# Figure3

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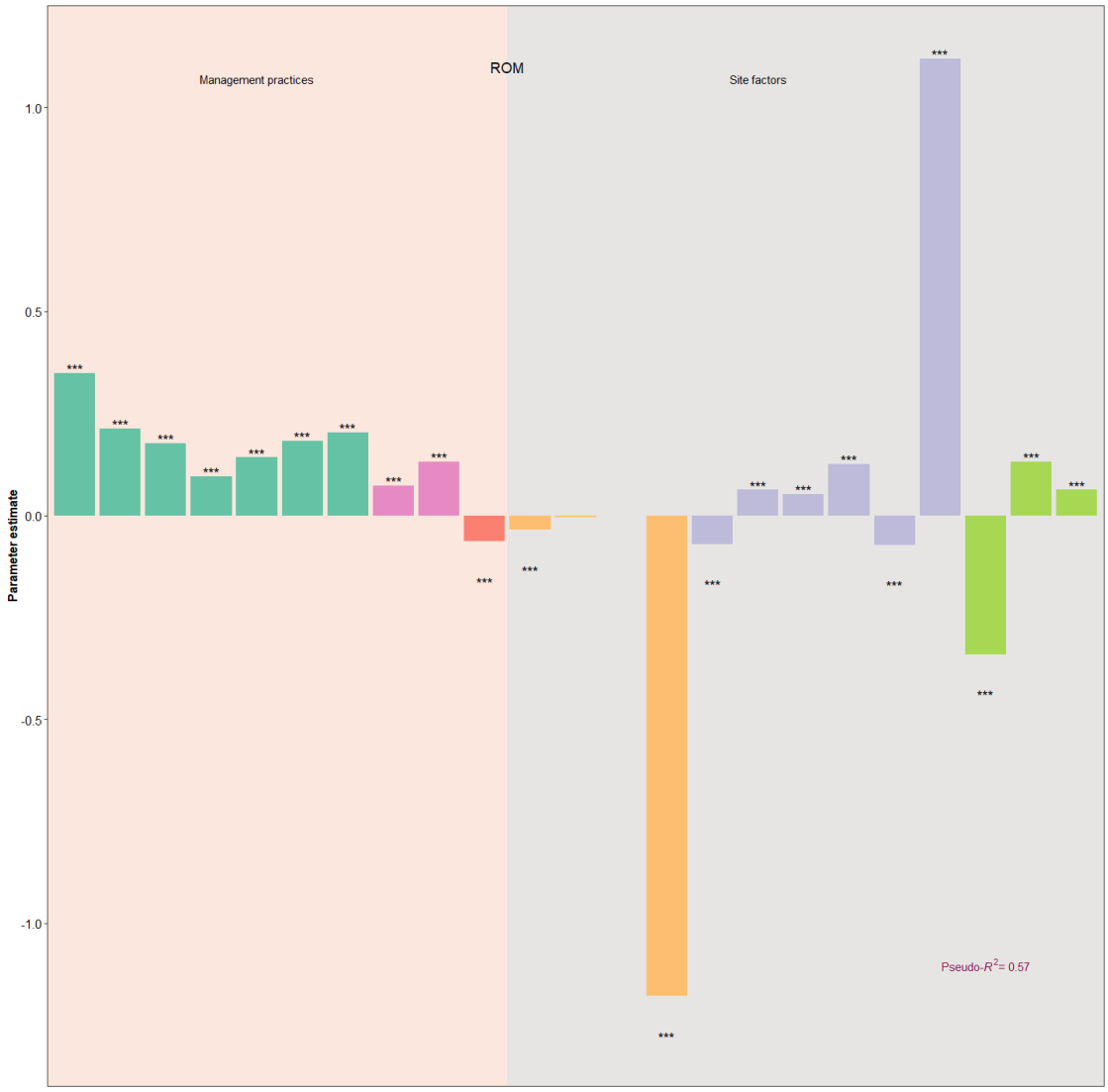
```
library(ggpubr)

## 载入需要的程序包：ggplot2

library(data.table)

# --- ROM Method -----
d1 <- readxl::read_xlsx('F:/研究生/研究生课程/数据驱动与可重复性研究/小组作业/Source Data.xlsx',sheet ="Figure3a")
d1 <- as.data.table(d1)


d1$Moderator1 <- factor(d1$Moderator1, levels = c("EE",
                                                  "CF",
                                                  "OF",
                                                  "MF",
                                                  "RFP",
                                                  "RFR",
                                                  "RFT",
                                                  "RES",
                                                  "CC/ROT",
                                                  "ZT/RT",
                                                  "Cr_w",
                                                  "Cr_m",
                                                  "Cr_r",
                                                  "N_sc",
                                                  "Clay_sc",
                                                  "SOC_sc",
                                                  "pH_sc",
                                                  "MAP_sc",
                                                  "MAT_sc",
                                                  "N_sq_sc",
                                                  "RFP×Cr_m",
                                                  "MAT_sc×Cr_m",
                                                  "N_sc×SOC_sc"))


p1 <- ggplot(d1,aes(Moderator1,Parameter_estimate))+
  geom_col()+
  theme_bw()+#Remove shadow
  theme(panel.grid=element_blank())+#Remove grid lines
