**17 TD Decision Rules**

|  |  |  |  |
| --- | --- | --- | --- |
| **Legend** | **TD Accumulation** | **TD Repayment** | **TD Prevention** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Decision rules** | **Decision factors** | **Time factor** | **Decision reference** |
| 1 | IF financial resources are limited OR required time to market is tight OR the product uncertainty is high, THEN a startup team should consider an architecture or infrastructure that facilitates faster development | * Financial resources * Required time to market * The product uncertainty | T1.1  T2.1 | S1\_D1  S2\_D1  S1\_D2  S3\_D5  S4\_D4 |
| 2 | IF a startup team is more familiar with a sub-optimal development infrastructure (e.g., development framework or tool), THEN the team should adopt the sub-optimal infrastructure | * Familiarity with the development infrastructure | T1.1 | **S1\_D1**  S2\_D2  S3\_D1  S3\_D2 |
| 3 | IF 3rd party infrastructure/services are available, THEN a startup team should consider using them for the development | * Availability of 3rd party infrastructure or services | T1.1  T2.1 | **S4\_D2**  S4\_D5 |
| 4 | A startup team should enforce some basic coding standards to be followed within the team | **--** | T1.2 | **S2\_D3** |
| 5 | A startup team should enforce minimum unit test for the important functions | **--** | T1.2 | **S1\_D3**  **S2\_D4**  S3\_D4  S4\_D1 |
| 6 | IF financial resources are limited OR required time to market is tight, THEN a startup team should skip the other (unenforced) coding standards | * Financial resources * Required time to market | T1.2 | S2\_D3  S4\_D2 |
| 7 | IF an existing infrastructure/architecture restricts evolution, THEN a startup team should fix/replace the infrastructure/architecture that restricts evolution | * Evolution restriction | T1.2  T2.1 | S3\_D3  **S4\_D2**  S4\_D6  S4\_D7 |
| 8 | A startup team should enforce manual system test within an allocated time | **--** | T1.3 | **S1\_D3**  **S2\_D4**  **S4\_D1** |
| 9 | IF financial resources are limited OR required time to market is tight OR the product uncertainty is high, THEN a startup team should skip the other (unenforced) testing | * Financial resources * Required time to market * The product uncertainty | T1.3 | S1\_D3  S2\_D4  S3\_D4  S4\_D1 |
| 10 | IF the probability of changing the framework is low, THEN IF the framework upgrade workload is feasible OR the framework upgrade process is automated, THEN a startup team should upgrade the development framework to the latest version  IF the probability of changing the framework is low, THEN IF the gap between the current and latest version of the framework is high, THEN a startup team should upgrade the development framework to the latest version | * The probability of changing the framework * The framework upgrade workload * The framework upgrade process * The gap between the current and latest version of the framework | T2.1  T2.2 | **S2\_D5**  S4\_D3 |
| 11 | IF financial resources are available, THEN a startup team should consider using strong typed language | * Financial resources | T2.1  T2.2 | **S3\_D1** |
| 12 | IF financial resources are available OR  bug rate is high, THEN a startup team should include integration test for the important integrations | * Financial resources * Bug rate | T2.2 | **S1\_D3**  S1\_D4  **S3\_D4**  **S4\_D1** |
| 13 | IF the growth of development team is high (or expected to be high soon), THEN a startup team should document the requirements of some important functions (high-level documentation) | * Team growth | T2.2  T2.3 | **S3\_D4** |
| 14 | IF an existing infrastructure/architecture restricts evolution OR system performance is bad, THEN a startup team should consider restructuring the software | * Evolution * System performance | T2.3 | S1\_D5  S2\_D6 |
| 15 | IF the cost of the product restructuring is affordable, THEN a startup team should gradually restructure the software | * Cost of the product restructuring | T2.4 | S2\_D6  S2\_D7  S2\_D8 |
| 16 | IF the cost of the product restructuring is non-affordable, THEN a startup team should develop the upcoming features on a new development infrastructure. | * Cost of the product restructuring | T2.4 | S1\_D5 |
| 17 | A startup team should consider test improvement for the new/refactored code. | -- | T2.4 | S1\_D6  S2\_D7  S2\_D9 |