Highlights*

1. Include 3 to 5 bullet points that convey the main findings of the work.
2. Methods and results are not “findings,” so they should not appear as highlights.
3. Bullets are limited to a maximum of 85 characters, including spaces.
4. Bullets should be complete sentences, not sentence fragments.
5. Highlights should be able to stand alone, so avoid acronyms or specialized terms.

* Please note: Highlights are not part of the manuscript document but should be submitted in a separate editable file in the online submission system. Please use “Highlights” in the file name.

Also, in the submission’s cover letter, authors should clearly state what are the key contributions of their work and why their contributions are novel and worthy of journal consideration.

DICAUVACCOP: a software tool to calculate and visualize differentiate payment according to grape quality

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Annex A

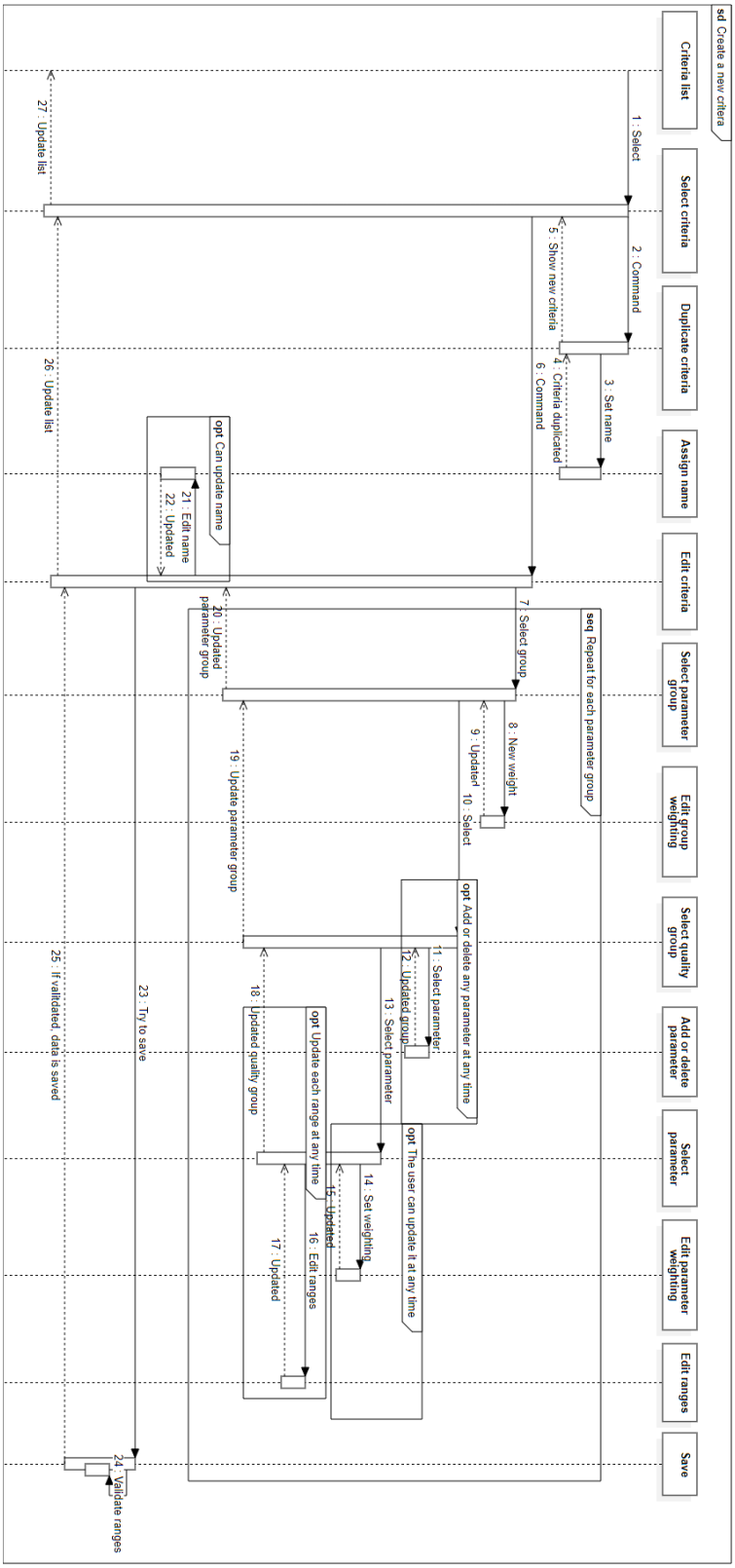

Fig A. 1 Sequence diagram for creating new criteria.

