The potential of knowledge loss when an employee retires or resigns is high at PT. XYZ a plastic injection company in Indonesia. Therefore, it is required to evaluate their knowledge retention strategy (KRS) and developing a knowledge management system (KMS). The evaluation of KRS using Organizational Knowledge Retention Framework developed by David DeLong and for designing KMS model using the 10-Step KM Roadmap method developed by Amrit Tiwana. Through a well-developed KRS and KMS design model, PT. XYZ can overcome the problem of losing the knowledge that occurs because employees retire or resign.

**Keywords:** Knowledge Loss, Knowledge Retention Strategy, Knowledge Management System.