

: How can decision support create competitive advantage?

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Managers want to create capabilities that provide a competitive advantage. Decision support, analytics and business intelligence can provide advantage, but the mere existence of a capability does **not** create sustainable advantage. Understanding how a proposed decision support capability may provide advantage is crucial to evaluating opportunities. Also, it is important to assess how likely it is that a successful implementation will provide advantage. At an abstract level based on Barney (1991), technologists need to ask will the novel capability be valuable, rare, inimitable and non-substitutable and is the organization ready to implement the capability?

A competitive advantage is a resource, capability, skill or characteristic of an organization that significantly enhances success in a market, rivalry situation or encounter. Competitive advantage results from doing something better than competitors that creates value and superior performance.

A proposed decision support, analytics or business intelligence capability must have the potential to create real value. The capability must improve decision making efficiency or effectiveness or both. In general, a novel decision support capability should be hidden from competitors and unlikely to be quickly discovered by competitors. An internal facing system used by managers is more likely to remain rare and unknown to competitors than an externally facing capability used by customers or other external stakeholders. The proposed capability must also be difficult to copy, duplicate or imitate. Systems developed by company information technology staff are more likely to create sustainable advantage than customized systems purchased from an external developer. Finally the functionality of the decision support capability must be difficult to duplicate if it becomes known and substitutes for the functionality must have limitations or other negative characteristics that will discourage use.

Decision support, analytics and BI may and can create competitive advantage. A decision support capability is a competitive advantage when it is 1) a major or significant strength or capability of the organization, 2) unique and proprietary to the organization, and 3) sustainable for approximately 3 years.

Barney's resource-based view of a firm suggests questions that should be asked when vendors or internal advocates are promoting a decision support capability as a potential sustainable competitive advantage.

: How can decision support create competitive advantage?

- Will the proposed capability create significant value?
- Is the proposed capability novel and rare?
- Is the proposed capability difficult to copy, duplicate or imitate?
Systems developed in-house are more likely to create sustainable advantage.
- Do substitutes for the decision support capability have limitations that will discourage using them?
- Is the organization ready to implement and exploit the proposed decision support capability?

Decision support creates competitive advantage by significantly improving decision making efficiency and/or effectiveness, by altering industry structures, by supporting cost and/or differentiation strategies, and by increasing organizational control, innovation or adaptability. High risk decision support projects are most likely to result in competitive advantage or fail spectacularly. Gaining any advantage may require large financial investments and be temporary. Some decision support development opportunities are better than others. Many very useful decision support capabilities will **not** provide a significant competitive advantage.

Some software vendors claim their decision support, analytics or business intelligence applications **will** provide a competitive advantage. This broad claim is made for decision support applications built using many technologies, including business intelligence tools, business performance management software, data mining tools, and quantitative models. Supposedly **all** organizations that implement a vendor's solution will gain a competitive advantage. This broad promise sounds too good to be true and it is **not** believable. Vendors need to temper claims using words like may, can, often or should. Exaggerated vendor technology optimism creates unrealistic expectations and in some cases contributes to technology cynicism. Computerized decision support, analytics and BI **may and can** create competitive advantage.

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