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EX POST AND EX ANTE: WHAT DO WE REALLY KNOW ABOUT THE LONGEVITY OF DISCOVERIES? (SUMMARY)

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≈ SUMMARY ≈

**EX POST AND EX ANTE: WHAT DO WE REALLY KNOW
ABOUT THE LONGEVITY OF DISCOVERIES?**

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Principal Topic

Discoveries and opportunities create economic value when they bring new products, processes, and ways of organizing into existence. Because opportunities are defined on a post hoc basis, entrepreneurs, investors, and executives are uncertain (*ex ante*) whether launching a new venture—based on a particular opportunity—would yield desired returns (an *ex post* event). As a consequence, researchers rely on hindsight and discuss opportunities as a post hoc phenomenon. Specific research on what constitutes a discovery, how to measure its distinct characteristics, or what its longevity might be is scarce. Assuming that worthy or vital discoveries last longer, we advance a typology consisting of three attributes: newness, scope, and accreditation.

Method

We conceptualize patent-protected discoveries as *potential* opportunities because once patented, discoveries may be sold, licensed, transferred, shared, used internally as a basis for additional research and development, or simply to maintain presence in certain technology corridors. We used patents as surrogates for discoveries, and examined the renewal pattern of 83,743 patents granted to independent inventors in the US.

Results and Implications

We show that patent-protected discoveries that are newer, wider in scope, and with better accreditation have significantly greater longevity than their counterparts. These findings are important because they distinguish between *ex ante* and *ex post* attributes. The proposed typology of discoveries attempts to make three contributions to the existing literature. First, independent of firm creation as well as individual- or industry-level attributes, the study provides an empirical test of the three schemata for classifying discoveries. Two attributes—newness and scope—are *ex ante* predictors of the longevity of discoveries; i.e., they are amenable to inventors and management control or influence. Accreditation is an *ex post* attribute, so naturally it refers to resolved uncertainty regarding the quality of discoveries. Second, our study uses longitudinal data; it relies on patent-protected discoveries that go through three triggering events—the renewal periods of patents. Third, the renewal periods shed light on the dynamic nature of discoveries in different technology domains. This, too, is important because it shows how the typology remains precise and durable regardless of technology domains or attributes.

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