  geom_rect(aes(ymin = -Inf, xmin = -Inf, ymax = Inf, xmax = 10.5), fill = "#FBE7DD")+#Fill background color
  geom_rect(aes(ymin = -Inf, xmin = 10.5, ymax = Inf, xmax = Inf), fill = "#E6E5E3")+#Fill bac
```

```
kground color
  geom_col(fill = c("#66c2a5", "#66c2a5", "#66c2a5",
                    "#66c2a5", "#66c2a5", "#66c2a5",
                    "#66c2a5", "#e78ac3",
                    "#e78ac3","#fb8072", "#fdbf6f",
                    "#fdbf6f", "#fdbf6f", "#fdbf6f","#bebada",
                    "#bebada","#bebada","#bebada","#bebada","#bebada","#a6d854",
                    "#a6d854", "#a6d854"))+   #Custom color


  xlab("")+
  ylab("Parameter estimate")+
  #ylim(-0.15,0.5)+
  theme(legend.position ="none",
        axis.title = element_text(size=12, colour="black", face = "bold"),
        axis.text.x = element_blank(),
        axis.ticks.x=element_blank(),
        axis.text.y = element_text(size=12, colour="black"))+
  annotate("text",x=1,y=0.3595,label="***",size=5)+
  annotate("text",x=2,y=0.2229,label="***",size=5)+
  annotate("text",x=3,y=0.1871,label="***",size=5)+
  annotate("text",x=4,y=0.1056,label="***",size=5)+
  annotate("text",x=5,y=0.1519,label="***",size=5)+
  annotate("text",x=6,y=0.1927,label="***",size=5)+
  annotate("text",x=7,y=0.2136,label="***",size=5)+
  annotate("text",x=8,y=0.0825,label="***",size=5)+
  annotate("text",x=9,y=0.1417,label="***",size=5)+
  annotate("text",x=10,y=-0.1638,label="***",size=5)+
  annotate("text",x=11,y=-0.1353,label="***",size=5)+
  annotate("text",x=12,y=0.1006,label="",size=5)+
  annotate("text",x=13,y=0.01,label="",size=5)+
  annotate("text",x=14,y=-1.2786,label="***",size=5)+
  annotate("text",x=15,y=-0.1706,label="***",size=5)+
  annotate("text",x=16,y=0.0726,label="***",size=5)+
  annotate("text",x=17,y=0.0622,label="***",size=5)+
  annotate("text",x=18,y=0.1359,label="***",size=5)+
