Access by smallholder farmers to markets has traditionally been constrained by lack of market information. Yet progress in smallholder agriculture is inconceivable without greater market participation. The desire to strengthen farmer access to market has thus resulted in the emergence of many agricultural projects that use Information and Communication Technologies (ICT) in developing countries over the last decade. These technologies focus on providing market information services (MIS) to farmers. This study uses regression techniques and data collected from 379 smallholder farmers in Kenya to examine the conditioners of awareness and use of ICT-based MIS. The study finds that transaction costs, the characteristics of the area in which ICT-based projects are implemented and farmer endowments with human and financial capital play an important role in smallholder farmers' awareness, use and/or extent of use of ICT-based MIS projects. It concludes that awareness and the use of ICT-based MIS is driven by farmer, farm and location-specific characteristics as well as various capital endowment factors. The study discusses the implications of these findings for policy and practice.