

environment. Therefore, there is an important complementarity between environmental models of competitive advantage and the resource-based model. Thus, these environmental models help specify which firm attributes can be considered as resources.

Rare Resources

valuable firm resources possessed by large numbers of competing firms cannot be sources of either a competitive advantage or a sustained competitive advantage. If a particular valuable firm resource is possessed by large numbers of firms, then each of these firms have the capability of exploiting that resource in the same way, thereby implementing a common strategy that gives no one firm a competitive advantage. The same analysis applies to bundles of valuable firm resources used to implement strategies.

if a firm's valuable resources are absolutely unique, those resources will generate at least a competitive advantage and may have the potential of generating a sustained competitive advantage.

Imperfectly inimitable resources

Valuable and rare organizational resources can only be sources of sustained competitive advantage if firms that do not possess these resources cannot obtain them.

The resource-based view asserts that the ability to acquire and exploit some resources depends upon their place in time and space. Once this particular unique time in history passes, firms that do not have space and time dependent resources cannot obtain them, and thus these resources are imperfectly imitable.

Moreover, resources are imperfectly imitable when causal ambiguity exists. Causal ambiguity exists when the link between a firm's resources and its sustained competitive advantage are poorly understood, it is difficult for firms that are attempting to duplicate a successful firm's strategies through imitation of its resources to know which resources it should imitate. In the face of such causal ambiguity, imitating firms cannot know the actions they should take in order to duplicate the strategies of firms with a sustained competitive advantage.

A final reason that a firm's resources may be imperfectly imitable is that they may be very complex social phenomena. When competitive advantages are based in such complex social phenomena, the ability of other firms to imitate these resources is significantly constrained. Examples include the interpersonal relations among managers in a firm or a firm's reputation among suppliers and customers. Therefore, these socially complex resources add value to a firm.

Substitutability

The last requirement for a firm resource to be a source of sustained competitive advantage is that there must be no strategically equivalent valuable resources. Two valuable firm resources are strategically equivalent when they each can be exploited separately to implement the same strategies. If there are not equivalent firm resources, these strategies would generate a sustained competitive advantage. However, if there are equivalent firm resources, other competing firms can implement the same strategy by using equivalent resources.