  annotate("text",x=19,y=-0.1723,label="***",size=5)+
  annotate("text",x=20,y=1.13,label="***",size=5)+
  annotate("text",x=21,y=-0.4404,label="***",size=5)+
  annotate("text",x=22,y=0.1422,label="***",size=5)+
  annotate("text",x=23,y=0.0727,label="***",size=5)+
  annotate("text",x=10.5,y=1.1,label="ROM",size=5, face = "bold", colour="black")+
  annotate("text",x=5,y=1.07,label="Management practices",size=4, face = "bold", colour="black
")+
  annotate("text",x=16,y=1.07,label="Site factors",size=4, face = "bold", colour="black")+
  annotate("text",x=21,y=-1.1,label= expression(paste("Pseudo-",italic(R^2),"= 0.57")), size=4,
face = "bold", colour="deeppink4")

## Warning in annotate("text", x = 10.5, y = 1.1, label = "ROM", size = 5, :
## Ignoring unknown parameters: `face`
```

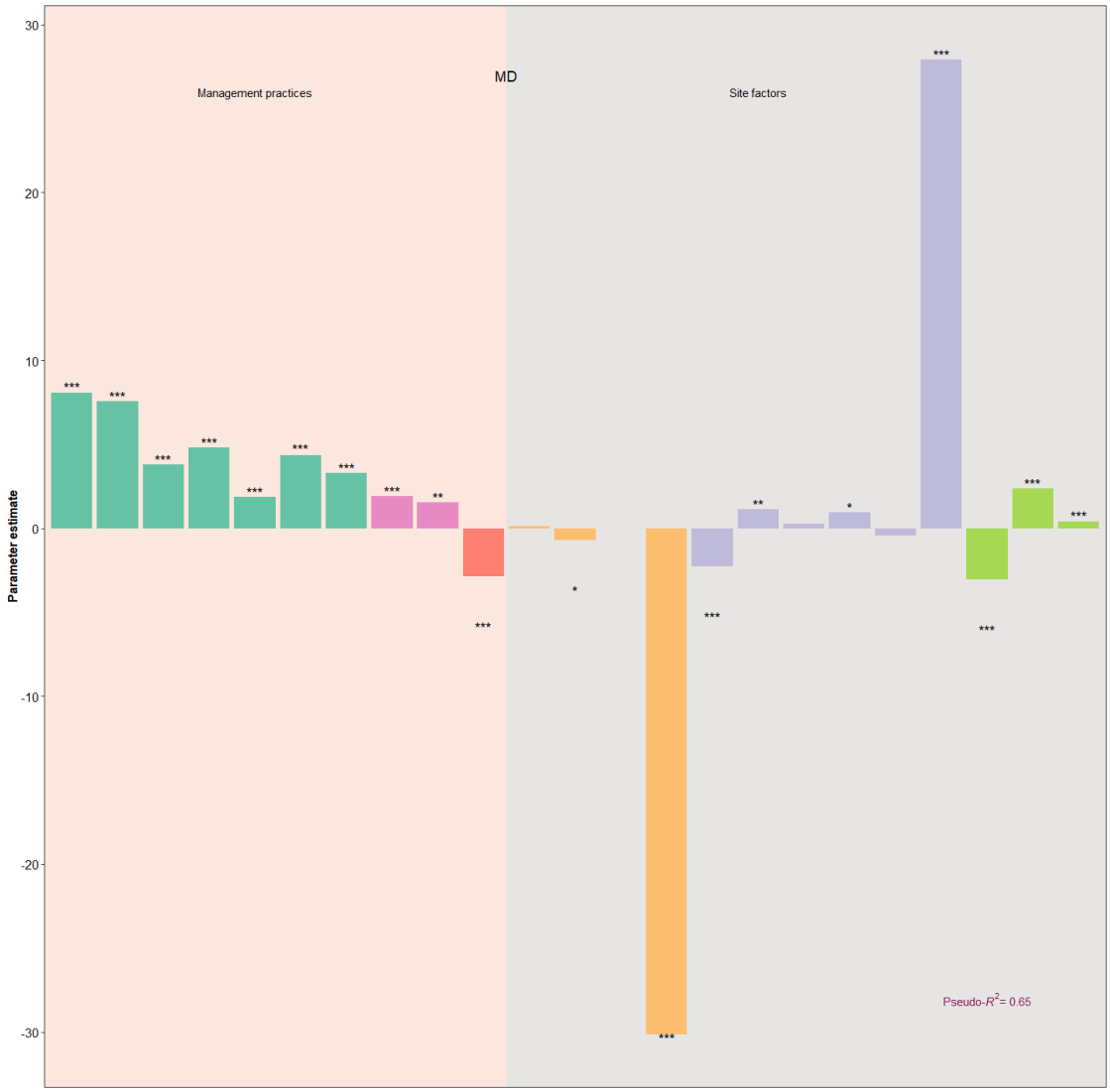
```
## Warning in annotate("text", x = 5, y = 1.07, label = "Management practices", :
## Ignoring unknown parameters: `face`

## Warning in annotate("text", x = 16, y = 1.07, label = "Site factors", size = 4,
## : Ignoring unknown parameters: `face`

## Warning in annotate("text", x = 21, y = -1.1, label =
## expression(paste("Pseudo-", : Ignoring unknown parameters: `face`

p1

## Warning in is.na(x): is.na()不适用于类别为'expression'的非列表或非向量
```




```
# ---  MD Method ----
d2 <- readxl::read_xlsx('F:/研究生/研究生课程/数据驱动与可重复性研究/小组作业/Source Data.xlsx',sheet ="Figure3b")
d2 <- as.data.table(d2)
```

```r
d2$Moderator1 <- factor(d2$Moderator1, levels = c("EE",
                                                  "CF",
                                                  "OF",
                                                  "MF",
                                                  "RFP",
                                                  "RFR",
                                                  "RFT",
