The shear capacity of beams with insufficient shear reinforcement or cracked concrete must be increased. EB FRP systems have been successfully used in the shear strengthening of RC beams over the past few years. Additional FRP web reinforcements can be applied as shear reinforcements with vertical, inclined, side-bonded, U-wrapped or anchored configurations to beams through the EB technique. The EB FRP strengthening technique has been proven to increase the shear strength of RC beams, and its effectiveness under corresponding loading conditions depends on the types and orientations of FRP reinforcements [24]. Additionally the effectiveness of shear strengthening using EB FRP system also controlled by the percent of FRP,internal steel reinforcement, concrete quality even longitudinal tensile steel [63]. The approximation on EB FRP design for shear strengthening system was proven very conservative, because EB FRP cannot be treated as internal stirrup. Additionally the full strength of internal stirrup cannot use to predict the capacity, because all stirrup does not meet the yielding during concrete cracks widened [63,64]. However, shear strengthening system through FRP was proved as effective in several researches. A 2 m RC beam was strengthened by using an EB U-wrapped CFRP sheet with a width of 50 mm, thickness of 0.176 mm, and spacing of 187.5 mm [60]. The load capacity of the strengthened beam increased by 32.4%. Moreover, the deformability of the beam was 114.7% higher than that of the unstrengthened beam, and the failure mode of the strengthened beam changed from shear tension failure to shear compression failure. Hussein et al. [22] used CFRP to strengthen a RC beam that had been previously damaged by excessive shear. They closed shear cracks in the damaged beam through the application of external prestress force and U-wrapping with a single-layered CFRP sheet. The prestress force was removed after epoxy hardening. The load-carrying capacity of the repaired beams increased by 57%. The repair of shear cracks through epoxy injection before EB FRP sheet wrapping can also increase the ultimate capacity of rehabilitated beams effectively [52]. Moderate shear-span-to depth ratio, low FRP spacing, and ignoring transverse reinforcement can enhance the effectiveness of strengthening [40]. Hybrid FRP systems are more effective than unidirectional FRP systems [52]. The additional intermediate anchorage of FRP laminates in any L- or U wrapping system with flexural strengthening reinforcements can be performed to maintain ductility and provide adequate shear capacity. A previous study applied EB CFRP and GFRP to strengthen the shear of beams with and without anchors [65]. In this study, shear was strengthened by applying 200 mm-wide CFRP sheets at a spacing of 275 mm and 100 mm-wide GFRP sheets at a spacing of 200 mm in a U-wrapped system along a 2.2 m effective span of the RC beam. Anchors fabricated from 10 mm-diameter CFRP and GFRP bars were used. The load capacity of the CFRP-anchored beam increased by 75% relative to that of the control beam. GFRP-strengthened beams in anchored and nonanchored systems underwent shear failure after peak loading, whereas CFRP-strengthened beams underwent flexural failure. Another investigation demonstrated that the ultimate load-carrying capacity of shear-strengthened beams using mechanically fastened hybrid FRP increased by 82.2% relative to that of the unstrengthened beam in the absence of a stirrup within the critical shear span [66]. But, the strength of the beam with internal steel stirrup was increased by approximately 69.2% after applying same strengthening. This result indicates that the internal steel stirrup interacted with EB FRP. The adverse relation between the internal stirrup and EB FRP was introduced into some of the model to develop a proper design criteria for shear strengthening [67]. Because, presence of stronger steel stirrup inside beam causes obstruction to the effective utilization of capacity of EB FRP [64]. This, because the strengthened beam cannot reach its ultimate limit when internal steel stirrup transected by the critical shear cracks [67]. The direction of FRP wrapping controls the cracking pattern of the strengthened beam. Beams with FRP wrapping along the 45° direction could resist the formation of diagonal cracks, whereas beams with fibers wrapped along the 0° and 90° directions could not [40]. Shear cracks progress downward in diagonally arranged FRP strengthened beams after reaching ultimate load. In most of the cases, the shear strengthening design are based on an approximation that the shear cracks will produce along 45º angle, but the researches on shear strengthened beams reveals that the angle varies in between 30º-60º which depends on the parameters relating to shear strength of FRP system [63,64,68]. The cracking size, shape and inclination must be need to analyzed before design for shear strengthening, because both have unique influence on the design strength and failure characteristics [67,68]. Moreover, increasing the FRP-covered area could enhance capacity. For example, load capacity increased by 17.5% after the U-wrapped FRP area was increased by 33% [66]. The use of NSM strips also noticeably increased shear strength. A large bond interface area has been utilized to resist shear with respect to the strip cross-sectional area in NSM-strengthening systems [69]. The successful implementation of NSM-strengthening systems depends on the amount and orientation of FRP strips, the strength of the concrete, and the type of steel strips used. The change in failure mode from brittle shear failure to ductile flexural failure after ultimate loading is indicative of the effectiveness of the strengthening scheme [66]. The highly brittle shear failure mode of RC beams strengthened through .[U wrapping with FRP transforms into ductile failure mode [60