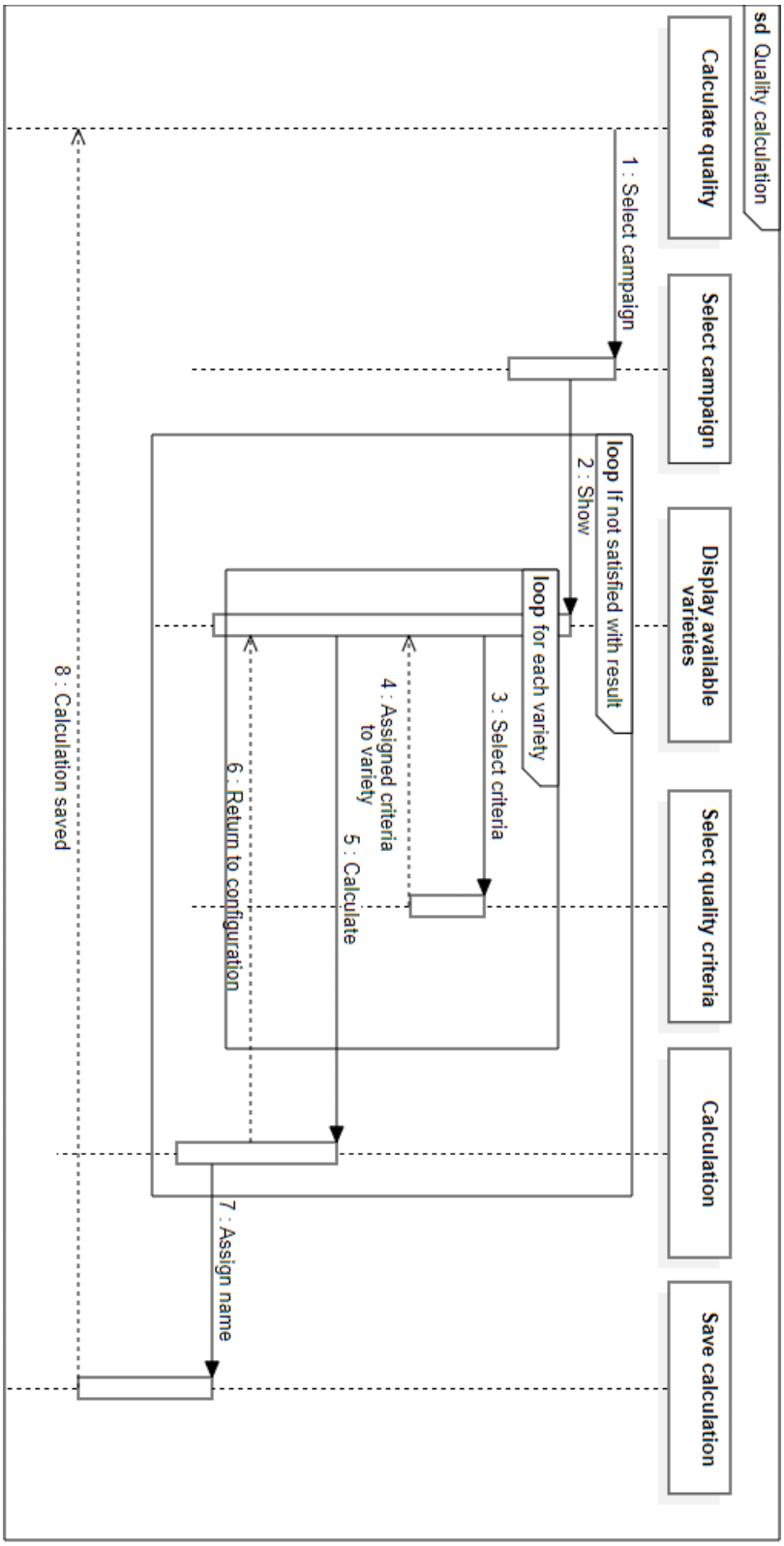

Fig A. 2: Sequence diagram for calculating the quality of a campaign.

