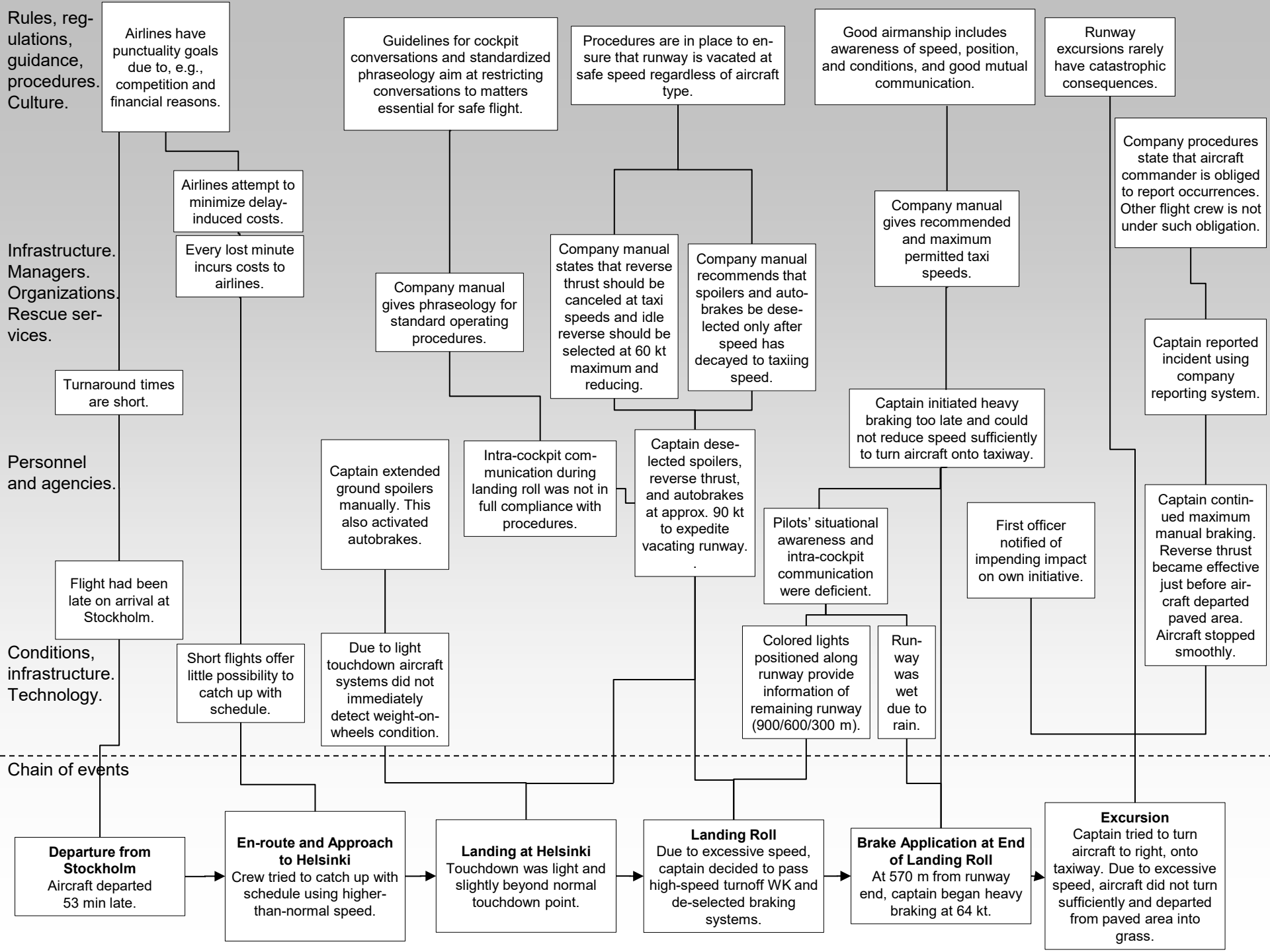
Rules, regulations, guidance, procedures. Culture.
Infrastructure. Managers. Organizations. Rescue services.
Personnel and agencies.
Conditions, infrastructure. Technology.
Chain of events
Airlines have punctuality goals due to, e.g., competition and financial reasons.
Airlines attempt to minimize delay-induced costs.
Every lost minute incurs costs to airlines.
Turnaround times are short.
Flight had been late on arrival at Stockholm.
Short flights offer little possibility to catch up with schedule.
Guidelines for cockpit conversations and standardized phraseology aim at restricting conversations to matters essential for safe flight.
Company manual gives phraseology for standard operating procedures.
Captain extended ground spoilers manually. This also activated autobrakes.
Due to light touchdown aircraft systems did not immediately detect weight-on-wheels condition.
Intra-cockpit communication during landing roll was not in full compliance with procedures.
Procedures are in place to ensure that runway is vacated at safe speed regardless of aircraft type.
Company manual states that reverse thrust should be canceled at taxi speeds and idle reverse should be selected at 60 kt maximum and reducing.
Company manual recommends that spoilers and autobrakes be deselected only after speed has decayed to taxiing speed.
Captain deselected spoilers, reverse thrust, and autobrakes at approx. 90 kt to expedite vacating runway.
Pilots' situational awareness and intra-cockpit communication were deficient.
Colored lights positioned along runway provide information of remaining runway (900/600/300 m).
Runway was wet due to rain.
Good airmanship includes awareness of speed, position, and conditions, and good mutual communication.
Company manual gives recommended and maximum permitted taxi speeds.
Captain initiated heavy braking too late and could not reduce speed sufficiently to turn aircraft onto taxiway.
First officer notified of impending impact on own initiative.
Runway excursions rarely have catastrophic consequences.
Company procedures state that aircraft commander is obliged to report occurrences. Other flight crew is not under such obligation.
Captain reported incident using company reporting system.
Captain continued maximum manual braking. Reverse thrust became effective just before aircraft departed paved area. Aircraft stopped smoothly.
Departure from Stockholm
Aircraft departed 53 min late.
En-route and Approach to Helsinki
Crew tried to catch up with schedule using higher-than-normal speed.
Landing at Helsinki
Touchdown was light and slightly beyond normal touchdown point.
Landing Roll
Due to excessive speed, captain decided to pass high-speed turnoff WK and de-selected braking systems.
Brake Application at End of Landing Roll
At 570 m from runway end, captain began heavy braking at 64 kt.
Excursion
Captain tried to turn aircraft to right, onto taxiway. Due to excessive speed, aircraft did not turn sufficiently and departed from paved area into grass.