                                                  "RES",
                                                  "CC/ROT",
                                                  "ZT/RT",
                                                  "Cr_w",
                                                  "Cr_m",
                                                  "Cr_r",
                                                  "N_sc",
                                                  "Clay_sc",
                                                  "SOC_sc",
                                                  "pH_sc",
                                                  "MAP_sc",
                                                  "MAT_sc",
                                                  "N_sq_sc",
                                                  "RFP×Cr_m",
                                                  "MAT_sc×Cr_m",
                                                  "N_sc×SOC_sc"))


p2 <- ggplot(d2,aes(Moderator1, Parameter_estimate))+
  geom_col()+
  theme_bw()+
  theme(panel.grid=element_blank())+
  geom_rect(aes(ymin = -Inf, xmin = -Inf, ymax = Inf, xmax = 10.5), fill = "#FBE7DD")+
  geom_rect(aes(ymin = -Inf, xmin = 10.5, ymax = Inf, xmax = Inf), fill = "#E6E5E3")+
  geom_col(fill = c("#66c2a5", "#66c2a5", "#66c2a5",
                    "#66c2a5", "#66c2a5", "#66c2a5",
                    "#66c2a5", "#e78ac3",
                    "#e78ac3","#fb8072", "#fdbf6f",
                    "#fdbf6f", "#fdbf6f", "#fdbf6f","#bebada",
                    "#bebada","#bebada","#bebada","#bebada","#bebada","#a6d854",
                    "#a6d854", "#a6d854"))+

  xlab("")+
  ylab("Parameter estimate")+
  theme(legend.position ="none",
        axis.title = element_text(size=12, colour="black", face = "bold"),
        axis.text.x = element_blank(),