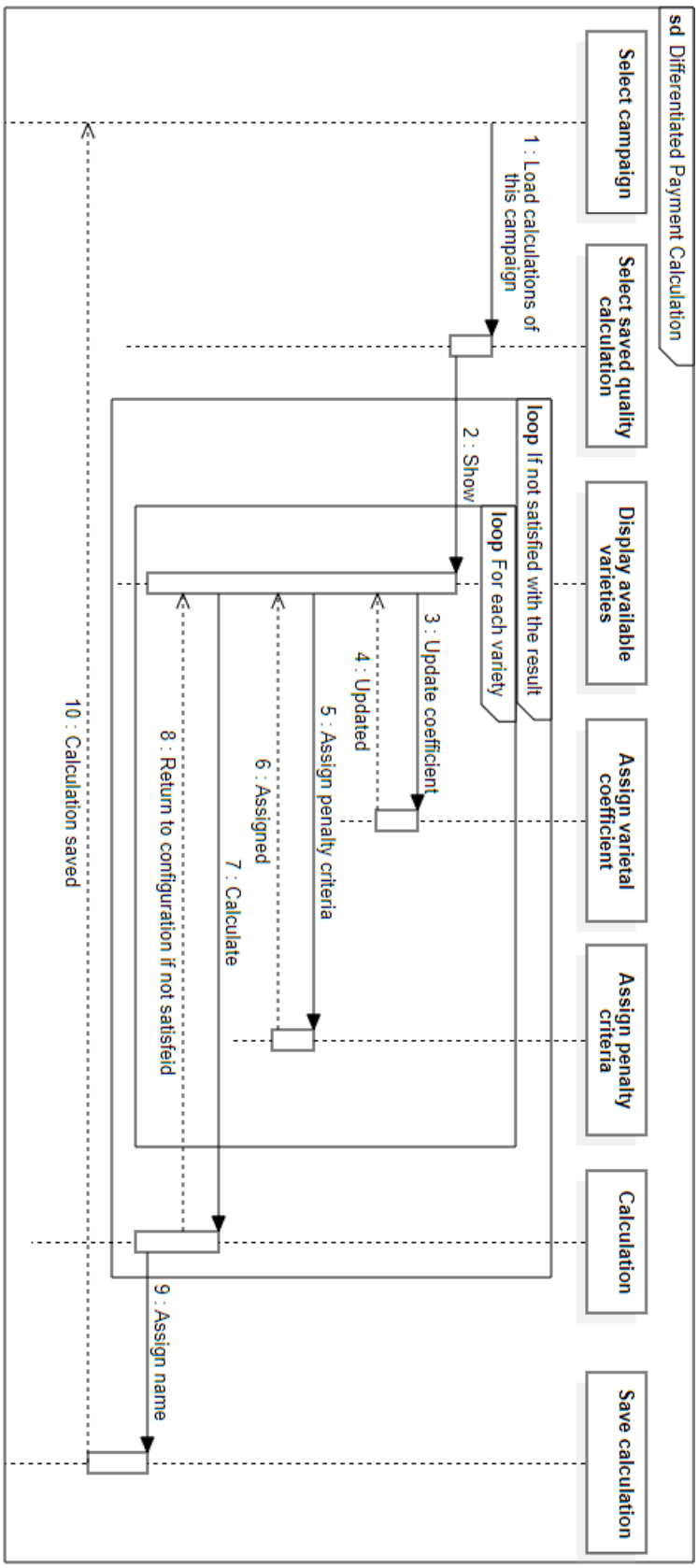

Fig A. 3: Sequence diagram for calculating the differentiated payment for a campaign based on quality.

Annex B

B.1 Quality calculation example using Kilo-point Criteria on Red Quality Group.

Quality Group: **Red**										
	70% Alcoholic Content			**15% pH**			**15% Total Acidity**			
	Range	Score	Weighted Score	Range	Score	Weighted Score	Range	Score	Weighted Score	**Maturity Score**
R1	15 - 15,99	6	**4,2**	3,6 - 3,69	8	**1,2**	4,8 - 4,89	9	**1,35**	**6,75**
R2	13 - 13,99	10	**7**	2,9 - 2,99	8	**1,2**	4,9 - 4,99	9,5	**1,425**	**9,625**
R3	12 - 12,99	9	**6,3**	3 - 3,59	10	**1,5**	4,3 - 4,39	6,5	**0,975**	**8,775**
R4	10 - 10,99	2	**1,4**	2,8 - 2,89	6	**0,9**	3,8 - 3,89	4	**0,6**	**2,9**
R5	17 - 100	0	**0**	3 - 3,99	2	**0,3**	3 - 3,49	2	**0,3**	**0,6**

Table B. 1: Maturity score for red quality group in test cases.

Quality Group: **Red**				
	100 % Gluconic Acid			
	Range	Score	Weighted Score	**Health Score**
R1	0,61 - 0,7	9	**1**	**1**
R2	0 - 0,5	10	**0**	**0**
R3	0,91 - 1	7,5	**2,5**	**2,5**
R4	1,21 - 1,3	4,5	**5,5**	**5,5**
R5	2,01 - 5	0	**10**	**10**

Table B. 2: Health score for red quality group in test cases.

