are unlikely to take root. So firm's can innovate, but the credible scope of innovations is constrained by history. Future resource creation processes are likely to be *configurations* of organizational

elements that are congruent one with another, and are reflective of the firm's history.[29] These configurations of structure, processes, capabilities and resources will be unique and adapted to the unfolding environment.

But we can extend this configurational argument further by considering the resource creation processes we might expect to find in firms facing particular contingent circumstances. Specifically, we focus on the environment facing the firm, and the complexity of the basic tasks it undertakes; particular configurations flourish in certain task/environment combinations.[30]

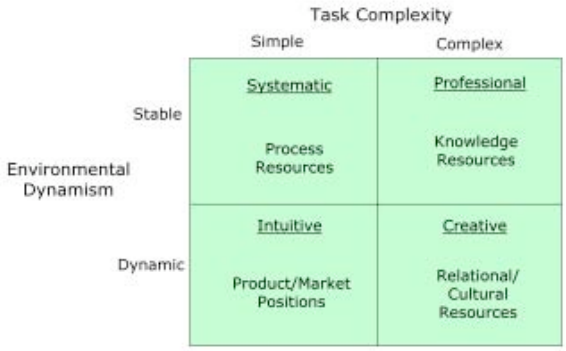

Figure 2: Congruent resource creation processes

Task Complexity

Tasks can be positioned on a continuum ranging from simple to complex.[31] We would suggest that the more complex the task facing the firm, the more likely it is that resources have emerged from loosely managed processes, and conversely, the simpler the task facing the firm, the more possible it becomes to create resources through deliberate processes.[32]

Similarly, task complexity may imply that the resource creation processes embody specialist know-how, which may indicate more *decentralised* processes. Alternatively, the more simple, understandable, or tractable the firm's primary tasks the more possible it is to create resource's through centrally determined processes.

Environment Stability

As with task complexity we can assume some broad assessment of the likely stability of the environment facing the firm could be made i.e. on a continuum ranging from essentially stable to dynamic and unpredictable. This could be compared to the environment the firm has encountered in the recent past. In some cases managers might judge that the future environment facing them may be less dynamic than the past e.g. where a phase of rapid growth in an emerging market has ended, or where the firm has settled on a limited range of products to offer. In others, they may judge that the firm is likely to be facing a more unpredictable and unstable environment.

We could surmise that environmental stability would encourage resource creation processes that were capable of being planned, scheduled, and evaluated. In contrast, dynamism in the environment would indicate that more reactive and responsive processes might be more suitable.

Combining Task and Environment: Congruent Processes

By juxtaposing environmental stability with task complexity we can adapt Mintzberg's configurational argument as set out in Figure 2.[33]

In cell 1 (Simple/Stable) resource creation could be a more *managed* and more *centralised* process than in other situations. We might expect that the resources created would take the form of *systems*, involve codified, explicit knowledge, and that investments in resource creation could be legitimately sustained over longer periods. But, due to the explicit nature of the resource we could expect that its rent earning ability would be short-lived. We describe this resource creation process as *systematic* and they are likely to create resources that enhance productive *processes*.

In cell 2 (Simple/Dynamic) the resource creation process could be centralised, but the pace of change, and the unpredictability of the environment indicates that a more reactive process would fit. We might expect more 'quick and dirty' trials, and because the unpredictability of the environment suggests a limited role for analysis, the reading of the environment is more likely to be inductive rather than deductive. We describe this resource creation process as *intuitive* and the results of these essentially entrepreneurial processes would be exploited product market opportunities. These entrepreneurial resource creation processes create advantageous ***product/market positions*** for the firm. Strictly, it could be argued that market positions are not internal resources, and these outcomes reflect a strategizing perspective rather than an RBV perspective.[34] Our view would be that in dynamic/simple contexts entrepreneurial insight is the key resource, and its effect is the ability to anticipate and exploit emerging market opportunities. Thus we acknowledge that the RBV needs to be augmented by other strategy perspectives that complement it.[35] It is not a complete theory of competitive advantage.

Cell 3 connects stable environments with complex tasks. Complexity indicates a decentralised process, where specialists are involved, and environmental stability suggests that commitment to extend resource creation processes would be appropriate, involving the development of deep knowledge-

based resources. We describe these processes as *professional* and they would create *knowledge* resources.

In cell 4 we connect environmental dynamism with task complexity. Complexity implies extensive knowledge inputs, and dynamism indicates that the required solutions are likely to be only partially known at the outset of the process. Resources emerge from flexible, multi-disciplinary teams, forming and re-forming, trialling and failing, and learning through these experiences. We label these processes as *creative*. The resources created are in fact *relational and cultural* capabilities embedded in the firm that enable highly specialised individuals to interact to create novel solutions.