        axis.ticks.x=element_blank(),
        axis.text.y = element_text(size=12, colour="black"))+
  annotate("text",x=1,y=8.3954,label="***",size=5)+
  annotate("text",x=2,y=7.8767,label="***",size=5)+
  annotate("text",x=3,y=4.0867,label="***",size=5)+
```

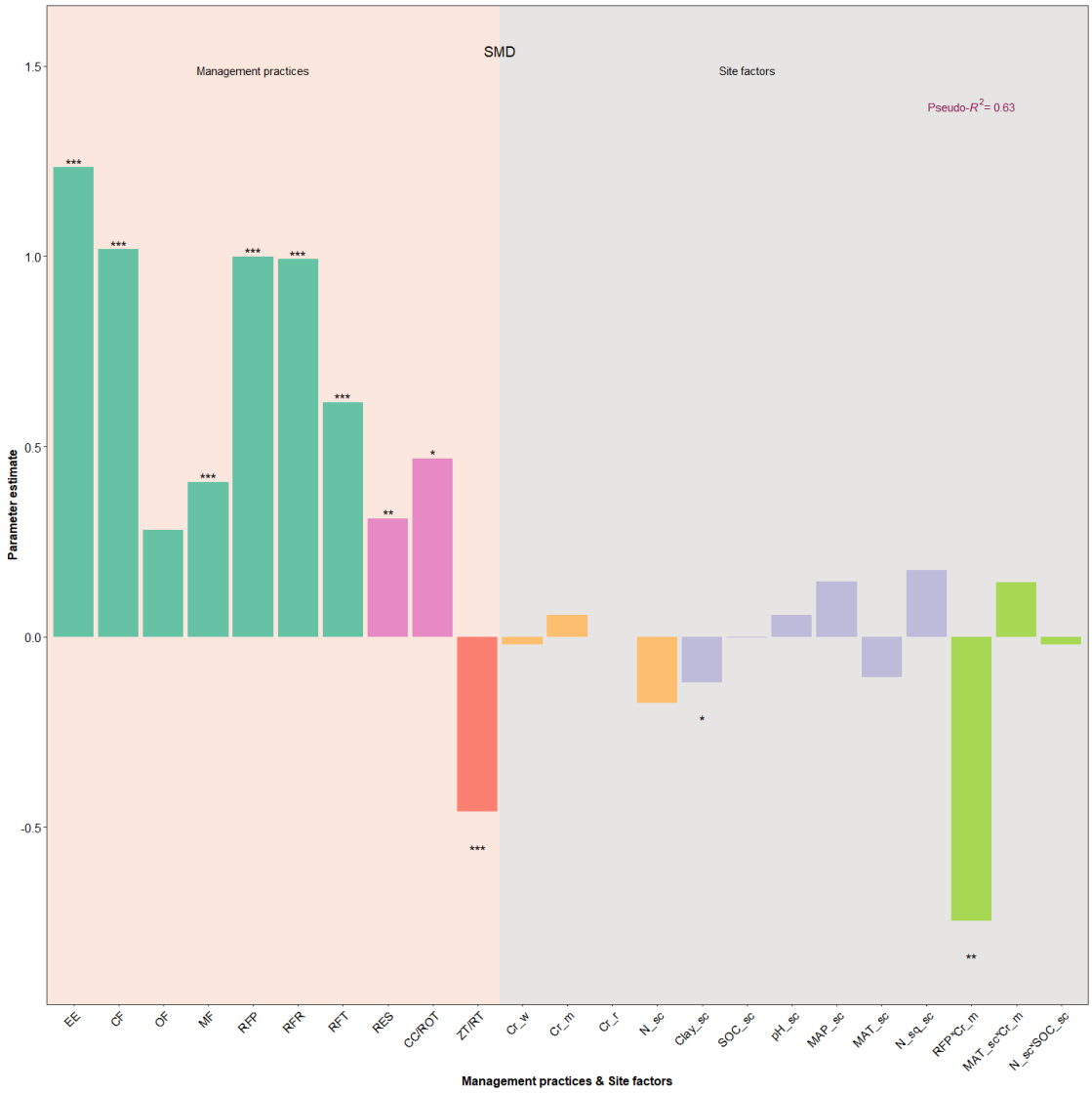
```
  annotate("text",x=4,y=5.115,label="***",size=5)+
  annotate("text",x=5,y=2.1479,label="***",size=5)+
  annotate("text",x=6,y=4.7411,label="***",size=5)+
  annotate("text",x=7,y=3.5728,label="***",size=5)+
  annotate("text",x=8,y=2.193,label="***",size=5)+
  annotate("text",x=9,y=1.8543,label="**",size=5)+
  annotate("text",x=10,y=-5.8625,label="***",size=5)+
  annotate("text",x=11,y=-5.1326,label="",size=5)+
  annotate("text",x=12,y=-3.7213,label="*",size=5)+
  annotate("text",x=13,y=0.1,label="",size=5)+
  annotate("text",x=14,y=-30.3474,label="***",size=5)+
  annotate("text",x=15,y=-5.2753,label="***",size=5)+
  annotate("text",x=16,y=1.4541,label="**",size=5)+
  annotate("text",x=17,y=0.5732,label="",size=5)+
  annotate("text",x=18,y=1.2656,label="*",size=5)+
  annotate("text",x=19,y=0.5312,label="",size=5)+
  annotate("text",x=20,y=28.22,label="***",size=5)+
  annotate("text",x=21,y=-6.0466,label="***",size=5)+
  annotate("text",x=22,y=2.6939,label="***",size=5)+
  annotate("text",x=23,y=0.7221,label="***",size=5)+
  annotate("text",x=10.5,y=27,label="MD",size=5, face = "bold", colour="black")+
  annotate("text",x=5,y=26,label="Management practices",size=4, face = "bold", colour="black")
+
  annotate("text",x=16,y=26,label="Site factors",size=4, face = "bold", colour="black")+
  annotate("text",x=21,y=-28,label= expression(paste("Pseudo-",italic(R^2),"= 0.65")), size=4,
face = "bold", colour="deeppink4")

