Software Development Risks

Both Verner et al (2014) and Anton & Nucu (2020) have completed research into the concept of risk in the fields of Global Software Development (GSD) and Enterprise Risk respectively. In each of these works, they highlight a number of different risks that should be assessed and addressed.

The risks that have been identified by Verner et al (2014) are as follows:

· High level GSD vendor selection risks.
· Detailed GSD vendor selection project risks.
· Requirements engineering risks.
· Software development process risks.
· Architectural design risks.
· Configuration management risks.
· Culture and social integration risks.
· Training risks.
· Communication and collaboration risks.
· Planning risks.
· Coordination risks.
· Control risks.

Each of these contains a number of different individual risks that fall within that category. Some of these can be seen to explicitly fit into the SDLC, such as requirements engineering risks and software development risks, however all are crucial to the execution of the SDLC. For example, without effective training and communication, team members cannot perform their duties within the SDLC effectively.

The risks identified by Anton and Nucu (2020) are as follows:

· Enterprise risk.
· Strategic risk.
· Consolidated risk.

· Holistic risk.

· Integrated risk.

While these risks appear more abstract initially, they still relate to the SDLC. For example, the outcome from any process within the SDLC is the production of a deliverable, which inherently carries a certain level of strategic and enterprise risk.

A framework to manage these kinds of risks could be the OCTAVE model. Within this model, organisations take responsibility for this. OCTAVE is well positioned for smaller teams to handle, which is common in software development. This is also beneficial as there are a number of different people within software development teams, each with different responsibilities at each stage. By using their skills and knowledge, you can get a more accurate analysis of risk at each stage, which is what OCTAVE encourages.

References

Anton, S.G. & Nucu, A.E. (2020) Enterprise Risk Management: A Literature Review and Agenda for Future Research. Journal of Risk and Financial Management 13(11). DOI:10.3390/jrfm13110281

Verner, J.M. et al. (2014) Risks and risk mitigation in global software development: A tertiary study. Information and Software Technology 56(1): 54-78. DOI: http://dx.doi.org/10.1016/j.infsof.2013.06.005