The strategy in making firms that are entering new foreign markets expand their businesses in terms of services, products, technology, human and other resources has been widely studied. However, a review of the literature suggests that a comprehensive model with existing theories to clearly guide the firms in adopting effective market entry decisions for construction firms is still lacking. Previous studies have dealt with entry location (EL), entry timing (ET) and entry mode (EM) decisions in an isolated way by considering one dimension or a combination of dimensions in particular. Although methods have been presented, including relating to international market entry decisions, there is currently no model that attempts to integrate the common factors linked to ELETEM decisions for construction firms. The main aim of this study is to develop an integrated model by determining the mutually inclusive and significant factors (MISFs) that influence the ELETEM decisions. Questionnaires were administered to Malaysian construction firms with 62 managers participating in the survey. The findings on the proposed ELETEM decision model were then validated through interviews with 13 managers holding top managerial positions in the firms. It was found that majority of the firms have penetrated both ASEAN and non-ASEAN countries as late movers, using both equity (EQ) and non-equity (NEQ) modes in their international operations. Logistic regression predictive models for EL, ET and EM decisions were also established. The EL decision model predicts that firms need to acquire more knowledge related to the country factors in order to select suitable locations in both ASEAN and non-ASEAN regions. The ET decision predicts that firms need to acquire more knowledge related to firm factors to adopt both EQ and NEQ modes. In addition, Rasch Model analysis was adopted to integrate all three entry decision constructs to determine the MISFs for the ELETEM decision model. The findings suggested that the MISFs amongst others were host and home government support, international risks, market potential, firm’s tangible and intangible resources, such as financial capacity, strategic orientation, experience, reputation, business network, and project requirements relating to time and contracts. The overall findings led to the emergence of a few critical issues relating to strategic, risk and resource management, and the sustainability of construction firms. Firms must increase efficiency in allocating their tangible and intangible resources, such as financial, experience, business network, and adopt suitable entry strategies in their global operations within any geographical proximity of the targeted potential markets. This study breaks out the silo-based thinking by integrating all three domains of EL, ET and EM decisions. It provides a holistic approach to understanding how international construction firms make decisions that cut across all three domains as well as across country, market, firm and project factors and within the context of the well-established OLI+S paradigm. It is envisaged that the integrated ELETEM decision model provides more complete and coherent theoretical and empirical solutions for international market entry strategy to guide construction firms in avoiding poor decision-making, which can lead to failure in their new international ventures. The ELETEM decision model also offers valuable information to provide a comprehensive solution for construction firms already in international markets to make better entry decisions in their future ventures.