## Warning in annotate("text", x = 10.5, y = 27, label = "MD", size = 5, face =
## "bold", : Ignoring unknown parameters: `face`

## Warning in annotate("text", x = 5, y = 26, label = "Management practices", :
## Ignoring unknown parameters: `face`

## Warning in annotate("text", x = 16, y = 26, label = "Site factors", size = 4, :
## Ignoring unknown parameters: `face`

## Warning in annotate("text", x = 21, y = -28, label =
## expression(paste("Pseudo-", : Ignoring unknown parameters: `face`

p2

## Warning in is.na(x): is.na()不适用于类别为'expression'的非列表或非向量
```



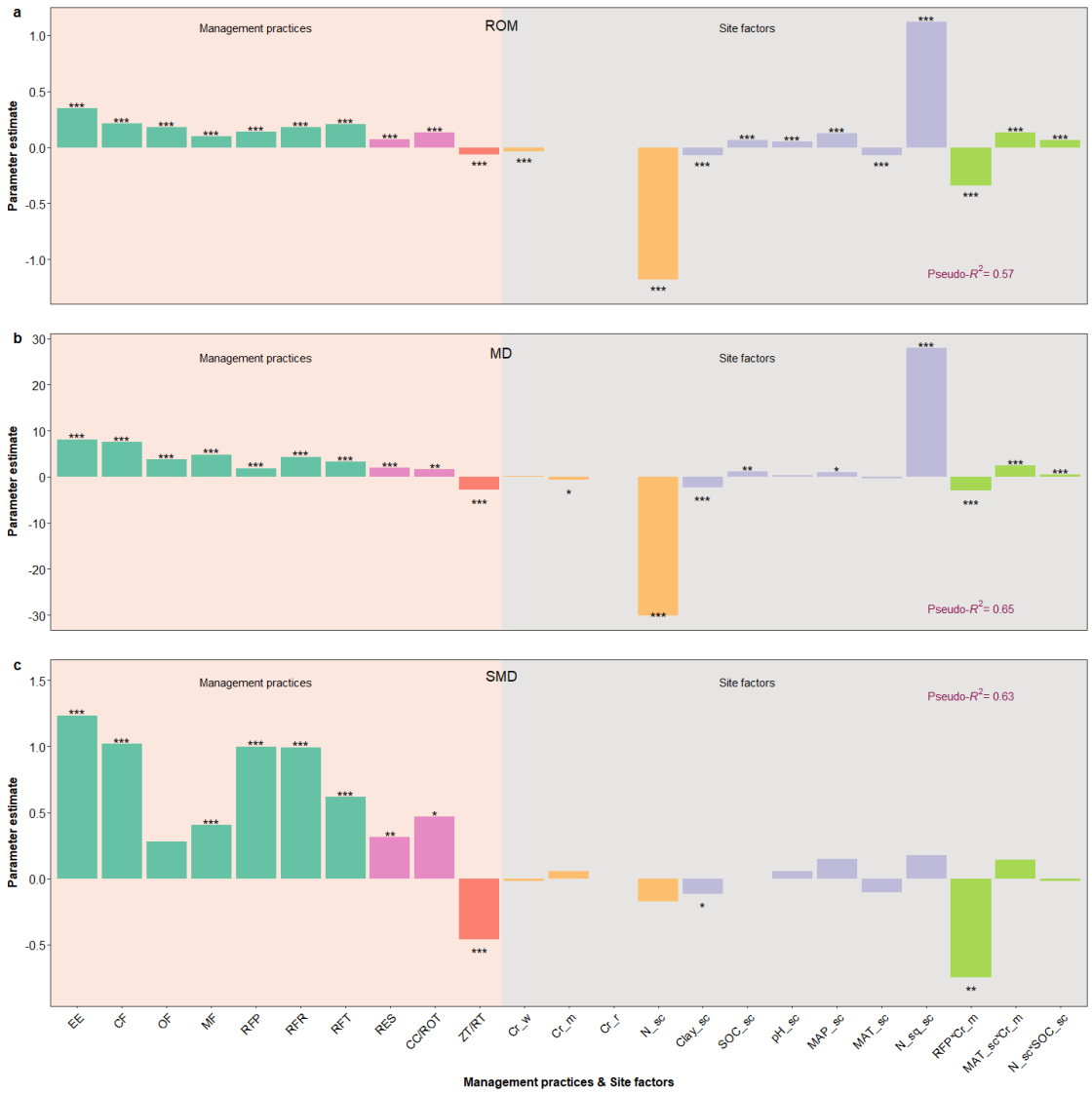

```
# --- SMD Method -----
d3 <- readxl::read_xlsx('F:/研究生/研究生课程/数据驱动与可重复性研究/小组作业/Source Data.xlsx',sheet ="Figure3c")
d3 <- as.data.table(d3)


d3$Moderator1 <- factor(d2$Moderator1, levels = c("EE",
                                                  "CF",
                                                  "OF",
                                                  "MF",
                                                  "RFP",
                                                  "RFR",
                                                  "RFT",
                                                  "RES",
                                                  "CC/ROT",
                                                  "ZT/RT",
                                                  "Cr_w",
```

```
                                  "Cr_m",
                                  "Cr_r",
                                  "N_sc",
                                  "Clay_sc",
                                  "SOC_sc",
                                  "pH_sc",
                                  "MAP_sc",
                                  "MAT_sc",
                                  "N_sq_sc",
                                  "RFP×Cr_m",
                                  "MAT_sc×Cr_m",
                                  "N_sc×SOC_sc"))


