Organizations are increasingly encouraging their scientists and engineers to source knowledge externally. However, it is unclear how the openness of individuals to external sources of knowledge affects their ideation performance, that is, their ability to develop new, useful innovative ideas for their organization, and which factors might moderate this process. Drawing on theories of combinatorial search, and using a sample of 329 R&D scientists and engineers working in a large organization, we demonstrate that individuals’ openness to external sources of knowledge is curvilinearly related to their ideation performance. Openness provides benefits such as alertness and variety which contribute to ideation up to the point where increasing integration and approval costs cause negative returns to set in. We also examine how the R&D time horizon, ties to senior managers, and the breadth of individual knowledge moderate the costs and benefits of openness to individuals. We explore the implications of these findings for managerial practice.