	Maturity | 100%		**Health | -20%**		
Ticket	Score	Weighted Score	Score	Weighted Score	**Final Score**
R1	6,75	**6,75**	1	**-0,2**	**6,55**
R2	9,625	**9,625**	0	**0**	**9,625**
R3	8,775	**8,775**	2,5	**-0,5**	**8,275**
R4	2,9	**2,9**	5,5	**-1,1**	**1,8**
R5	0,6	**0,6**	10	**-2**	**0**

Table B. 3: Final quality score for Red Quality group in test cases.

B.2 Quality calculation example using Kilo-point Criteria on White Quality Group.

Quality Group: **White**										
	70% Alcoholic Content			**15% pH**			**15% Total Acidity**			
	Range	Score	Weighted Score	Range	Score	Weighted Score	Range	Score	Weighted Score	**Maturity Score**
w1	12,5 - 13,49	9	**6,3**	2,9 - 2,99	8	**1,2**	4,8 - 4,89	9	**1,35**	**8,85**
w2	11,5 - 12,49	10	**7**	3 - 3,59	10	**1,5**	4,7 - 4,79	8,5	**1,275**	**9,775**
w3	10,5 - 11,49	9	**6,3**	2,7 - 2,79	4	**0,6**	4,2 - 4,29	6	**0,9**	**7,8**
w4	14,5 - 15,49	2	**1,4**	3,6 - 3,69	8	**1,2**	3,8 - 3,89	4	**0,6**	**3,2**
w5	0 - 8,49	0	**0**	3 - 3,99	2	**0,3**	3,9 - 3,99	4,5	**0,675**	**0,975**

Table B. 4: Maturity score for White quality group in test cases.

Quality Group: **White**				
	100 % Gluconic Acid			
	Range	Score	Weighted Score	**Health Score**
W1	0,71 - 0,8	8,5	**1,5**	**1,5**
W2	0 - 0,5	10	**0**	**0**
W3	0,91 - 1	7,5	**2,5**	**2,5**
W4	0,61 - 0,7	9	**1**	**1**
W5	1,51 - 2	1,5	**8,5**	**8,5**

Table B. 5: Health score for White quality group in test cases.

	Maturity | 100%		**Health | -20%**		
Ticket	Score	Weighted Score	Score	Weighted Score	**Final Score**
W1	8,85	**8,85**	1,5	**-0,3**	**8,55**
W2	9,775	**9,775**	0	**0**	**9,775**
W3	7,8	**7,8**	2,5	**-0,5**	**7,3**
W4	3,2	**3,2**	1	**-0,2**	**3**
W5	0,975	**0,975**	8,5	**-1,7**	**0**

Table B. 6: Final quality score for White Quality group in test cases.

B.3 Quality calculation example using traditional criteria on Red Quality Group.

Quality Group: **Red**				
	100 % Alcoholic Content			
	Range	Score	Weighted Score	**Maturity Score**
R1	15 - 15,99	6	**6**	**6**
R2	13 - 13,99	10	**10**	**10**
R3	12 - 12,99	9	**9**	**9**
R4	10 - 10,99	2	**2**	**2**
R5	17 - 100	0	**0**	**0**

Table B. 7: Maturity score for red quality group in test cases.

B.4 Quality calculation example using traditional criteria on White Quality Group.

Quality Group: **White**				
	100 % Alcoholic Content			
	Range	Score	Weighted Score	**Maturity Score**
W1	12,5 - 13,49	9	**9**	**9**
W2	11,5 - 12,49	10	**10**	**10**
W3	10,5 - 11,49	9	**9**	**9**
W4	14,5 - 15,49	2	**2**	**2**
W5	0 - 8,49	0	**0**	**0**

Table B. 8: Maturity score for White quality group in test cases.

B.5 Quality calculation example using traditional criteria and health on Red Quality Group.

Quality Group: **Red**				
	100 % Gluconic Acid			
	Range	Score	Weighted Score	**Health Score**
R1	0,61 - 0,7	9	**1**	**1**
R2	0 - 0,5	10	**0**	**0**
R3	0,91 - 1	7,5	**2,5**	**2,5**
R4	1,21 - 1,3	4,5	**5,5**	**5,5**
R5	2,01 - 5	0	**10**	**10**

Table B. 9: Health score for red quality group in test cases.

	Maturity | 100%		**Health | -20%**		
Ticket	Score	Weighted Score	Score	Weighted Score	**Final Score**
R1	6	**6**	1	**-0,2**	**5,8**
R2	10	**10**	0	**0**	**10**
R3	9	**9**	2,5	**-0,5**	**8,5**
R4	2	**2**	5,5	**-1,1**	**0,9**
R5	0	**0**	10	**-2**	**0**

Table B. 10: Quality score for red quality group in test cases.