If a change in the nature of the environment is anticipated, our contingency approach would indicate a shift in the nature of the resource creation processes. For example, an organization that had always operated within a predictable and stable environment, with low causal ambiguity, and deliberate resource creation would be very planned, systematic and directed in its developmental processes. If, because of innovative new technology, its environment became less predictable an emergent resource creation process may be more appropriate which would encourage the taking of more risks, an engagement in extensive cross-functional dialogue and one which encouraged employees at all levels to progress their own ideas, i.e. a more decentralised resource creation process.

Incongruent Processes

Where past resource creation processes are being extended we could assume that the firm is *deepening* its sources of advantage e.g. firms engaging in simple tasks and operating in stable environments would be seeking to maintain or gain advantage through these processes that are congruent with the task and environment conditions facing the firm. However, we would expect that, whether through deliberate management action, or emergent processes, other firms, facing similar circumstances would have adopted similar processes. But firms pursuing congruent resource creation processes are unlikely to produce surprises whilst they stay within these industry 'rules of the game'.

But the RBV suggests that idiosyncratic processes are in play where unique and inimitable resource advantages have been established. These firms might have been playing outside the established rules; they may be challenging the industry recipe.[36] We suggest that these firms may be employing, deliberately or emergently, resource creation processes outside the norm. These processes would not be obviously congruent with the extant task and environment facing the firm. For example, where the industry is pursuing 'normal' sources of advantage in stable and simple contexts through developing systems, the resource endowed firm may also be doing these things, but the firm may be *augmenting* these processes with additional capabilities developed from incongruent processes e.g. intuitive, or creative processes.

Take the case of Toyota cars. Congruent resource creation processes within car manufacturing would reflect the relatively stable environment and relatively simple task of auto assembly. We could assume that Toyota would employ all the congruent or normal processes common across the car industry to create cost efficient processes and high conformance quality. But we also know that Toyota pioneered quite different processes of continuous improvement in the 1960s and 1970s which are now well documented, and may be imitated by rival firms. Whereas, resource advantages in car production would previously have resulted from the efforts of industrial engineers, now advantages flow continuously from the ideas and initiatives of workers on the line. In essence, Toyota's advantage emanates from a culture of creativity fostered throughout the firm, rather than from the more congruent processes performed by industrial engineers as staff technostructure specialists.[37]

Or consider WPP. Advertising agencies face dynamic environments, and the task of creating new advertising campaigns is complex and creative. Agencies require creative cultures and need to build reputational assets. But WPP has been able to create resource advantages by importing *incongruent* processes that have created *system* assets, specifically in the management of working capital.

Whereas a university typically would employ resource creation processes congruent with task complexity and environmental stability, developing deep knowledge-based advantages through the fostering of professional cultures and processes, some have augmented these congruent processes with entrepreneurial behaviours more in line with organizations tackling simple tasks in dynamic environments. Witness the behaviour of some universities moving to exploit the emerging markets for higher education in China. They are acting to build positional resources, through swift action, and through opportunistic behaviour.

Firms operating within stable environments and dealing with complex tasks would likely create knowledge resources through the fostering of suitably congruent professional behaviours. We would expect highly trained professional scientists to be knowledgeable in their disciplines, but we would also expect that they may lack a strong commercial orientation, and they may not display collaborative behaviours, especially if career progression is strongly influenced by individual external recognition. We know that 3M has a great track record of product innovation, and they are well endowed with talented scientists and engineers. But they have

'borrowed' resource creation processes from incongruent configurations to help build a culture that produces a stream of profitable innovations. Their specialists tend not to be overly protective of their own, or their SBU's know-how, and the commercial requirements of research and development activity is embedded within the culture.

So we have argued that although the RBV provides us with compelling insights into the extant sources of advantage, it offers little guidance on how executives should approach future resource creation. From an RBV perspective an appropriate strategy process should be focussed on how the firm can protect extant resources, preserve their value, and how new resources might be created in the future. We argued that it should be possible to employ a diagnostic approach to future strategy processes which appraises the extant resource stock, understands how this stock was created, and takes a view about the likely states of the firm's environment. By building upon Mintzberg's[38] configurational approach we then identified future resource creation processes that would be congruent with particular combinations of future environment and firm task. We then developed this line of argument further by revisiting ideas around idiosyncratic resource creation processes. This led us to suggest that, whilst congruent processes would deepen resource advantage within the established industry 'rules', these may be beneficially augmented by incongruent processes, that worked alongside the congruent processes.

We have set out a prescriptive theory, and have suggested some of the key variables that might be involved in this contingency approach. The next stage in developing this line of reasoning would be to explore actual resource creation processes to establish whether this contingency argument can be empirically validated.

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Endnotes

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