p3 <- ggplot(d3,aes(Moderator1,Parameter_estimate))+
  geom_col()+
  theme_bw()+
  theme(panel.grid=element_blank())+
  geom_rect(aes(ymin = -Inf, xmin = -Inf, ymax = Inf, xmax = 10.5), fill = "#FBE7DD")+
  geom_rect(aes(ymin = -Inf, xmin = 10.5, ymax = Inf, xmax = Inf), fill = "#E6E5E3")+
  geom_col(fill = c("#66c2a5", "#66c2a5", "#66c2a5",
                    "#66c2a5", "#66c2a5", "#66c2a5",
                    "#66c2a5", "#e78ac3",
                    "#e78ac3", "#fb8072", "#fdbf6f",
                    "#fdbf6f", "#fdbf6f", "#fdbf6f","#bebada",
                    "#bebada","#bebada","#bebada","#bebada","#bebada","#a6d854",
                    "#a6d854", "#a6d854"))+

  xlab("Management practices & Site factors")+
  ylab("Parameter estimate")+

  theme(legend.position ="none",
        axis.title = element_text(size=12, face = "bold", colour="black"),
        axis.text.x = element_text(size=12,angle = 45, hjust = 1, vjust = 1, colour="black"),
        axis.text.y = element_text(size=12, colour="black"))+
  annotate("text",x=1,y=1.2434,label="***",size=5)+
  annotate("text",x=2,y=1.0277,label="***",size=5)+
  annotate("text",x=3,y=0.2774,label="",size=5)+
  annotate("text",x=4,y=0.4163,label="***",size=5)+
  annotate("text",x=5,y=1.009,label="***",size=5)+
  annotate("text",x=6,y=1.0023,label="***",size=5)+
  annotate("text",x=7,y=0.6262,label="***",size=5)+
  annotate("text",x=8,y=0.3211,label="**",size=5)+
  annotate("text",x=9,y=0.4783,label="*",size=5)+
  annotate("text",x=10,y=-0.5592,label="***",size=5)+
  annotate("text",x=11,y=-0.1092,label="",size=5)+
  annotate("text",x=12,y=0.0744,label="",size=5)+
  annotate("text",x=13,y=0.01,label="",size=5)+
  annotate("text",x=14,y=-0.2795,label="",size=5)+
  annotate("text",x=15,y=-0.2196,label="*",size=5)+
```

```
  annotate("text",x=16,y=-0.1022,label="",size=5)+
