

applications and suggest that care should be taken while analyzing the complexity of consumer acceptance, as many dynamic, complex and interdependent factors, like ethical aspects, health and environmental risks, and the perspective of stakeholders, contribute to it.¹³⁵

Handford and coworkers conducted a study aimed at investigating the awareness and attitude of stakeholders in the agri-food industry towards nano-related applications in the agriculture and food sectors.¹³⁶ This study also reports the current nano-related applications in the agri-food industry, anticipated risks, novel advantages and opportunities of nanotechnology applications, and the hurdles and apprehensions that stop the adoption of nanoapplications. Along with competent safety assessment, the authors stress the need for increasing the awareness of nanoapplications in the agri-food sector and urge scientists and governmental bodies to actively take part in this awareness process.¹³⁶ Even with the growing demand for convenient and safe food, consumers are suspicious of food innovations and industrialized products owing to safety issues and scandals that arise. The consumers view nanoproducts skeptically and it is unclear whether the suspiciousness has its roots in a lack of information and awareness of nanotechnology and its applications. In an analysis of the sense of trust towards nanofood products, it was observed that “willingness to pay” for new products increases with trust, which is similar to the results obtained from an online survey conducted in Canada and Germany, and experimental results from Germany.¹³⁷ A similar observation based on trust was observed in an earlier study conducted in the German-speaking part of Switzerland. Naturalness of food products and trust were the significant factors that influenced the consumers, and nanofoods were viewed more suspiciously than nanofood packing strategies.¹³⁸

6.6 Conclusion

Applications of nanotechnology can be used in various aspects of the food industry, including targeted pesticides for better crop production, anti-microbial nano-food packaging and as food-grade engineered nanoparticles.^{139,140} In recent years, nanotechnology has been used for developing formulations encapsulating bioactive compounds for use as nutraceuticals and for fortifying foods. Nanoformulations have helped in protecting the bioactivity and enhancing the bioavailability of the nutraceuticals and bioactive compounds. Additionally, sensory characteristics like taste, color and texture can also be improved by using nanoformulated bioactive compounds. The safety associated with nanoformulations in food and related applications needs more detailed analyses. Increased interaction and communication with researchers, policy makers and the public are also of paramount importance. Knowledge of nanotechnology and its applications will help the public in overcoming the stigma associated with nanotechnology and recognizing the advantages associated with the technology.