B.6 Quality calculation example using traditional criteria and health on White Quality Group.

Quality Group: **White**				
	100 % Gluconic Acid			
	Range	Score	Weighted Score	**Health Score**
W1	0,71 - 0,8	8,5	**1,5**	**1,5**
W2	0 - 0,5	10	**0**	**0**
W3	0,91 - 1	7,5	**2,5**	**2,5**
W4	0,61 - 0,7	9	**1**	**1**
W5	1,51 - 2	1,5	**8,5**	**8,5**

Table B. 11: Health score for White quality group in test cases.

	Maturity | 100%		**Health | -20%**		
Ticket	Score	Weighted Score	Score	Weighted Score	**Final Score**
R1	9	**9**	1,5	**-0,3**	**8,7**
R2	10	**10**	0	**0**	**10**
R3	9	**9**	2,5	**-0,5**	**8,5**
R4	2	**2**	1	**-0,2**	**1,8**
R5	0	**0**	8,5	**-1,7**	**0**

Table B. 12: Quality score for White quality group in test cases.

B.7 Quality ranges for Alcoholic Content.

Alcoholic Content					
White			Red		
Min	Max	Score	Min	Max	Score
15,5	100	0	17	100	0
14,5	15,49	2	16	16,99	2
13,5	14,49	6	15	15,99	6
12,5	13,49	9	14	14,99	9
11,5	12,49	10	13	13,99	10
10,5	11,49	9	12	12,99	9
9,5	10,49	6	11	11,99	6
8,5	9,49	2	10	10,99	2
0	8,49	0	0	9,99	0

Table B. 13: Alcoholic content ranges used in standard criteria for Red and White quality groups.

B.8 Quality ranges for pH.

pH					
White			Red		
Min	Max	Score	Min	Max	Score
4	100	0	4	100	0
3,9	3,99	2	3,9	3,99	2
3,8	3,89	4	3,8	3,89	4
3,7	3,79	6	3,7	3,79	6
3,6	3,69	8	3,6	3,69	8
3	3,59	10	3	3,59	10
2,9	2,99	8	2,9	2,99	8
2,8	2,89	6	2,8	2,89	6
2,7	2,79	4	2,7	2,79	4
0	2,69	0	0	2,69	0

Table B. 14: pH ranges used in standard criteria for Red and White quality groups.

B.9 Quality ranges for Total Acidity

Total Acidity					
White			Red		
Min	Max	Score	Min	Max	Score
5	100	10	5	100	10
4,9	4,99	9,5	4,9	4,99	9,5
4,8	4,89	9	4,8	4,89	9
4,7	4,79	8,5	4,7	4,79	8,5
4,6	4,69	8	4,6	4,69	8
4,5	4,59	7,5	4,5	4,59	7,5
4,4	4,49	7	4,4	4,49	7
4,3	4,39	6,5	4,3	4,39	6,5
4,2	4,29	6	4,2	4,29	6
4,1	4,19	5,5	4,1	4,19	5,5
4	4,09	5	4	4,09	5
3,9	3,99	4,5	3,9	3,99	4,5
3,8	3,89	4	3,8	3,89	4
3,7	3,79	3,5	3,7	3,79	3,5
3,6	3,69	3	3,6	3,69	3
3,5	3,59	2,5	3,5	3,59	2,5
3	3,49	2	3	3,49	2
0	2,99	0	0	2,99	0

Table B. 15: Total acidity ranges used in standard criteria for Red and White quality groups.

B.10 Quality ranges for Gluconic acid

Gluconic acid					
White			Red		
Min	Max	Score	Min	Max	Score
0	0,5	10	0	0,5	10
0,51	0,6	9,5	0,51	0,6	9,5
0,61	0,7	9	0,61	0,7	9
0,71	0,8	8,5	0,71	0,8	8,5
0,81	0,9	8	0,81	0,9	8
0,91	1	7,5	0,91	1	7,5
1,01	1,1	6,5	1,01	1,1	6,5
1,11	1,2	5,5	1,11	1,2	5,5
1,21	1,3	4,5	1,21	1,3	4,5
1,31	1,4	3,5	1,31	1,4	3,5
1,41	1,5	2,5	1,41	1,5	2,5
1,51	2	1,5	1,51	2	1,5
2,01	5	0	2,01	5	0

Table B. 16: Gluconic acid ranges used in standard criteria for Red and White quality group