  annotate("text",x=17,y=0.0626,label="",size=5)+
  annotate("text",x=18,y=0.155,label="",size=5)+
  annotate("text",x=19,y=-0.206,label="",size=5)+
  annotate("text",x=20,y=0.1922,label="",size=5)+
  annotate("text",x=21,y=-0.8457,label="**",size=5)+
  annotate("text",x=22,y=0.1504,label="",size=5)+
  annotate("text",x=23,y=-0.1198,label="",size=5)+
  annotate("text",x=10.5,y=1.54,label="SMD",size=5, face = "bold", colour="black")+
  annotate("text",x=5,y=1.49,label="Management practices",size=4, face = "bold", colour="black
")+
  annotate("text",x=16,y=1.49,label="Site factors",size=4, face = "bold", colour="black")+
  annotate("text",x=21,y=1.4,label= expression(paste("Pseudo-",italic(R^2),"= 0.63")), size=4, f
ace = "bold", colour="deeppink4")

## Warning in annotate("text", x = 10.5, y = 1.54, label = "SMD", size = 5, :
## Ignoring unknown parameters: `face`

## Warning in annotate("text", x = 5, y = 1.49, label = "Management practices", :
## Ignoring unknown parameters: `face`

## Warning in annotate("text", x = 16, y = 1.49, label = "Site factors", size = 4,
## : Ignoring unknown parameters: `face`

## Warning in annotate("text", x = 21, y = 1.4, label =
## expression(paste("Pseudo-", : Ignoring unknown parameters: `face`

p3

## Warning in is.na(x): is.na()不适用于类别为'expression'的非列表或非向量
```




```
p<-ggarrange(p1, p2, p3, ncol = 1, nrow = 3,align = "v",heights = c(2,2,2.7),
          labels = c("a", "b","c"), font.label=list(size=14, color = "black", face = "bold"), label.x =
0.01, label.y = 0.99,hjust = -0.2, vjust = 1)

## Warning in is.na(x): is.na()不适用于类别为'expression'的非列表或非向量

## Warning in is.na(x): is.na()不适用于类别为'expression'的非列表或非向量
## Warning in is.na(x): is.na()不适用于类别为'expression'的非列表或非向量

p
```




```
ggsave(file = "F:/研究生/研究生课程/数据驱动与可重复性研究/小组作业/picture/Figure_3.png", width = 180, height = 210, units = "mm")
```